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Metaphoric Perceptions of Secondary School Students towards the Thinking Education Course

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ABSTRACT

This research aims to determine the perceptions of secondary school students towards the Thinking Education course through metaphors. In this framework, the study presents the students' perspectives on the Thinking Education course which is taught electively at the secondary school level. In the study, the phenomenological pattern, which is among the qualitative research approaches, was used. The research was carried out in four different secondary schools with different socioeconomic levels in the central districts of Kayseri. The study group of the research consists of 110 students who continue their education in these schools. 51 students in the study group attend 7th grade and 59 attend 8th grades. 58 of the students are boys and 52 are girls. Since the study was conducted for the Thinking Education course that is taught electively at the secondary school level, the criteria included in the sampling methods for the study group were created according to the sampling. As a result of the research, it was determined that the students attributed meaning to the Thinking Education course in terms of enlightenment, freedom and source of information, change and renewal, guidance, difficulty and complexity. The metaphors that students produce most about the Thinking Education course are determined as sun, moon, lamp and compass.

Keywords:
Thinking Education, student, metaphor, perception

Introduction

Thinking, as a human ability, is a fundamental feature that distinguishes it from other creatures. It disciplines the application, analysis and evaluation processes of information obtained in various ways such as thinking, experience, reasoning and observation (Yüksel, 2000). By making sense of the events that occur around individuals with thinking, they show appropriate reactions to them (Gibson, 1998). In this sense, the human being who is the subject in the centre of the thinking process makes an effort to understand the world. The individual develops solutions to the problems encountered in daily life with an effective thinking process, and thanks to thinking, he or she gets an opportunity to benefit from both others and his or her own experiences.

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Though thinking is a mental activity, it constitutes the source of all actions and activities put forward by the individual. According to Güneş (2012), thinking is an unlimited skill of the mind. Many mental actions such as reasoning, decision-making, problem solving and analysis take place within the scope of thinking skills. People use the ability to think and evaluate the current situations and based on these data, they have the opportunity to go beyond the existing (Cole & Scribner, 1974). Thinking has a quite important share in the development stage of humanity. Every innovation introduced is brought forward by considering the present inventions. In this context, one of the main factors of both scientific and technological development of humanity is thinking.

In an ever-changing and complex world, the individual can only overcome problems through thinking. There is a positive relationship between the welfare levels of societies and the value attached to thinking. Thinking is at the core of the philosophical movements that has affected the world (Alkın-Şahin & Tunca, 2015). All this brings the concept of "Thinking Education" to the forefront and urges scientists to make new studies on this subject. In this context, Lipman (1988) stated that thinking can be improved through education and this should start through early thinking activities. Fisher (1990) emphasized that in thinking education, students should be given the opportunity to think about the information they have learned and to provide the information to them. According to Gibson (1995), thinking in human life is a natural process like breathing, but an effective thinking skill can only be gained through education. Conatser (2000) stated that thinking education can take place in free learning environments and it is important to encourage students to think, take initiative and question in this process. Yeşil (2004) concluded that students' thinking skills can be developed with qualified exercises and effective guidance. Juuso (2007) stated that thinking education initiated at an early age provides students with many skills such as criticizing, analyzing, and questioning consistency. According to Kökdemir (2012), critical thinking skill, which is accepted as the top stage of thinking today, must be provided to students by using effective methods.

When studies conducted in the context of thinking education are examined, it is emphasized that thinking is a skill which can be developed with education, but it is important to start this education at an early age. In addition, it is stated in the education process that it is necessary to prepare free learning environments that allow students to manage their own thinking styles, gain internal discipline and take responsibility. Thinking comes first among the factors that affect individuals' lifestyles. In this sense, the way to create an effective lifestyle is to create an effective thinking structure (Stenberg & Grigorenko, 2003). Therefore, the transfer of thinking education systematically to the learning environment should be seen as a key to improving the quality of students' lifestyles. Because individuals who think effectively enrich their lives day by day, they pursue learning new knowledge and gaining new experiences throughout their lives. In addition, these individuals see life as a product of their own efforts. In the face of the difficulties they encounter, individuals look for alternative ways not to be daunted. They never get stuck at some point; they know that problems can have different solutions.

The findings on thinking education have resonated in the Turkish educational system, as in the rest of the world. The discussions addressed how to make an effective thinking education and how the concept of thinking education should be included in the educational system. In this sense, important updates have been made in the context of curriculum and high-level thinking skills such as critical, creative and reflective thinking that are included in curriculum. In addition to this, with the "Primary Education Thinking Education Course (6, 7 and 8th grade) Curriculum" prepared in 2007, Thinking Education started to be taught at the secondary school level as an elective course. In 2016, updates were implemented in the related program. Within the framework of the program revised under the name of "Thinking Education Course Curriculum", it was decided to teach Thinking Education course as an elective course at 7th and 8th grades.

Metaphor is the way the individual perceives and makes sense of the world (Morgan, 1980). Metaphors are mental structures that allow the expression of thoughts by associating abstract concepts with concrete things (Saban, 2008). In other words, metaphor is much more than its meaning expressed as creating similarity as a concept. People reflect on the perception of events or ways of thinking about a subject through metaphors (Inbar, 1996). In this sense, metaphors provide important information about the point of view in life and how an attitude is formed towards the events or situations encountered. To this end, metaphor studies are frequently used in educational research and the elements in the educational process are evaluated through metaphors.

In this study, the perception status of the Thinking Education course in secondary school students is revealed through metaphors. Thus, both the conceptual meaning of the students' thinking education is determined and the level of the effect of the course on the students is examined. Thus, the study aimed to give feedback to teachers who are field practitioners and programmers about the effect and efficiency level of the Thinking Education course. Thus, the study carried out in the context of evaluating the functioning of thinking education as a lesson will contribute to the literature. In this framework, the answers of the following questions are investigated in the study:

- What kind of metaphors do secondary school students create for the Thinking Education course?
- In which categories can the metaphors created by secondary school students for the Thinking Education course be examined?

Method

This section includes and explains the research model, study group, data collection and data analysis.

Research Model

Since this study aimed to determine the perceptions of secondary school students towards the Thinking Education course through metaphors, phenomenological pattern among qualitative research methods was used. Phenomenology studies are a method in which the meaning and perceptions attributed to the cases that are not known in depth and in detail are investigated (Yıldırım & Şimşek, 2016). The study aimed to evaluate the experiences gained in phenomenology studies (Miller, 2003). Therefore, phenomenology studies focus on the discovery of the common meanings underlying a phenomenon (Baker, Wuest & Stern, 1992). In this study, the meanings attributed by the students and what perceptions the lesson constitutes in the Thinking Education course, which is taught as elective at secondary school level, are investigated. In this respect, the study aimed to reveal the connection between the experiences that students gain and the phenomenon investigated.

Study Group

116 secondary school students attending to 4 central secondary schools with different socioeconomic levels and providing educational service in the central districts of Kayseri participated. Since the form of 6 students was left blank, more than one metaphor was created or if the metaphor was not specified and the reason was not specified, these were excluded from the scope of the study and the study was carried out with 110 students. 51 students in the study group attend 7th grade and 59 attend 8th grades. 58 of the students are boys and 52 are girls. Since the study was conducted for the Thinking Education course that is taught electively at the secondary school level, the criteria included in the sampling methods for the study group were created according to the sampling. In criterion sampling, the study group is formed according to the predetermined criteria. In this process, the researcher can use the predetermined criteria group as well as create these criteria from the scratch (Marshall & Rossman, 2014). The criteria used in this research are that the sample schools provide services in neighbourhoods with different socioeconomic levels and that the Thinking Education course is taught as an elective course at the 7th and 8th grades.

Data Collection

A metaphor form was prepared in order to determine the metaphoric perceptions of students for the thinking education course. For this purpose, some metaphor studies in the literature were examined in the first place (Littledyke, 2004; Schmitt, 2005; Jensen, 2006; Saban, 2009; Botha, 2009; Aydın, 2010; Kaya, 2010; Yazıcı, 2013; Tortop, 2013; Güven, 2014; Doğan, 2017). Based on these studies, a metaphor form with the expressions such as "Thinking Education course is like/similar to… Because..." was prepared. The form was applied in May 2018-2019 academic year and the data of the research were collected with this form. The main reason for the study to be carried out at the end of the second semester is that students should take at least two courses of Thinking Education in order to collect healthy data related to the research. Before the data collection process, the students and their parents in the study group were informed about the study. All of the students in the study group participated in the study voluntarily.

Data Analysis

The data obtained in the research process was analyzed by content analysis. In content analysis, similar concepts are brought together under certain themes and the aim is to explain the relationship between them (Yıldırım & Şimşek, 2016). In this context, a four-step path was followed during the analysis of the metaphors created by secondary school students for the Thinking Education course. In the first stage, the metaphors created by the students regarding the Thinking Education course were examined by the researcher. The forms that included more than one metaphor or those in which the metaphor and the explanation sentence didn't match were excluded from the research. The remaining forms are given numbers and these forms are listed. In the forms listed in the second stage, similar metaphors are grouped in the context of the subject and their thought. In the third stage, a field expert was consulted and the metaphors listed by grouping were categorized and named by two encoders. The categories created independently of each other were compared, and the consensus was reached by discussing the determined differences. The metaphor list and categories created were given to 1 Turkish Education and 1 Educational Sciences specialist and they were asked to match the categories and metaphors. Then, the numbers of their differences were determined by consensus compared to the coder lists and the expert lists. The reliability of the study was calculated using Miles and Huberman's (1994) formula with coefficient of concordance: [Reliability = (Consensus) : (Consensus + Disagreement) x 100]. As a result of the analysis, the reliability of the study was determined as 92%. The fact that the coefficient of concordance is over 90% in the calculation performed in this way indicates that the research can be considered reliable (Miles & Huberman, 1994; Saban, 2008). In the fourth stage, the categories and metaphors created were transferred to SPSS 15.00 program. Percentage and frequency calculations were made and tabulated. At this stage, the validity of the research was supported by direct quotations. The names of the students participating in the research in direct quotations are replaced by S1, S2, etc. Codes such as S110 were used.

Findings

In this section, firstly, metaphors created by secondary school students for Thinking Education course, and then categorical distributions of these metaphors are presented. The metaphors created by the students for the Thinking Education course are shown in Table 1.

Table 1. Metaphors Created by Secondary School Students for the Thinking Education Course

Metaphor Code	Metaphor Name	Student Representing the Metaphor		Metaphor Code	Metaphor Name	Student Representing the Metaphor	
		f	%			f	%
1	Sun	9	8,18	22	Guide	2	1,81
2	Moon	8	7,27	23	Teacher	2	1,81
3	Lamp	7	6,36	24	Sky	2	1,81

4	Compass	7	6,36	25	Rainbow	2	1,81
5	Star	6	5,45	26	Northern lights	1	0,9
6	Book	4	3,63	27	Lantern	1	0,9
7	Technology	4	3,63	28	Journey	1	0,9
8	Life	4	3,63	29	Horizon	1	0,9
9	Torch	3	2,72	30	Step	1	0,9
10	Candle	3	2,72	31	Statue of Liberty	1	0,9
11	Headlight	3	2,72	32	Writer	1	0,9
12	Dream	3	2,72	33	Notebook	1	0,9
13	Bird	3	2,72	34	Proverb	1	0,9
14	Path	3	2,72	35	School	1	0,9
15	Pencil	3	2,72	36	Magic ball	1	0,9
16	Brain	3	2,72	37	Multiplication table	1	0,9
17	Computer	3	2,72	38	Thorn	1	0,9
18	Math	3	2,72	39	Labyrinth	1	0,9
19	Glasses	2	1,81	40	Puzzle	1	0,9
20	Penny Bank	2	1,81	41	Educational system	1	0,9
21	Polar star	2	1,81	42	Navigation	1	0,9
Total						110	100

When Table 1 is examined, 110 students who participated in the study created 42 different metaphors for the Thinking Education course. According to the frequency values, the most repeating metaphors were determined as sun (f = 9), moon (f = 8), lamp (f = 7), compass (f = 7) and star (f = 6). These metaphors created by students in the research were categorized according to their analogy. In this sense, six different categories were created in the study. Metaphor categories, metaphors in these categories, and percentage and frequency values of metaphors are presented in Table 2.

Table 2. Categorical Distribution of Metaphors Created by Secondary School Students for the Thinking Education Course

Order No	**Category**	**Metaphor**	**f**	**%**	**Order No**	**Category**	**Metaphor**	**f**	**%**
1	Illumination	Sun	9	8,18	2	Source of Freedom	Dream	3	2,72
		Moon	8	7,27			Bird	3	2,72
		Lamp	7	6,36			Path	3	2,72
		Star	6	5,45			Pencil	3	2,72
		Torch	3	2,72			Sky	2	1,81
		Candle	3	2,72			Rainbow	2	1,81
		Headlight	3	2,72			Horizon	1	0,9
		Polar star	2	1,81			Journey	1	0,9
		Northern lights	1	0,9			Step	1	0,9
		Lantern	1	0,9			Statue of Liberty	1	0,9
Total			43	39,09	Total			20	18,18
Order No	Category	Metaphor	f	%	Order No	Category	Metaphor	f	%
3	Source of Information and Instructiveness	Book	4	3,63	4	Change and Renewal	Life	4	3,63
		Computer	3	2,72			Technology	4	3,63
		Penny Bank	2	1,81			Brain	3	2,72
		Glasses	2	1,81			Writer	1	0,9
		Proverb	1	0,9			Notebook	1	0,9
		School	1	0,9					
		Magic ball	1	0,9					

Total			14	12,72	Total			13	11,81
Order No	Category	Metaphor	F	%	Order No	Category	Metaphor	f	%
5	Guidance	Compass	7	6,36	6	Difficulty and Complexity	Labyrinth	3	2,72
		Guide	2	1,81			Multiplication table	1	0,9
		Teacher	2	1,81			Thorn	1	0,9
		Navigation	1	0,9			Math	1	0,9
							Puzzle	1	0,9
							Educational system	1	0,9
Total			12	10,90	Total			8	7,27
Grand Total								110	100

When Table 2 is examined, the metaphors created for the Thinking Education course by the students participating in the research constitute six conceptual categories according to their analogy. These categories created within the framework of expert support are: *"Illumination"; "Source of Freedom"; "Source of Information and Instructiveness"; "Guidance"* and *"Difficulty and Complexity"*. These categories are discussed and explained separately together with sample student expressions below.

Category 1: Illumination

In this category, where the students who participated in the research mostly formed metaphors, the Thinking Education course was explained by associating it with the concepts regarding illumination. The category includes 10 metaphors (sun, moon, lamp, star, torch, candle, headlight, pole star, northern lights, lantern). In the study, 43 students (39.09%) created metaphors within the scope of this category. Below are sample student statements in this category.

"Thinking Education course is like the sun because the information we learn in the lesson illuminates our world like the sun." (S, 1)

"Thinking Education course is like the moon because the lesson illuminates our lives just as the moon illuminates the night." (S, 48).

"Thinking Education course is like a lamp because it illuminates our way." (S, 24)

"Thinking Education course is like a star because it sheds light on us just the way the stars shine when darkness falls." (S, 31)

"Thinking Education course is like a torch because the torch is in your hands. We either use what we learned in class and get enlightened or stay in the dark." (S, 87).

"Thinking Education course is like a candle because it illuminates us in the dark." (S, 6).

"Thinking Education course is like a headlight because we learn to think in the lesson and thinking is brightening up like a headlight." (S, 56).

"Thinking Education course is like a pole star because it always illuminates our way." (S, 5)

"Thinking Education course is like northern lights because it enlightens everyone." (S, 12)

"Thinking Education course is like a flashlight because it guides us in the dark." (S, 100).

Category 2: Source of Freedom

When the metaphors in this category are examined, it is seen that the students participating in the research try to explain the Thinking Education course by associating it with the concepts of freedom. The category includes 10 metaphors (imagination, bird, road, pencil, sky, rainbow, horizon, journey, step, Statue of Liberty). 20 students (18.18%) who participated in the study created metaphors within the scope of this category. Below are sample student statements in this category.

"Thinking Education course is like a dream because you are free to dream during thinking." (S, 7)

"Thinking Education course is like a bird because we are totally free when thinking, just like the birds." (S, 101)

"Thinking education course is like a road because the road can go anywhere and you choose the direction of it." (S, 80).

"Thinking Education course is like a pencil because we are free to think about everything we want in the course, just as we are free to write everything with the pencil." (S, 16)

"Thinking Education course is like sky because our thinking process is endless like sky. We can think of everything." (S, 18)

"Thinking Education course is like a rainbow because you see whatever you look for in a subject. Whatever you think of thinking, you live like that." (S, 13)

"Thinking Education course is like a horizon because our horizons are expanding with what we learn in the lesson." (S, 23)

"Thinking Education course is like a journey because the roads always go where you want during the journey. In Thinking Education course, your thought goes where you want them to be." (S, 102)

"Thinking Education course is like a step because our thoughts take us where we want, like our steps." (S, 25)

"Thinking Education course is like the Statue of Liberty because everyone is free to think in the lesson." (S, 32)

Category 3: Source of Information and Instructiveness

According to the meanings attributed to the metaphors in this category, the students participating in the research try to explain the Thinking Education course by associating it with the concepts of source of information and instructiveness. There are 7 metaphors (books, computer, penny bank, glasses, proverb, school, magic ball) in the category. 14 students (12.72%) who participated in the study created metaphors within the scope of this category. Below are sample student statements in this category.

"Thinking Education course is like a book because the lesson teaches us what to think about a topic and how we should act, like a book does." (S, 78).

"Thinking Education course is like a computer because it contains a lot of information we need to learn." (S, 96).

"Thinking Education course is like a penny bank because these ideas increase as we put ideas into it." (S, 14).

"Thinking Education course is like glasses; it enhances our perspective on life." (S, 11).

"Thinking Education course is like a proverb because only thinkers can make sense from the lesson." (S, 99).

"Thinking Education course is like school because it teaches something constantly." (S, 74)

"Thinking Education course is like a magic ball because it teaches things we never thought about life." (S, 90)

Category 4: Change and Renewal

When the meanings attributed to the metaphors in this category are examined, the students participating in the research try to explain the Thinking Education course within the framework of the concepts of change and renewal. There are 5 metaphors (life, technology, brain, writer, notebook) in the category. 13 students (11.81%) who participated in the study created metaphors within the scope of this category. Below are sample student statements in this category.

"Thinking Education course is like life because the ideas presented in the lesson change constantly." (S, 70)

"Thinking Education course is like technology because new ideas are constantly emerging in the lesson." (S, 95)

"Thinking Education course is like a brain because it always makes us think about new and different things in the lesson." (S, 82)

"Thinking Education course is like a writer because it constantly reveals the new." (S, 74)

"Thinking Education course is like a notebook because we open a new page every day. We always put forward new thoughts in the Thinking Education course." (S, 89).

Category 5: Guidance

When the meanings attributed to the metaphors in this category are examined, the students participating in the research try to explain the Thinking Education course in the context of guidance concept. There are 4 metaphors (compass, guide, teacher, navigation) in the category. 12 students (10.90%) participating in the research created metaphors within the scope of this category. Below are sample student statements in this category.

"Thinking Education course is like a compass because it shows us the way to go." (S, 42)

"Thinking Education course is like a guide because thinking is an endless way and the lesson guides us on this path." (S, 62)

"Thinking Education course is like a teacher because it always shows us the right way." (S, 44)

"Thinking Education course is like navigation because it guides us along the way of thinking." (S, 80).

Category 6: Difficulty and Complexity

When the meanings attributed to the metaphors in this category are examined, the students participating in the research try to explain the Thinking Education course within the framework of the concepts of difficulty and complexity. While the previous categories can be expressed as positive features of the course, this category can be considered as a negative connotation created by the students. There are 6 metaphors (mathematics, multiplication table, thorn, labyrinth, jigsaw, educational system) in the category. 8 students (7.27%) who participated in the study created metaphors within the scope of this category. Below are sample student statements in this category.

"Thinking Education course is like math because it is hard like math. It is not an easy thing to think." (S, 22).

"Thinking Education course is like multiplication table because each step is a bit more complicated and difficult." (S, 106)

"Thinking Education course is like a thorn, constantly forcing us and pricking us like a thorn." (S, 8)

"Thinking Education course is like a labyrinth because it is very complex. Sometimes, even a single thought cannot be dealt with." (S, 103)

"Thinking Education course is like a puzzle because it is necessary to combine scattered pieces and solve the confusion." (S, 91)

"Thinking Education course is like an educational system because it is very complex." (S, 63)

Conclusion and Discussion

Students develop various perspectives on thinking in everyday life and educational life. Thinking Education course has an important effect on shaping these perspectives. In this context, determining the meanings that students attach to the Thinking Education course is considered important in terms of performing a healthy thinking education. According to Botha (2009), metaphors play an important role in determining the meanings attributed to an educational concept. According to Levine (2005), metaphors have the function of reflecting individuals' past lives, current ideas and future hopes, in short, their perspectives. This study was carried out in order to reveal the perceptions of secondary school students about the Thinking Education course through metaphors and to evaluate these metaphors within the framework of certain conceptual structures. Based on the obtained data, it is evaluated how the Thinking Education course has an impact on students in the context of training their thinking skills.

According to the findings obtained from the research, the perceptions of secondary school students in the study group regarding the Thinking Education course were grouped in six conceptual themes: *"Illumination", "Source of Freedom", "Source of Information and Instructiveness", "Change and Renewal", "Guidance"* and *"Difficulty and Complexity"*. These themes include 42 different metaphors. When the themes and metaphors are examined, it is seen that the students have different perceptions about the Thinking Education course. It is thought that this difference arises from the wide, abstract and mixed structure of the Thinking Education course and is due to the students' focusing on different dimensions of the thinking process. According to İpşiroğlu (2014), thinking is a process that can be taught and learned despite its complex structure. In this sense, the existence of different perspectives of the students on the Thinking Education course can be considered an indication of the fact that the course has different effects on their lives.

According to the research results, it was determined that students created ten different metaphors for "*Illumination"* and "*Source of Freedom"* themes. In the theme of *"illumination"*, the Sun, Moon and lamp, in the theme of *"Source of Freedom"*, imagination, bird and path are determined as the most repeating metaphors. These results show that the students who participated in the research emphasized the most important aspects of the Thinking Education course as the source of illumination and freedom. As a matter of fact, according to Atiker (1998), the activation of thought and discussion of all thought patterns lie at the basis of enlightenment. According to McLaren (1998), the way to enlightenment is first and foremost to use one's own mind and ability to think. In this context, an individual has an important role in expressing his or her thoughts in feeling free. According to Fisher (1990), it is imperative that individuals are educated in a way that makes them think, question and produce within today's educational system. As a matter of fact, effective thinking and teaching thinking have an important place in increasing students' knowledge transfer, adapting to lifelong learning and developing their creativity (Chen, 2013; Sahlberg, 2009). Accordingly, democratic and free learning environments should be created in the educational process, where individuals can express their thoughts freely (Hotaman, 2010). In this context, it is meaningful that students develop perspectives within the framework of illumination and free-thinking concepts related to Thinking Education course.

In the research findings, it was determined that students created 7 metaphors in *"Source of Information and Instructiveness*" theme; 5 metaphors in *"Change and Renewal"* theme; and 4 metaphors in "*Guidance" theme.* The most repeated metaphors are determined as follows: in the *"Source of Information and Instructiveness"* theme, book, computer and penny bank; life, technology and brain in the theme of *"Change and Renewal"*; in the theme of *"Guidance"*, compass, guide and teacher. These results show that the Thinking Education course

has a special place in the learning process, both as a source of information within the framework of the concept of thinking and to guide the students' processes of change and renewal in the intellectual sense. According to Çarkıt (2020), thinking has an important role in both individuals and societies creating a lifestyle within their borders. According to Gibson (1998), the way in which the individual can make sense of life in the process of change and renewal depends on his or her ability to use his or her thinking skills effectively. Access to information resources, analyzing the accuracy of the information obtained and the process of using this information in life require intensive use of thinking skills. In this context, the opinions put forward in the themes of "Illumination", "Source of Freedom", "Source of Information and Instructiveness", "Change and Renewal" and "Guidance", which are determined within the framework of the research findings, suggest that the Thinking Education course supports students' thinking skills and guides them intellectually. Studies in the literature support this phenomenon. In their study, Sondel (2009), Alkaya (2006) and Sönmez (2016) concluded that the Thinking Education program positively affects the development of students' thinking skills. At the same time Tokmak, Yılmaz and Şeker (2020) determined that the Thinking Education course has a positive effect on the success of the Social Studies course. Again, Şeçer and Sarı (2014) concluded that the thinking education program was effective on the impulsive cognitive style dimension of children with learning disabilities with impulsive features. All these are important in terms of showing that Thinking Education practices offer positive contributions to the development processes of students.

According to the research findings, the students created 6 different metaphors in *"Difficulty and Complexity"* theme. The labyrinth has been identified as the most frequently expressed metaphor in this theme. Unlike other themes, opinions in this theme include negative perceptions about the Thinking Education course. The abstract and complex structure of thinking skills can be considered an important factor in the emergence of this theme. Again, within the Thinking Education course, teachers' ignoring student levels and pre-learning activities during the education process may create a perception of difficulty and complexity towards the lesson. Pre-prepared texts, workbooks, and prearranged plans can help the learning and teaching process, but they alone are not enough for thinking education. (Yeşilyurt, 2021). Teachers who organize the process in thinking education have very important duties. (Seferoğlu & Akbıyık, 2006) As a matter of fact, it is stated in the literature that components such as interaction, democratic attitude, cooperation and motivation play an important role in the education of thinking and types of thinking (Fisher, 1999; Li, 2011; Potts, 1994). In this sense, in the Thinking Education course, teachers should create the necessary conditions for students to actively participate and focus in the course. Otherwise, students may have a negative attitude towards Thinking Education course. According to Taşdelen (2012), the individual should be the centre of thinking education and thinking education should actually be seen as a life education. In this context, teachers should manage the process based on students' experiences in the process of thinking education and take into account individual differences in the teaching practices they carry out.

Based on the findings and comments obtained from the research, the following research topics can be proposed:

1- Studies on determining teachers' classroom practices related to Thinking Education course can be carried out.

2- Action researches can be conducted to change the attitudes of students who develop negative attitudes towards the Thinking Education course.

3- Workbooks can be prepared for performing of the Thinking Education course in a qualified manner.

4- Within the framework of Thinking Education course, researches can be conducted to gain and develop high-level thinking skills.

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The Effect of Teachers' Stress Perceptions on Burnout

Research Article

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ABSTRACT

The aim of this study was to investigate the relationship between the stress perceptions of teachers working in primary, elementary and high schools and their burnout levels. 810 teachers selected by random sampling method from different schools and different discipline, working in Malatya during the 2016-2017 academic year, took part in the study. The Perceived Stress Scale and the Maslach Burnout Inventory were used as data collection tools. In data analysis, independent samples t test, one-way analysis of variance (ANOVA), Pearson Product Moments Correlation Coefficient and multiple linear regression analysis were used. The findings showed that the participants had low levels of Emotional Exhaustion and Depersonalization subscales of the Maslach Burnout Inventory. On the other hand, it was found that they had high levels of Reduced Personal Accomplishment levels. In the Inadequate Self-Sufficiency subscale of the Perceived Stress Scale, the average scores of married participants were significantly higher than those of single participants. Finally, it was found that the participants' discomfort perceptions predicted Emotional Exhaustion and their Inadequate Self-Sufficiency perceptions predicted Reduced Personal Accomplishment. It was concluded as a result of this study that factors paving the way to stress should be eliminated in educational settings..

Keywords:
Stress, Exhaustion, Teachers Stress

Introduction

The origin of the word "stress" dates back to an old Latin word "estrictia". In the 17th century, the word "stress" meant calamity, fatality, disaster, bother, sorrow. In the 18th and 19th centuries it was used to refer to strength, tough, press which is related to mental habit. Nowadays, it can be basically defined as the reaction of body to any non-specific demand the body faces (Guclu, 2001).

Stress refers to a situation of distress or pressure as a result of sociological pressures and situations that individuals experience in daily life. Stress can lead to a number of damages, both physically and mentally, in

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an individual's life. It is a set of conditions that prevent an individual from responding effectively to stimuli. (Balcı, 2005). The literature on stress emphasizes that it has a multidimensional content shaped by psychological, social, cultural, organizational or physical factors (Antony & Swinson 2009). One of the biggest issues that lead to stress is the perfectionist characteristics of managers and staff in the organization (Balcı, 2000). Although the expected situations keep the individual balanced unexpected situations mostly causes imbalance in individual's life. To maintain the balance position, the individual must be able to cope with these changes in order to establish, develop and maintain constructive, creative, productive and positive relationships. Disruptions in balance can be perceived as stress (Bardavit, 2007). Another view regards stress as being linked to individual instead of environmental factors in that people create stress themselves, that arises because of themselves, that they themselves direct, and that they have a chance to prevent it, but they do not show any resistance against it. (Stahl and Goldstein, 2010). It is the state of gaining physical and mental mobility by producing special body secretions in order to step into accumulation process as a result of various situations that the individuals experience (Eren, 2001). Stress-related symptoms can be grouped under various titles. Braham (1998) classifies four types of stress related symptoms: social, mental, physical and emotional.

Emotional symptoms of stress are crying easily, depression, and low self-confidence. Physical symptoms can be ulcer, loss of appetite and distraction (Gülbeyaz, 2006). Mental symptoms are symptoms such as decreased productivity, confused thinking, memory loss, insecurity, blaming the other person, overusing the defense mechanism, and concentrating on people's mistakes (Sabuncuoglu & Tuz, 2001).

If the stress is long-termed, body's capacity is exhausted, immunity decreases and some diseases may emerge. According to Selye long-term stress shortens lifetime (Sabuncuoglu and Tuz, 2001). Almost every responsibility is a potential source of stress since every each has its requirements and demands. Acting appropriately to fulfil these requirements leads people to stress. At this point, problems arising from the plan and procedure of the institution should be examined (Balcı, 2000). (Balci, 2000). The concept of time pressure is a significant source of pressure for senior managers and managers who are in charge of the project. Time is very important for them and as a result of their positions they always have to deal with time constraints. Accordingly, the most important image is the stress-filled, specific time periods in which they have to develop their work. The periods before the deadline of any project or the submission of a budget are extremely uncomfortable and pressured (Koknel, 1988).

Burnout is the inability of an individual to function effectively in his/her job as a result of the stress associated with prolonged workload It can be considered as the final stage of the process of unsuccessful attempts to cope with negative stress conditions. This situation is related to the burnout syndrome, which is very critical for those working in the service sector and institutional organizations (Byrne, 1993). At first, burnout was defined as a syndrome related to stress, claiming that it was caused by stress, and was used interchangeably with stress. Studies have shown that burnout can best be understood within the social and situational sources of work-related stress (Gold, 1983). Burnout is often the result of being stressed and lacking some support system. Many experts consider that burnout is the result of unsuccessful attempts to cope with various negative stress situations (Farber Barry, 1984). It is stated that the emotions experienced in the burnout syndrome are similar to such feelings as hopelessness, helplessness, emptiness, illness experienced in depression. The variety of burnout symptoms and the fact that burnout is a hidden process hinder its detection and pave the way to be confused with depression, anxiety and stress. At the same time, sudden outbursts of anger, constant anger, loneliness, hopelessness, helplessness and frustration are the most frequent complaints in burnout (Hisli and Sahin, 1994; Baltas, 1994). Past successes enable individuals to cope with future stressful situations more successful. However, past failures mean inability to cope with stress. There is a behavioral repertoire called learned resourcefulness, which individuals develop throughout their lives and enable them to cope with stress (Siva, 1991). They distance themselves from their fathers, friends and family, and withdraw

from daily routines. They become mentally exhausted and physically exposed to viruses in the environment. If they are not appreciated in spite of their hard work, they develop doubts about their abilities. For them, teaching is no longer as attractive as when they first started the profession (Hamann & Gordon, 2000).

According to Maslach, burnout is a persistent response to chronic emotional and interpersonal stressors related to work. Exhaustion is defined in three dimensions as emotional exhaustion, depersonalization or cynicism and feeling of reduced personal accomplishment (Maslach, Schaufeli, Leiter; 2001). Emotional exhaustion is defined as the feeling of being overburdened and exhausted by one's work. This dimension is mostly observed in jobs where workers are inevitably experience intense and face-to-face relations. Emotional exhaustion is the beginning, central and most important component of burnout. Depersonalization includes the attitude and behavior of the person towards those they care for and serve in a way that is devoid of emotion. The person experiencing emotional exhaustion feels incapable to solve others' problems and uses depersonalization as a way of escape. Maslach considers the depersonalization as the most problematic dimension (Maslach & Jackson, 1981). Personal accomplishment is defined as overcoming the problem successfully and gaining self-sufficiency. On the other hand, reduced personal accomplishment is the perception of oneself as inadequate and unsuccessful for one's job.

Maslach conceptualized burnout as a three-component syndrome (Çam, 1991):

a) Feeling of physical tiredness and exhaustion

b) Being alienated from the job and those who are served

c) Mental fatigue leading to self-doubt

In other words, individuals may experience burnout when they feel tired and exhausted due to the work they do, when they become alienated from the people they have to be with as a requirement of their job, and when they develop a thought that they cannot successfully perform the activities required by their job.

"A Model of Teacher Stress" was introduced by Kyriacou and Suttcliffe in 1978. According to this model, stress is the result of different perceptions of the teacher. The teacher experiences burnout when:

a) he/she has a perception that the demands on himself/herself are excessive,

b) he/she starts having difficulties in meeting these demands,

c) his/her mental and physical health is endangered due to the failures experienced.

The perception of danger that the teacher experiences should be stressed here (Antoniou, Polychroni and Walters, 2000). According to Kyriacou (2000), if the teacher has less passion and satisfaction with the duties required by the profession, and if these duties entail more effort and time, reluctance and indifference toward student work can be experienced. Also, the teacher begins to experience no positive emotion during the workday and this might lead to depression with a heavy sense of abandonment. In physical tiredness, teachers feel physically tired for most of the time at school. Such teachers state that at the end of the working day all their energy is exhausted. In sum, the teachers' reluctance towards their work, the inability to feel any positive emotion from the job, the desire to quit their profession and the constant feeling of physical tiredness indicate that burnout syndrome may be experienced.

Objective of the Study

The aim of this study was to determine the relationship between the stress and burnout perceptions of teachers working in primary school, elementary school and high school. Teachers' stress and burnout perception levels were examined in terms of age, gender, work experience, discipline, working time in the same school and school type. Answers to following questions were sought:

1) What are the teachers' perceived stress and burnout levels?

2)Do the teachers' stress perceptions differ in terms of marital status, gender, school type, discipline, work experience, working time in the same school and age?

3) Is there a significant relationship between perceived stress levels and burnout levels of the participants?

4)Do teachers' discomfort perceptions differ significantly with regard to age, seniority, gender, and marital status in the prediction of emotional exhaustion?

5)Do teachers' insufficient self-efficacy perceptions differ significantly with regard to age, seniority, gender, and marital status in the prediction of Reduced Personal Accomplishment?

Material and Method

Study Group

The study group consisted of 810 teachers were working in public schools in Malatya during 2016-2017 academic year. Primary schools, secondary schools and high schools were included in the study. The participants were selected from these schools using random sampling technique. The demographic information of the participants is presented in Table 1.

Of the participants, 476 (58.8%) were male and 334 (41.2%) were female. In terms of marital status, 650 (80.2%) of the participants were married and 160 (19.8%) were single. 159 (16.6%) of the participants were 20 - 30 years old, 344 (42.5%) were 31 - 40 years old, 239 (29.5%) were 41 - 50 years old, 66 (8.1%) 51-60 years old and 2 (0.2%) were 61 years old and over. In terms of work experience, 296 (36.5%) of the participants had 1 – 10 years of experience, 328 (40.5%) had 11 – 20 years of experience, 158 (19.5%) had 21 – 30 years of experience, and 28 (3.5%) had31 years or above years of work experience.

Table 1. Demographic Information of the Participants

Variables	Categories	N	%
Gender	Male	476	58.8
	Female	334	41.2
	Total	810	100.0
Marital Status	Married	650	80.2
	Single	160	19.8
	Total	810	100.0
Age	20 and 30 years old	159	19.6
	31 and 40 years old	344	42.5
	41 and 50 years old	239	29.5
	51 and 60 years old	66	8.1
	61 and above	2	.2
	Total	810	100.0
Work Experience	1-10 years	296	36.5
	11-20 years	328	40.5
	21-30 years	158	19.5
	31 and above	28	3.5
	Total	810	100.0
Working time in the same school	1-5 years	553	68.3
	6-10 years	161	19.9
	11-15 years	55	6.8
	16-20 years	24	3.0
	21 and above	17	2.1
	Total	810	100.0
Discipline	Classroom	189	23.3

	Other	621	76.7
	Total	810	100.0
School Type	Primary	214	26.4
	Elementary	234	28.9
	High-school	362	44.7
	Total	810	100.0

Data Collection Tools

Personal Information Form: It was developed by the researchers in order to obtain demographic information of the participants. The form includes questions about age, gender, work experience, marital status, working time in the same school, and school type.

The Perceived Stress Scale: The Perceived Stress Scale (PSS), developed by Cohen, Kamarck and Mermelstein (1983) and adapted into Turkish by Eskin, Harlak, Demirkıran, and Dereboy (2013), was used in the study. It consists of two dimensions: "perception of discomfort" and "insufficient self-efficacy". Consisting of 14 items, PSS is designed to measure how stressful an individual's life is perceived to be. The scale is originally scored on a 5-point Likert-type scale ranging from 1 (never) to 5 (very often). The items in the scale are both positively and negatively phrased. The total score that can be obtained from the scale ranges between 0-56. Higher scores reveal greater perceived stress. In scoring, positively phrased items (Items 4, 5, 6, 7, 9, 10, and 13) are reverse scored. The Cronbach Alpha value of the scale was calculated as 0.84, which shows that the scale is statistically reliable.

The Maslach Burnout Inventory: The Maslach Burnout Inventory (MBI), developed by Maslach and Jackson (1981) and adapted into Turkish by Ergin (1992), was used to investigate the burnout levels of the participants. The scale has 22 items and 3 subscales: Emotional Exhaustion (EE), Depersonalization (D) and Personal Accomplishment (PA). Emotional Exhaustion subscale consists of 9 items and measures the emotional state of being emotionally exhausted by an individual's work. Depersonalization subscale consists of 5 items and examines teacher's emotional and distant behaviors towards the students. Personal Accomplishment subscale consists of 8 items measuring the failure and inadequacy in one's work. Each subscale is scored on a 5-point Likert-type scale. The Likert evaluation criteria is shown in Table 2.

Table 2. The Likert Evaluation Criteria

VALUE	OPTION	GAP	LEVEL
1	Never	1.00 -1.80	Very Low
2	Rarely	1.81-2.60	Low
3	Sometimes	2.61-3.40	Moderate
4	Frequently	3.41-4.20	High
5	Always	4.21-5.00	Very High

The ranges were calculated by (5 − 1 = 4) then divided by five as it is the greatest value of the scale (4 ÷ 5 = 0.80). Pearson correlation coefficient was used to examine the relationships between the factors. The correlation relationships between the scales were evaluated on the basis of the criteria in Table 3 (Kalaycı, 2006).

Table 3. Level of Correlation Between Scales

r	Relationship Level
0.00 - 0.25	Very Weak
0.26 - 0.49	Weak
0.50 – 0.69	Moderate
0.70 – 0.89	Strong

0.90 – 1.00	Very Strong

The findings were evaluated at the 95% confidence interval at the 5% significance level. Before data analysis, data entry error detection, reverse coding, gap filling and outlier cleaning were performed.

Data Analysis

SSPS 22.0 package program was used in the statistical analysis. First, the normality of the data was investigated. In order for the data to be normally distributed the skewness and kurtosis values should be between "-2" and "+2" (Tabachnick, Fidell & Ullman, 2007). The kurtosis and skewness values showed that the data were normally distributed. In addition, the histogram, Q-Q plot and box plots revealed a normal distribution. Since the data was normally distributed, parametric tests were used in data analysis. In this sense, descriptive analysis, independent samples t test, one-way analysis of variance (ANOVA), Pearson Product Moments Correlation Coefficient and multiple linear regression analysis were performed. In order to perform multiple linear regression analysis, a number of assumptions must be met. The Durbin-Watson coefficient was found to be 1.860. A value close to 2 indicates that there is no autocorrelation in the model (Teo, 2014). The fact that the tolerance values changed between .211 and .224 and the VIF values varied between 1.016 and 4.738 indicated that there is no multicollinearity in the data set (Pallant, 2015). In addition, the bilateral correlation coefficients between the independent variables were found below .90 (Cokluk, Şekercioğlu, & Büyüköztürk, 2012). Besides, the kurtosis and skewness values varied between -1.5 and +1.5. The kurtosis and skewness values within the ±1.5 limit indicate a normal distribution (Pituch & Stevens, 2016, p.228). These results showed that the data met the assumptions of multiple linear regression analysis.

Findings

This section is dedicated to presenting the findings in line with the research questions.

The first research question aimed to reveal the participants' perceived stress and burnout levels. The findings related to the Perceived Stress Scale and the Maslach Burnout Inventory are presented in Table 4 and Table 5, respectively.

Table 4. The descriptive statistics of the Perceived Stress Scale

Scales	X	Std. Error	S.S.
Perception of Inadequate Self-Sufficiency	3.1595	.01007	.28657
Perception of Stress/Discomfort	2.9134	.00866	.24639
Perceived Stress (General)	3.0365	.00612	.17421

Table 4 showed that the average score of the Perceived Stress Scale was $\bar{X}$ = 3.0365, the average score of the Perception of Inadequate Self-Sufficiency subscale was $\bar{X}$ = 3.1595 and the average score of the Perception of Stress/Discomfort subscale was $\bar{X}$ = 2.9134. The findings revealed that the participants had moderate levels of perceived stress.

Table 5. The descriptive statistics of the Maslach Burnout Inventory

Scales	X	Std. Error	S.S.
Emotional Exhaustion	2.2602	.02908	.82755
Depersonalization	1.8861	.03150	.89639
Reduced Personal Accomplishment	3.5775	.02722	.77466
Burnout Scale (Total)	2.6542	.01998	.56871

As shown in Table 5, the participants had an average score of 2.6542 in the Maslach Burnout Inventory. This finding indicated that they had a moderate level of burnout perception. In addition, the average score of

the Emotional Exhaustion subscale was $\bar{X}$ = 2.2602, the average score of the Depersonalization subscale was $\bar{X}$ = 1.8861 and the average score of the Reduced Personal Accomplishment was $\bar{X}$ = 3.5775. These findings showed that the participants had low levels of perceived Emotional Exhaustion and Depersonalization whereas they had high levels of perceived Reduced Personal Accomplishment.

In the second research question, it was investigated whether the participants' stress perceptions differ in terms of marital status, gender, school type, discipline, work experience, working time in the same school and age. To do this, parametric tests, that are independents samples t-test and ANOVA, was performed. The findings revealed that the participants' perceived stress scale scores did not significantly differ by gender (p=0.218>0.05), discipline (p=0.886>0.05), school type (p=0.069>0.05), working time in the same school (p=0.404>0.05) and age (p=0.769>0.05). However, a significant relationship was found between the 'Perception of Inadequate Self-Sufficiency' subscale and marital status (p=0.017<0.05), and between the 'Perception of Stress/Discomfort' subscale and work experience (p=0.017<0.05), which are presented in Table 7 and Table 8, respectively.

Table 6. T Test Results of "Inadequate Self-Sufficiency" subscale in terms of Marital Status

MARITAL STATUS	N	$\bar{X}$	S.S.	sd	t	p
Married	650	3.1714	.28047	808	2.385	0.017*
Single	160	3.1113	.30636			
Total	*810*					

Table 6 showed that the average scores of married participants were significantly higher than those of single participants. The questions in the "Inadequate Self-Sufficiency" subscale deal with workers' ability to cope with the difficulties they experience in their daily lives. Therefore, this finding revealed that married participants were more successful in coping with difficulties at school than the single teachers.

Table 7. ANOVA Results of Perception of Stress/Discomfort subscale with regard to work experience

Work Experience	N	$\bar{X}$	S.S.	F	P	Difference
1 - 10 years	296	2.9469	.24700			
11 - 20 years	328	2.9081	.23811			
21 - 30 years	158	2.8662	.24956	5.557	.001***	1-10>21-30
31 and above years	28	2.8885	.27816			
Total	810	2.9134	.24639			

*p<0.05 **p<0.01 ***p<0.001

Table 7 revealed that the participants having 1-10 years of work experience had an average score of 2.9469, the participants having 11-20 years of work experience had an average score of 2.9081, those with 21-30 years of work experience had an average score of 2.8662 and those having 31 and above years of work experience had an average score of 2.8885. One-way analysis of variance (ANOVA) test was performed to determine whether this difference between the average scores was significant or not. ANOVA results revealed a significant difference (F=5.557, p=.001). In order to reveal the source of this difference, Schheffe Post-Hoc test was run. As a result, it was found there was a significant difference between the average scores of the participants with 1-10 years of work experience and those having 21-30 years of work experience. This finding indicated that the participants with 1-10 years of work experience had significantly higher levels of perceived stress/discomfort. The items in the Perception of Stress/Discomfort subscale aims to measure the degree of being angry, being stressed and being uncomfortable. Therefore, it can be argued that teachers in the first years of their profession generally feel angrier, more stressed and uncomfortable.

The third research question investigated whether there was a significant relationship between participants' perceived stress levels and perceived burnout levels. To do this, Pearson's correlation coefficient was performed. Table 8 shows the results of correlation between the Perceived Stress Scale and the Maslach Burnout Inventory.

Table 8. The Results of Correlation between the Perceived Stress Scale and the Maslach Burnout Inventory

	Inadequate Self-Sufficiency	Discomfort	Stress Scale (Total)	Emotional Exhaustion	Depersonalization	Reduced Personal Accomplishment	Burnout Scale (Total)
Inadequate S.S.	1						
Discomfort	-.152***	1					
Stress (Total)	.715***	.582***	1				
Emotional E.	-.216***	.169***	-.058	1			
Depersonalization	-.311***	.152***	-.148***	.732***	1		
Reduced Personal A..	.100**	.004	.085*	.000	-.112***	1	
Burnout (Total)	-.190***	.157***	-.046	.857***	.738***	.455***	1

*p<0.05 **p<0.01 ***p<0.001

The correlation analysis in Table 8 revealed a positive and significant relationship between the Inadequate Self-Sufficiency subscale and the total Perceived Stress scale (r=.715, p<.001), and Reduced Personal Accomplishment subscale (r=.100, p<.01). Inadequate Self-Sufficiency subscale had a strong relationship with the total Perceived Stress scale and a weak relationship between Reduced Personal Accomplishment subscale. On the other hand, the Inadequate Self-Sufficiency subscale had a negative, significant and weak relationship with Discomfort subscale (r=-.152, p<.001), Emotional Exhaustion subscale (r=-.216, p<.001), Depersonalization subscale (r=-.311, p<.001) and the total Maslach Burnout Inventory (r=-.190, p<.001).

It was found that Discomfort subscale had a positive and significant relationship with the total Perceived Stress Scale (r=.582, p<.001), Emotional Exhaustion subscale (r=.169, p<.001), Depersonalization subscale (r=.152, p<.001), Reduced Personal Accomplishment subscale (r=.004, p<.001) and the total Maslach Burnout Inventory (r=.157, p<.001). Although this relationship was moderate for the total Perceived Stress Scale, it was very weak for the others.

In addition, the total Perceived Stress Scale had a very weak, negative and significant relationship with Emotional Exhaustion subscale (r=-.058, p<.001), Depersonalization subscale (r=-.148, p<.001), and the total Maslach Burnout Inventory (r=-.046, p<.001) as well as a very weak, positive and significant relationship with Reduced Personal Accomplishment subscale (r=.085, p<.05) Furthermore, the Emotional Exhaustion subscale was found to have a strong, positive and significant relationship between Depersonalization subscale (r=.732, p<.001) and the total Maslach Burnout Inventory (r=.857, p<.001). It was also found that Depersonalization subscale had a very weak, negative and significant relationship with Reduced Personal Accomplishment subscale (r=-.112, p<.001) and a strong, positive and significant relationship with the total Maslach Burnout Inventory (r=-.738, p<.001). Finally, Reduced Personal Accomplishment subscale had a weak, positive and significant relationship with the total Maslach Burnout Inventory (r=-.455, p<.001).

In the fourth question, it was investigated whether participants' perceptions of 'discomfort' differed significantly with regard to age, seniority, gender, and marital status in the prediction of emotional exhaustion. To do this, a multilinear regression analysis was performed. Table 9 shows the results of multilinear regression analysis.

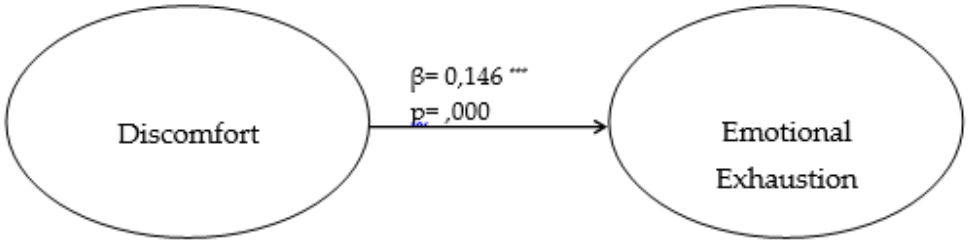
Table 9. The results of multilinear regression analysis of Emotional Exhaustion

	Model	B	Std. Error	β	t	p
1. Step	Constant	1.969	.303		6.497	.000
	Gender (Dummy)	.143	.066	.079	2.176	.030
	Age	-.005	.010	-.051	-.522	.602
	Work Experience	-.005	.010	-.044	-.456	.648
	Marital Status	.092	.086	.041	1.069	.285
2. Step	Constant	.428	.474		.904	.366
	Gender (Dummy)	.150	.065	.082	2.304	.022
	Age	-.006	.010	-.059	-.611	.542
	Work Experience	-.003	.010	-.026	-.265	.791
	Marital Status	.085	.085	.038	1.000	.318
	Dıscomfort	***.532***	***.127***	***.146***	***4.202***	***.000***

DEPENDENT VARIABLE: Emotional Exhaustion

ΔR^2=0.021*(*p<0.05 **p<0.01 ***p<0.0001)**

As shown in Table 10, the variables of gender, age, work experience and marital status were controlled in the first. Then, in the second step, it was found the participants' Discomfort perceptions significantly predicted their Emotional Exhaustion (β= 0.146; p< 0.001). A one-unit increase in the Discomfort perception led to an increase of 0.146 units in the level of Emotional Exhaustion. The explained variance showed that 2% of Emotional Exhaustion occurred as a result of discomfort perception (ΔR^2=0.021; p<0.001). Figure 1 shows that that participants discomfort perceptions significantly predicted their emotional exhaustion (β=0.146; p<0.001).



(*p<0,05 **p<0,01 ***p<0,0001)

Figure 1. The Effect of participants' Discomfort levels on their Emotional Exhaustion levels

The fifth research question examined whether the participants' insufficient self-efficacy perceptions differed significantly with regard to age, seniority, gender, and marital status in the prediction of Reduced Personal Accomplishment. Thus, a multilinear regression analysis was performed. Table 10 shows the results of multilinear regression analysis.

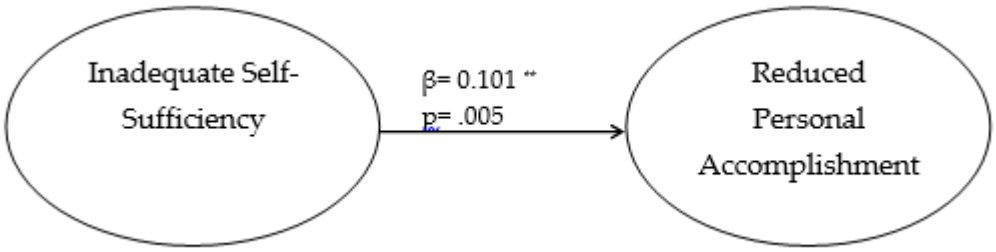
Table 10. The results of multilinear regression analysis of Reduced Personal Accomplishment

	Model	B	Std. Error	β	t	p
1. Step	Constant	3.858	.264		14.629	.000
	Gender (Dummy)	-.028	.057	-.018	-.484	.629
	Age	-.009	.009	-.097	-.981	.327
	Work Experience	.007	.009	.080	.817	.414
	Marital Status	-.022	.075	-.011	-.299	.765
2. Step	Constant	2.979	.406		7.341	.000
	Gender (Dummy)	-.021	.057	-.013	-.372	.710
	Age	-.008	.009	-.088	-.892	.373

Work Experience	.005	.009	.060	.610	.542
Marital Status	-.014	.075	-.007	-.188	.851
INADEQUATE SELF-SUFFICIENCY	***.272***	***.096***	***.101***	***2.842***	***.005***

DEPENDENT VARIABLE: Reduced Personal Accomplishment

ΔR^2=0.010(*p<0.05 **p<0.01 ***p<0.0001)**



(*p<0.05 **p<0.01 ***p<0.0001)

Figure 2. The Effect of participants' Inadequate Self-Sufficiency levels on their Reduced Personal Accomplishment levels

As shown in Table 10, the variables of gender, age, work experience and marital status were controlled in the first. Then, in the second step, it was found the participants' Inadequate Self-Sufficiency perceptions significantly predicted their Reduced Personal Accomplishment (β=0.101; $p<0.01$). A one-unit increase in the Inadequate Self-Sufficiency perception led to an increase of 0.146 units in the level of Reduced Personal Accomplishment. The explained variance showed that 1% of Reduced Personal Accomplishment occurred as a result of Inadequate Self-Sufficiency perception (ΔR^2=0.010; $p<0.01$). Figure 2 shows that that participants Inadequate Self-Sufficiency perceptions significantly predicted Reduced Personal Accomplishment (β=0.146; $p<0.001$).

Conclusion and Discussion

In educational organizations, stress in teachers weakens personal and professional competence and reduces productivity (Watts & Robertson, 2011). Therefore, situations which pave the way to stress and as a result had a negative impact on work should be clearly identified and eliminated. Otherwise, new stress sources are likely to occur. In addition, teachers' insensitivity to stress and inappropriate coping behaviors in educational organizations will affect students in various ways (Isıkhan, 2004). An education system that can replace the teacher has not yet been found because the teacher, as the one who conducts the teaching, has an influence on both the academic and personal development of the students. Therefore, teachers should have certain physical, mental and psychological characteristics in order to fulfill their function in accordance with their importance in the education system (Zoraloglu, 1998). In this context, the present study investigated teachers' stress perception on their burnout levels through a number of variables.

It was found in this study that the participants had low levels of Emotional Exhaustion and Depersonalization subscales in the Maslach Burnout Inventory. This finding is in consistent with other studies in the literature (Gün, 2015; Dinibütün, 2013; Karabıyık, Eker & Anbar, 2008). However, they had high levels of Reduced Personal Accomplishment. There are studies supporting this finding. For example, the participants in Oruç's study (2007) had high levels of Reduced Personal Accomplishment, Similarly, Ardıç and Polatcı (2008) and Toker (2011) reported that the educators had high levels of Reduced Personal Accomplishment. Finally, the participants' scores in the total Maslach Burnout Inventory revealed that they had a moderate level of burnout. Atlı (2019), Erdemoğlu-Şahin (2007), Mutlu (2009), Şencan (2019) and Sezgin and Kılınç (2012) reported similar findings with those of the present study, concluding that teachers had lower levels of burnout.

This study showed that there was not any statistical difference between participants' perceived stress scale and gender (p=0.218>0.05), discipline (p=0.886>0.05), school type (p=0.069>0.05), working time in the same school (p=0.404>0.05) and age (p=0.769>0.05). Although there are conflicting results concerning these findings, there are some studies supporting the findings of the present study. For example, similar to this study, Akkaş (2017), Altan (2015) and Artıran, Er, & Artıran (2019) found that the perceived stress of the participants did not differ by gender. Similarly, Atılgan and Yıldız (2021) reported that there was no statistical difference between the perceived stress and discipline. These studies indicate that the negative effects as a result of stress tend to affect all teachers in a similar way, regardless of gender, discipline, school type, working time in the same school and age. On the other hand, the findings revealed that the average scores of the perceptions of married teachers were higher than those of single teachers in the Inadequate Self-Sufficiency subscale. This finding is in line with the studies in the literature. For example, Shevlin et al. (2020) stated that being married increased the stress level.

It was also found that there was a significant difference between the participants having 1-10 years of work experience and those with 21-30 years of work experience in the Discomfort subscale of the Perceived Stress Scale in favor of the former. This finding is in consistent with the studies in the literature. For example, Göksoy, Arıcan, and Eriş (2015) found that teachers with 1-5 years of work experience had more organizational stress than others.

Correlation analysis revealed a negative and weak relationship between Inadequate Self-Sufficiency subscale and Discomfort, Emotional Exhaustion, Depersonalization subscales and the total Maslach Burnout Inventory. In addition, a positive correlation was found between Reduced Personal Accomplishment subscale and all scales and subscales except for Reduced Personal Accomplishment subscale. Furthermore, the total Perceived Stress Scale had a weak and negative relationship with the Depersonalization subscale and a weak and positive relationship between Reduced Personal Accomplishment subscale. It was also significant that there was no significant relationship between the total Perceived Stress Scale and the subscales of Maslach Burnout Inventory. Zoraloğlu (1998) found that stress negatively affects the professional development of teachers, concluding that teachers regarded the stressors in Educational Policies subscale as the highest stressor and the low prestige of the teaching profession" was perceived as being greatly stressful. Similar to this study, studies in the literature have revealed a positive and significant relationships between stress and burnout (Hayes, Douglas, & Bonner, 2015; Hsieh, & Hsieh, 2003; Lebares, Guvva, Ascher, O'Sullivan, Harris, & Epel, 2018; Rey, Extremera, & Pena, 2016; Yu, Wang, Zhai, Dai, & Yang, 2015).

It was also found that Emotional Exhaustion subscale had a moderate relationship between Depersonalization subscale and the total Maslach Burnout Inventory. This finding indicates that insensitive behaviors towards teachers in schools have a significant influence on their emotional burnout. Furthermore, Depersonalization subscale had a negative relationship with Reduced Personal Accomplishment subscale and a positive relationship between the total Maslach Burnout Inventory.

The findings revealed that the participants' Discomfort perceptions predicted their Emotional Exhaustion. Finally, it was found that the participants' Inadequate Self-Sufficiency perceptions predicted their Reduced Personal Accomplishment. Considering that burnout is a form of stress (Bailey, 1985; Iveson, 1983; Arı & Bal, 2008), such findings are expected. In this regard, Çankaya (1992) suggests that investigating the problem of stress in teachers and its reflection on education would be beneficial for teachers as well as for increasing the quality of students and education.

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Relationships Between Work Meaningfulness, Leader Membership Exchange and Organizational Commitment

Research Article

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ABSTRACT

Research on organizational commitment has demonstrated that lower commitment to organization among employees is a crucial problem. Low levels of commitment continue to be the problem of education sector as well. In addition to the individual factors, commitment level of teacher differs according to the quality of their relationships between principals and how they evaluate their profession. This study examines how work meaningfulness and leader member exchange affect organizational commitment and considers teachers' perceived work meaningfulness and leader member exchange levels as predictors of organizational commitment. It was conducted using quantitative method and designed in the relational survey model. Data was obtained through surveys. According to the aims of the study, "Leader-Member Exchange Scale", "Work Meaningfulness Scale" and "Organizational Commitment Scale" were used to collect the data. The universe of our study consists of teachers working in primary schools in Kırıkkale. Convenience sampling method was used for this study.346 teachers participated in our research and the results revealed in this study showed that both work meaningfulness and leader member exchange associated positively with organizational commitment. Work meaningfulness and leader member exchange predicted organizational commitment. However, not all sub dimensions of organizational commitment related with work meaningfulness and its sub-dimensions. This study clarifies the role of meaningfulness and leader member exchange perceived by employees on organizational commitment. According to the results of the study, policymakers, practioners and education administrators might devise strategies helping to enhance teachers' organizational commitment, as well as investigate how other perceptions of teachers are affected.

Keywords:
Educational administration, organizational commitment, work meaningfulness, leader membership exchange, leadership

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Introduction

There has been an increasing interest in work meaningfulness [WM] over the two decades. This is grounded in the belief that the one who find their job meaningful show different levels of organizational of individual outcomes such as OC (Chalofsky, 2009), citizenship engagement (May, Gilson, & Harter, 2004), motivation (Lips-Wiersma & Wright, 2012), job satisfaction (Kamdron,2005; Steger, Dik, & Duffy,2012). Meaning of work has various viewpoints and differs from person to person. According to Geldenhuys, Łaba and Venter (2014), meaning is linked to one's existence (positive or negative) and encompasses the workplace as an inevitable part of one's existence. On the other hand, "meaningfulness" or "meaningful work" refers to work regarded as particularly significant and having positive meaning for individuals (Rosso, Dekas, & Wrzesniewski, 2010; Steger at al., 2012). May et al. (2004), defined WM as the value of a work goal or purposes, judged to the individual's own ideals or standards. Based on the results of the studies (Arnold, Turner, Barling, Kelloway, & McKee, 2007; Lips-Wiersma & Morris, 2009; Pratt & Ashforth 2003; Rosso et al., 2010; Steer, et al., 2012), meaningful work refers to the work that is perceived significant and positive by the individuals. Employees desire their job to be meaningful and to add value to their works. Furthermore the more meaningful they find a work, the higher they are committed to organization.

Organizational commitment [OC] is defined from different perspectives by different scholars. OC is "a psychological state characterizing the employee's relationship with the organization (Meyer & Allen, 1991, p. 67); believing and accepting the goals and values of organization; possessing and showing desire to be part of the organization it (Meyer & Allen, 1991; Porter, Steers, Mowday, & Boulian, 1974; Seel & Knight, 1987 and individual's combined power of commitment and identity unity with an organization (Leong, Furham, & Cooper, 1996). In other words, OC is defined as the individual's positive feelings against the organization they work for. Meyer and Allen (1991) argued about its multidimensional and proposed three-component model composed of three types of commitment: Affective commitment is the emotional attachment to refers to the employee's emotional attachment to and involvement in the organization, whereas continuance commitment is an awareness of the costs associated with leaving the organization. Lastly, normative commitment is the obligation to continue commitment (Meyer & Allen, 1991; Meyer, Allen & Smith, 1993). The importance of affective commitment lies in the belief that it shows the strongest positive relationship with desirable outcomes (Eisenberger, Huntington, Hutchison, & Sowa, 1986), such as meaningful work. Also, past research findings suggested that OC has a great influence on turnover (Martin & Roodt, 2008; Porter, Crampon, & Smith, 1976), job satisfaction (Geldenhuys et al.,2014), work engagement (Field & Buitendach, 2011;Simpson, 2008), performance (Hunter & Thatcher, 2007; Pool &Pool, 2007); stress (Leong et al.,1996), meaningfulness of the work (Chalofsky, & Krishna, 2009) and organizational citizenship (Dessler, 1999).

In educational settings, Hubermann (1993) argued that teacher commitment is one of the critical factors influencing school effectiveness and the success of education systems (as cited in AbdRazak, Darmawan, & Keeves, 2010). Some scholars (Hulpia, Devos & Van Keer, 2009; Nguni, Sleegers, & Denessen, 2006) suggested that leadership style of principles, as leaders of the schools, influence OC of teachers. Similarly, Gaziel (2004) found that OC, school (organizational) climate and an absentee school culture are interrelated. He also stated that OC is negatively correlated with restrictive principal behavior and disengaged teacher behavior.

Leader-membership exchange [LMX] is the relationship between his/her subordinates/followers (Graen & Scandura, 1987; Graen & Uhl-Bien, 1995; Sparrowe & Liden, 1997). Not all followers have the same interactions with leaders. Leaders cannot approach all followers/subordinates in the same way or same leadership style because of the limited resources, power and time they possess (Wayne, Liden, & Sparrowe, 1994). Schyns & Day (2010) stated that the LMX approach was one of the first systematic leadership theories to include the follower in leadership processes. A high-quality LMX relationship is based on social exchange, meaning that the leader and member must contribute resources valued by the other party and both parties

must view the exchange as fair (Liden, Sparrowe, & Wayne, 1997). The relationship quality between leaders and his/her followers has attracted a great deal of interest by the scholars. Thus among the leadership theories focusing on leader-follower relationships, LMX theory has been the subject of several researches. Much of the research suggests a link between high LMX and commitment (Gerstner & Day, 1997), citizenship behavior (Ilies, Nahrgang, & Morgeson, 2007; Zhang, Jiang, & Jin, 2020), justice perceptions, (Rockstuhl, Dulebohn, Ang, & Shore, 2012), job performance (Dulebohn, Bommer, Liden Brouer, & Liden, 2012; Liden & Graenn, 1980), job satisfaction (Graen, Orris, & Johnson,1973; Scandura & Graen, 1984), turnover intentions (Dulebohn et al., 2012; Gerstner & Day, 1997; Graen, Liden, & Hoel, 1982). To conclude, the relationship of a leader with his or her members has a major impact on different types of work experiences (Tummers & Bronkhorst, 2014). Reciprocity is thought to be the key resource for high quality LMX. The quality of LMX relationship includes four sub-dimensions of affect, loyalty, contribution and professional respect (Liden & Maslyn, 1998).

Within this context, whether WM and LMX perceptions of teachers predict their OC perceptions is important to reveal. Although there have been various researches indicating the issues WM, OC, and leadership types of the principals, very little empirical research exists investigating whether teachers' WM and LMX perceptions predict their OC perceptions. We have not reached any study investigating the relations between teachers' perceptions of WM, LMX and OC. Thus, firstly the purpose of this article is to address the gap; to explore OC, WM and LMX deeply and to discuss the predictive connections between these concepts. Secondly, it investigates whether WM and LMX perceptions of teachers predict their OC perceptions. Understanding the relationship between teachers' existing perceptions of WM and LMX and OC can be significant in making suggestions to increase OC of teachers. By connecting these facets of research and conceptual growth, this study is expected to contribute to both educational administration and organizational behavior field literature. According to mentioned aims, this study attempts to find answers to the following research questions:

- What are the teachers' levels of WM, LMX and OC levels?
- Are there significant relationships between teachers' OC, WM, and LMX perceptions of the teachers?
- Do the teachers' WM and LMX perceptions predict OC?
- Do sub-dimensions of teachers' perceptions of WM and LMX predict their perception of OC?

Methods

Research Model

This study was designed in the relational survey model and quantitative method aiming to reveal the relationship between OC, which is the dependent variable, and the WM and LMX, which are the independent variables. With relational analysis, it is possible to draw certain inferences about the cause and effect relationship between various variables (Fraenkel & Wallen, 2009).

Data and Participants

Firstly, to limit the differentiations based on working hours, teachers working in 57 public primary schools locating in regions of Kırıkkale province of Turkey were selected. Convenience sampling procedure was used for this study. Data collection process was carried out in the fall semester of 2019-2020. Of the 394 surveys distributed to the teachers who are willing to participate, 351 of them were returned. Upon many errors and invalid data they have, we removed five surveys from the final data analysis. After this elimination, data collected from 346 participants were analyzed. In sum, sample included 202 female (58 percent) and 144 male (42 percent) teachers. The majority of teachers (n = 91) have 26 years or more of professional experience. 59 of the teachers have fewer than ten years of experience. When the length of time teachers served with their

current school principals was investigated, it was discovered that the majority of them (n = 277) worked together for 1-5 years, 52 for 6-10 years, and 17 for 11-15 years. While 267 teachers have served as principals, 79 have never served as administrators. Table 1 illustrates the descriptive statistics of teachers in the study sample.

Table 1. Description of the Sample of Teachers in the Study

Description	n
Sex	
Female	202
Male	144
Teaching Experience (in years)	
10 or less	59
11-15	72
16-20	46
21-25	78
26 +	91
Duration of working with the current principal (in years)	
1-5	277
6-10	52
11-15	17
Principalship experience (in years)	
Experienced	79
Inexperienced	267

Data Collection Tools

The "Leader-Member Exchange Scale," developed by Liden and Maslyn (1998) and adapted to Turkish by Öztürk (2015), the "Work Meaningfulness Scale," developed by Toptaş (2017) and the "Organizational Commitment Scale," developed by Meyer, Allen, and Smith (1993) and adapted to Turkish by Dağlı, Elçiçek, and Han (2018) were used in this study. For the current study, exploratory and confirmatory factor analyses were applied to the scales.

Leader-Member Exchange Scale

The "Leader-Member Exchange Scale" developed by Liden and Maslyn (1998), and adapted to Turkish by Öztürk (2015), consists of 12 likert-type items. The scale consists of four sub-factors: "emotion" [E], "contribution" [C], "loyalty" [L] and "professional respect" [PR]. Items are ranging from "totally agree = 5" to "strongly disagree = 1" and there are no reverse coded items. The high total score obtained from the scale indicates that the teachers' perceived LMX is high. The validity and reliability analyzes of the scale re-conducted within the scope this research. As a result of the reliability analysis, the internal consistency coefficient of all items of the scale is found as 0.97. This result is an indication that the overall scale is highly reliable. According to the results of EFA, the scale consists of four sub-dimensions. For these four sub-dimensions, variance is determined as 90.05%. LMX' four sub-dimension structure was confirmed by CFA and it was revealed that this 4-factor structure has an acceptable fit index level (χ^2 = 159.78, sd= 50; p <.001), / χ^2 sd = 3.19, RMSEA = 0.080 AGFI = 0.89, GFI = 0.93, CFI = 0.99, NFI = 0.99, NNFI = 0.99, IFI = 0.99, RMR = 0.046).

Work Meaningfulness Scale

The "Work Meaningfulness Scale " developed by Toptaş (2017) which is 5 point likert-type scale with 31 items. The scale consists of six sub-factors: "work integration" [WI], "professional development" [PD], "service ideal" [SI], "autonomy", "recognition" [R] and "social relations" [SR]. The evaluation options of the items are ranging from "I totally agree = 5" to "I do not agree at all = 1" and there are no reverse coded items. The high total score obtained from the scale indicates that teachers' perceptions of WM are high. Within the scope of this research, validity and reliability analyzes of the scale were carried out again. Results of the reliability analysis showed that the internal consistency coefficient of all items of the scale was found as 0.95. This result is an indication that the overall scale is highly reliable. The factor load of some items (M6, M20, M21, M22, M29) was not appropriate and determined that it is valued under more than one factor according to the results of EFA applied to the scale. Thus, they were removed from the scale, thus the remaining items were evaluated. The remaining items were observed to be grouped under five factors according to the EFA results. The variance explained for these five sub-dimensions was determined as 70.78%. The 5-factor structure of WM was confirmed by CFA and this 5-factor structure was found to have an acceptable fit index level (χ^2 = 313.91, sd = 155; p <.001), χ^2 / sd = 2.02, RMSEA = 0.05 , AGFI = 0.89, GFI = 0.92, CFI = 0.99, NFI = 0.98, NNFI = 0.98, IFI = 0.99, RMR = 0.05).

Organizational Commitment Scale

The "Organizational Commitment Scale" developed by Meyer, Allen and Smith (1993) and adapted to Turkish by Dağlı, Elçiçek and Han (2018), consists of 18 items in the Likert structure of 5 points. The scale consists of three sub-factors: "emotional commitment" [EC], "continued commitment" [CC] and "normative commitment" [NC]. 5-point frequency rating scale ranging from "I totally agree = 5" to "I strongly disagree = 1" and 4 items are reversed. The high total score obtained from the scale indicates that teachers' perceptions of OC are high. Within the scope of this research, validity and reliability analyzes of the scale were re-conducted. Reliability analysis showed that the internal consistency coefficient of all items of the scale was determined as 0.86. This result is an indication that the overall scale is highly reliable. As a result of the EFA applied to the scale, the factor loads of some items (M9, M10, M14) were not appropriate and excluded from the scale. Remaining 15 items were evaluated and observed to be grouped under three factors according to the EFA results. The variance explained for these three sub-dimensions was determined as 55.16%. CFA results performed to verify the 3-factor structure of the OC. Moreover, it was observed that the error variance of the item M13 was high. Therefore, this item was removed and the remaining items were analyzed again. CFA of the remaining 14 items confirmed the 3-factor structure of the scale and found that this 3-factor structure had an acceptable fit index level (χ^2 = 109.60, sd = 74; p <.001), χ^2 / sd = 1.48, RMSEA = 0.050, AGFI = 0.89, GFI = 0.93, CFI = 0.98, NFI = 0.95, NNFI = 0.98, IFI = 0.98, RMR = 0.088).

Data Analysis

Before analyzing the research data, the five scale forms filled in incorrectly or incompletely were deemed invalid and the remaining scale forms were evaluated. Pearson Product-Moment Correlation Coefficient (Çokluk, Şekercioğlu, & Büyüköztürk, 2016) was conducted to determine the relationship between teachers' perceptions of OC and perceptions of LMX and WM. In order to determine whether teachers' perceptions of LMX and WM have predictive effects on their OC, multiple linear regression analysis, which is applied to determine the relationship between two or more variables (Fraenkel & Wallen, 2009), was conducted to determine whether teachers' perceptions of LMX and WM had predictive effects on OC perceptions.

Results

The results of the analysis on the level of teachers' perceptions of organizational commitment, work meaningfulness and leader-member exchange and the relationships between these variables are given in Table 2 below.

Table 2. Relationships Between Teachers' WM, LMX, OC Perceptions, Average Standard Deviation Scores

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	$\bar{x}$	**SS**
1.WM	1	.79**	.85**	.72**	.65**	.77**	.24**	.20**	.23**	.23**	.21**	.38**	.03	.42**	.29**	3.97	.03
2.WI		1	.65**	.52**	.41**	.46**	.16**	.13*	.15**	.16**	.16**	.29**	.04	.31**	.21**	4.06	.04
3.PD			1	.45**	.55**	.58**	.25**	.20**	.25**	.28**	.21**	.31**	-.02	.33**	.29**	3.52	.05
4. SI				1	.18**	.56**	.16**	.15**	.16**	.13**	.14**	.24**	-.02	.39**	.12**	4.39	.04
5.R					1	.51**	.09	.07	.07	.11	.09	.23**	.03	.14**	.24**	3.40	.05
6.SR						1	.26**	.23**	.26**	.23**	.26**	.44**	.16**	.44**	.29**	4.06	.03
7.LMX							1	.92**	.92**	.91**	.93**	.49**	.17**	.42**	.36**	3.57	.05
8.E								1	.83**	.77**	.82**	.45**	.16**	.38**	.35**	3.86	.06
9.C									1	.79**	.78**	.46**	.14**	.40**	.36**	3.54	.06
10.L										1	.82**	.44**	.13**	.36**	.33**	3.34	.06
11.PR											1	.46**	.21**	.40**	.30**	3.55	.06
12.OC												1	.40**	.78**	.82**	3.33	.03
13.EC													1	.13*	.03	3.39	.06
14.CC														1	.15**	3.79	.04
15.NC															1	2.96	.04

**p<,01; *p<,05

According to Table 2, it can be said that teachers perceptions of meaningfulness of the work ($\bar{x}$ = 3.97), leader-member exchange ($\bar{x}$ = 3.57) and organizational commitment ($\bar{x}$ = 3.33) are above the average. When the relationships between research variables are examined, highest correlation level is observed to be between LMX and OC (r = .49, p <.01). Table 2 also shows a moderate, positive and significant relationship between the WM and OC (r = .38, p <.01). In other words, it can be said that as the perceptions of the WM and LMX increase, their OC increases. However, no significant relationship was observed between emotional commitment, which is the sub-dimension of OC, and WM and sub-dimensions of the WM (p> .05). The results in Table 2 indicate that teachers' finding their work meaningful is not related to their emotional commitment to their organizations.

Table 3. *Multiple Linear Regression Coefficients Related to Work Meaningfulness and Leader Member Exchange Predicting Organizational Commitment*

Variable	B	Standard Error	β	t	*p*	Binary r	Partial r
(Constant)	1.318	.187		7.044	.000	-	-
Leader Member Exchange	.257	.028	.426	9.260	.000	.447	.414
Work Meaningfulness	.275	.046	.277	6.027	.000	.309	.269
R = .562	R^2= .316						
F(2,343)=79,217	*p*<.01						

Table 3 shows the results of multiple linear regression analysis conducted to determine the impact of teachers' perceptions of LMX and WM on their OC perceptions.

When the binary and partial correlations between independent variables (LMX and WM) and dependent variable (OC) are examined, a positive and moderate correlation (r = .447) is observed between LMX and OC. When the other variable is taken under control, this correlation value is calculated as r = .414. Positive, significant, and moderate correlation (r = .309) is determined between the WM and OC. When the other variable is taken under control, this correlation value is calculated as r = .269. LMX with WM seems to explain OC at a significant and moderate level (R = .562; R2 = .316; p <0.01).These two independent variables together explained 31% of the total variance in the dependent variable. Overall, the results in Table 3 demonstrate that, according to the standardized regression coefficients (β), the relative importance order of independent variables on the dependent variable is LMX (β = .426) and WM (β = .277). When the t-test results related to the significance of the regression coefficients are examined, both variables are significant predictors of the dependent variable. Our findings reveal that 31% of teachers' perceptions of OC can be explained by the WM and their perception of LMX.

Table 4 summarizes the findings of a multiple linear regression analysis conducted to determine the effects of the sub-dimensions of teachers' LMX and WM perception on their perceptions of OC.

Table 4. Multiple Linear Regression Analysis Results Related to Sub-Dimensions of Leader-Member Exchange and Work Meaningfulness Predicting Teachers' Organizational Commitment

Variable	B	Standard Error	β	t	*p*	Binary r	Partial r
(Constant)	1.148	.202		5.686	.000	-	-
Emotion	.066	.053	.115	1.240	.216	.068	.054
Contribution	.070	.051	.124	1.377	.169	.075	.060
Loyalty	.039	.050	.068	.774	.440	.042	.034
Professional respect	.068	.047	.131	1.434	.152	.078	.063
Work integration	.102	.048	.132	2.126	.034	.115	.093
Professional development	-.029	.046	-.044	.636	.525	.035	.028
Service ideal	-.040	.048	-.049	.839	.402	.046	.037
Recognition	.006	.035	.010	.172	.863	.009	.008
Social relations	.284	.038	.318	4.876	.000	.257	.214
R = .596	R^2= .356						
F(9,336)=20.609	*P*<.01						

When WM and all of the sub-dimensions of LMX are taken together, it yields a moderate and significant relationship with organizational commitment (R =.596; R2 =.356; p.01). These variables explain 35% of the variance in organizational commitment perception. When the bilateral and partial correlations between variables and organizational commitment are examined one by one, low level correlations are discovered.

According to the standardized regression coefficients (β), the relative importance of the independent variables on the dependent variable are social relations (β=.318), work integration (β=.132), professional respect (β=.131), contribution (β=.124). , emotion (β=.115), loyalty (β=.068), recognition (β=.010), professional development (β=. 044), and service ideal (β= . 049). When the t-test results for the significance of the regression coefficients are examined, only the social relations sub-dimension (t=4.87, $p < .05$) is found to be a significant predictor of organizational commitment, while the other variables are not.

In other words, 35% of the teachers' perceptions of organizational commitment can be explained by the sub-dimensions of the meaningfulness of the work and the perception of leader member exchange. It can be said that the effect of the sub-dimensions of the leader member exchange perceptions in explaining organizational commitment is more than the sub-dimensions of the work meaningfulness perceptions.

Discussion

OC is increasingly recognized as an important element of positive outcomes in schools, which has spurred research that examines the relations, which affect OC perception of teachers. To date, studies almost exclusively focused on the relations between commitment and other factors such as turnover, performance, satisfaction. Tummers and Knies (2013) analyzed the mediating role of WM in the relationships between LMX and OC in different sectors and suggested that WM is an important mediator between leadership and outcomes. However, to the best our knowledge, this study is the first to search WM and LMX as predictors in OC in education. In this study, we have convincing evidence that WM and LMX perceptions of teachers have an important role and predict OC.

Firstly, our study substantiates that when LMX and WM are taken together, they have a greater effect on OC. WM and the LMX are determined to be significant predictors of explaining 31% of teachers' perceptions of OC. Considering that organizational commitment is a broad concept that can be influenced by many other variables, this result might be important. Secondly, we found that the relative importance order of the independent variables on the dependent variable was determined as LMX and WM. That is, LMX has substantive prediction power on OC, which has higher correlation than WM. These results are in line with the findings of Dulebohn et al. (2012), Gerstner and Day (1997) and Graen, Liden and Hoel (1982). They also contribute to expand current literature (Gümüş, Bulut, & Bellibaş 2013; Hulpia et al.,2009; Nguni et al., 2006) reporting the relation between different leadership styles and OC. This finding clarifies the impact and importance of principals on teachers and thus teachers having lower quality of LMX interaction with the principals are expected to show greater intent to quit than those with higher LMX interaction.

Additionally, work meaningfulness predicts OC in moderate level. Teachers who find their work meaningful are expected to be more committed to their organizations according to these results. Results indicate that the more the teachers regard their work meaningful and the more they are committed to school that may reduce the negative and undesirable organizational outcomes in long term. The success or failure of a school is closely related to the quality of its employees especially teachers' interaction with the principals and the level to which extent they find their work meaningful. Results of this study are consistent with literature and confirm that WM, LMX and OC have a relational relationship and previous researches (Chalofsky & Krishna, 2009; Pierce & Dunham, 1987; Steer et al., 2012; Tummers & Knies, 2013) from a theoretical and empirical perspective confirms the findings of this study. Our results indicate that the higher they find their work meaningful, the higher they committed to their school/organization. Likewise, the higher they interacted with their principal the higher they committed to school or vice versa. The results of this study highlighted the importance of WM and LMX in education sector within this context. Teachers' good relationships (i.e. LMX) with the principals related with WM (see Tummers & Knies, 2013; Wittmer, Martin, & Tekleab, 2010) and this will affect their OC positively according to our current research results.

Another finding is that when all of the sub-dimensions of teachers' work meaningfulness and leader member interaction perceptions are considered together, they give a moderate and significant relationship with organizational commitment, and these variables together explain 35% of the variance in organizational commitment perception. Only social relations were found to be a significant predictor of organizational commitment among these variables. In many studies (Anderson & Martin, 1995; Nielsen, Jex, & Adams, 2000; Ömüriş, 2014) being conducted to investigate the relationship between social relationship perception or workplace friendship and organizational commitment, it has been discovered that as the level of informal communication among employees increases, so does the level of organizational commitment. These results are partially in line with the results of this study. Employees who have a negative perception of workplace friendship or social relations with coworkers, on the other hand, exhibit higher turnover behavior (Morrison, 2004).

Limitations and Further Research Recommendations

Our research is limited in many ways though the quality and accuracy of the survey is valid for our study. Firstly, our sample is comprised of teachers from public primary schools and this limitation has to be considered while interpreting the results. The perceptions of teachers working in secondary and high school levels may be different, so getting opinions of teachers from different levels in different studies may provide different results. Secondly, according to purpose of the research, we designed the research in quantitative method and collected data via surveys. Although we took some measures for the purposes of the study, in the following researches our results might be extended by various ways of implementation. In order to provide data diversity, mixed methods can be used by direct observations and interviews in addition to quantitative methods. Moreover, future investigations might add principals to the study sample, which may provide a broader view for LMX, WM and OC relations. How school administrators see their leadership characteristics might give researchers opportunities to make comparison between teachers and principals' perceptions. The fact that teachers' finding their job meaningful did not affect their emotional commitment to their organizations is striking and interesting result of our study. More research is required to understand and discuss the reason for this finding can be investigated by examining whether teachers' perceptions of WM have an emotional dimension. In this study, we examined predictive effect of LMX and WM on OC. In future researches, the effect of intermediary variables among these variables, which may have an impact on OC can be tested by structural equation modelling. Lastly, the effect of LMX and WM is more effective when they are handled together. By examining the variables of LMX and WM together, what other perceptions of teachers are affected might be investigated. In addition, the relationship between these two variables can be examined both directly and through intermediary variables. Also, prediction power of the concepts of WM and LMX on OC may create opportunities for policymakers, practioners and education administrators to develop strategies helping to improve the OC of teachers. Administrators may organize social events to increase OC of teachers, which has a positive effect on WM perceptions.

Conclusion

To conclude, our results emphasize the meaningful work, leader-member exchange in organizations such as schools. Our research findings highlight the importance of work meaningfulness and leader-member exchange. However, further research is required on meaningfulness of the work, leader-exchange and organizational commitment to figure out how they are related to each other and how work meaningfulness and leader-member exchange predict organizational commitment within the context of education. This study also is expected to provide a new perspective on links between commitment, meaningfulness and leader-member exchange and to contribute expanding knowledge on commitment of teachers to their organizations in general and the field of educational administration and organizational behavior in particular.

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Musical Preferences of High School Students: The Roles of Emotional Moods and Demographic Characteristics

Research Article

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ABSTRACT

The study aimed to determine the musical preferences of high school students with respect to their emotional mood and demographic characteristics. The study was designed based on the survey and causal-comparative designs. The sample comprised high school students in İstanbul, Malatya, and Muş, Turkey (N=317). The data collection tool was a survey including questions about demographic characteristics, emotional mood, and musical preferences. The Chi-square, frequency, percentage, and Cramer's V analyses were employed in the analyses of the data. The results revealed that the students mostly listened to music when they were in a joyful-happy mood, the most preferred genre was Turkish pop-rock, and Ahmet Kaya was the most preferred vocalist. Turkish pop-rock was the most preferred genre when the students experienced love, joy, and surprise while the students mostly preferred arabesque-fantasy music when they were in a sad mood, religious music when they were in a fearful mood, and Turkish rap-hip hop when they were in an angry mood. Musical preferences significantly varied by gender, place of residence, and music listening frequency with moderate effect sizes. The female students mostly preferred Turkish pop-rock while the male students mostly preferred arabesque-fantasy music. The students living in İstanbul mostly preferred Turkish pop-rock and foreign pop-rock; the students in Malatya mostly preferred Turkish pop-rock, and the students in Muş mostly preferred arabesque-fantasy music. Moreover, most students daily listened to music regardless of genre.

Keywords:

Musical preference, musical genres, emotional mood, high school students, demographic characteristics

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Introduction

Musical preference can be defined as individuals' aesthetic evaluations of music that is based on multiple factors and gained in time depending on the interests and tendencies of the individuals. Kaçmaz (2016) defined musical preference as the interactions among interest, value, attitude, aesthetic, and emotional responses. The formation of musical preference is possibly affected by cultural factors, environment, psychology, education, media, and experiences gained in daily life (Yıldırım Şahin, 2019; Demirtaş & Köse, 2018; Kamalı & Temiz, 2017; Kaçmaz, 2016; Sakar & Maba, 2015; Göksel, 2013; Şenel, 2013; Artemiz, 2009; Schafer & Sedlmeier, 2009; Ulutürk, 2008; North & Hargreaves, 1996).

Studies have investigated the effectiveness of musical preference in obtaining information about the ways of life, psychological statuses, developmental age groups, and personality traits of people. Within this scope, there are various studies on preference for musical genres and personality traits (Dunn, Ruyter, and Bouwhuis, 2011; Artemiz, 2009; Erdal 2009; Kaçmaz 2016, Nizamoğlu, 2019), musical preference, demographic characteristics, and other similar variables (Ulutürk, 2008; Angı, 2012; Tekin Gürgen, 2016; Şanlı & Şen, 2019; Doğan, 2019), musical preference of certain age groups and musical preference with respect to developmental stage (Kamalı & Temiz, 2017; Sakar & Maba, 2015), and musical preference and propensity for violence, aggressiveness, anger, and psychological symptoms (Yağışan, 2013; Sezer, 2011; Uluçay, 2018) in the literature.

Yıldırım Şahin (2019) examined the relationship between sociological factors and listening to different musical genres and found that people who have the same profession and educational background predominantly listened to the same musical genres. Sağır and Öztürk (2015) stated that people felt like they belonged to a certain social group by listening to certain musical genres and proposed that rock music listeners' earrings, the specific style of punks, and the razor marks on the arms and bodies of arabesque music listeners were all reflections of music in external identity (p. 123). The relevant literature includes the classification of various musical genres that are examined within the framework of musical culture in Turkey (Uçan, 2005; Yurga, 2010; Canbay, 2013; Say, 2005, Angı, 2012, Doğan, 2019, Demirtaş & Köse, 2018, Tekin Gürgen, 2016, Bozkurt, 2015; Nizamoğlu, 2019). The main elements of these approaches are similar to each other. The classifications usually include the categories of Turkish folk music (TFM), Turkish maqam music (TMM), popular music (pop, rock, rap), arabesque music, and religious music.

In addition to many factors that have a role in musical preferences, there are also studies based on how music listening habits are shaped according to the emotional state of the individual. These studies examined what kind of music the students studying in Fine Arts High Schools (Nizamoğlu, 2019), high schools (Yurga, 2017), and secondary schools (Bozkurt, 2015) prefer when they are sad, happy, angry, afraid, surprised, and full of love. Considering the results of the studies, it was seen that the students preferred to listen to different genres of music according to their emotional state. At this point, as also stated in the relevant literature, it would be appropriate to emphasize the concept of emotion, which is thought to have an in the individual's musical preference.

Goleman (2011) defines emotion as "a combination of feelings and thoughts specific to these feelings, psychological and biological states, and a series of tendencies towards action" (p. 373). Emotions strengthen people's energy and contribute to the emergence of the creative sides of people. Moreover, it brings foresightful and rational thought forward, revives people, and helps people succeed (Cooper & Sawaf, 1997, p.12). Emotions have different forms and manifestations and are classified regarding their effects on human psychology and biology. Although their classifications are not bound by exact lines, we continue discussions using certain classifications proposed by theoreticians.

Certain theoreticians such as Ortony and Turner (1990:316), Arnold (1960), Ekman, Friesen &Ellsworth (1982), Frijda (1986), Gray (1982), Izard (1971), James (1884), McDougall (1926), Mowrer (1960), Oatley and

Johnson-Laird (1987), Panksepp (1982), Pluthcik (1980), Tomkins (1984), Watson (1930), and Weiner and Graham (1984) have adopted different approaches to the classification of basic emotions. A review of these classifications reveals that basic emotions are formed upon anger, fear, love, surprise, unhappiness, lust, wonder, pain, shame, guilt, acceptance, hope, despair, interest, pleasure, disgust, panic, and tenderness.

Yazıcı (2016:24) cites the emotion classification of Thomas Aquinas as emotions related to simple desires (love/hate, lust/dislike, joy/sadness) and emotions related to arduous desires (hope/disappointment, fear/daring, anger). Parrot (2001) explains emotions using three categories of primary, secondary, and tertiary emotions and primary emotional states include love, joy, surprise, anger, sadness, and fear. This study is based on primary emotions as described by Parrot (2010).

Taking the factors that are thought to be related to the musical preferences of the students into consideration, music education also is of importance, in addition to their emotional states. According to Taş (2020), elements such as the training programs, curricula, school culture, social structure and, technological facilities used in education within the scope of music education can be evaluated among the factors that affect the musical preference as well as the emotional state of the student.

In Turkey, the students receive music education in all educational stages from kindergarten to college. In kindergartens and primary schools, music is used as a tool of play and fun, whereas it is thought through teaching songs by ear using musical knowledge and didactic elements in middle school and concentrating on musical culture in high school. The contents of the songs used in kindergarten and primary school are fun and oriented to play while the contents of the songs used in middle school and high school touch upon a variety of subjects from patriotism and nature to familial love, longing, sadness, and happiness. Furthermore, the students, especially students of high school-age, not only listen to the songs thought in schools but also are easily subject to a multitude of musical genres and musical examples regardless of their quality thanks to the dissemination of technology and the Internet and their entrance to every aspect of life. Social and cultural changes also affect musical preferences and music listening behaviors and the songs the students listen to can differ from the songs included in the curriculum that comprise examples of school songs, popular singers, Turkish folk music, and Turkish maqam music, leading to discrepancies between what students actually prefer and listen to and what is thought in school. Thus, the curriculum can be reviewed not only by regarding educational principles, goals, and learning outcomes but also regarding cultural and sociological differentiation and the preferences of students.

Ignoring the preferences, listening habits, and related emotional moods of students and overlooking the reality can lead to inappropriate applications but surrendering to today's conditions and compromising aesthetic, quality, and principal concerns would be as inappropriate. In this regard, including pieces that have been reviewed by experts and that can improve the musical culture of students as well as being of high aesthetic and artistic value and appealing to students' tastes and pleasure in the curriculum is of utmost necessity both for the music community, students, and giving promising music education. In addition to musical preference and listening habits, determining in which emotional moods these pieces are listened to and to which pieces students approach with different emotional moods is also of great importance. Gathering knowledge about the emotional moods and differing emotional moods of students when listening to the pieces from different musical genres will give information about the psychological statuses of students and the relationship between emotional mood and genre.

Thus, the study aimed to describe the most preferred musical genres of high school students and the emotional moods they more intensely experienced before listening to music. In light of this information, we sought answers to the following questions:

- How are the students distributed by their demographic characteristics, preferences for vocalists, and musical preferences?
- How are the students distributed by their emotional moods when listening to music?
- How are the most preferred musical genres are distributed by the emotional moods of the students?
- Are there statistically significant differences between the most preferred musical genres with respect to the demographic characteristics of the students?
- Are there statistically significant differences between the most preferred musical genres with respect to gender?
- Are there statistically significant differences between the most preferred musical genres with respect to the place of residence?
- Are there statistically significant differences between the most preferred musical genres with respect to class?
- Are there statistically significant differences between the most preferred musical genres with respect to the frequency of listening to music?
- Are there statistically significant differences between the most preferred musical genres with respect to receiving a music education outside school?

Method

Research Design

The study was based on two basic approaches that comprise the general survey research and causal-comparative research. The study was designed in accordance with the survey model as it was a descriptive study of the demographic characteristics and most preferred musical genres and vocalists of students. General surveys describe the viewpoints or various properties of study groups to gather a general inference (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2014; Karasar, 2009). On the other hand, the study examines the differences in the musical preferences of high-schoolers with respect to their demographic characteristics. For example, we examined the roles of receiving a music education outside school and the frequency of listening to music in the musical preference of the students. In this respect, the study is also in line with the causal-comparative model. Causal-comparative studies investigate the variables that can be the possible causes of an event that had already happened (Fraenkel, Wallen, & Hyun, 2012; Büyüköztürk et al., 2014; Can, 2014).

Sample

Using the maximum variation sampling method, the high school students who were receiving education in İstanbul (*Başakşehir Birikim High School*), Malatya (*Yeşiltepe Anatolian High School*), and Muş (*İbni Sina Anatolian High School*) during the 2015-2016 education year were determined to be the sample of the study (N=317). According to the "Research on the Socioeconomic Development of Provinces and Districts" report dated 2011 of the General Directorate of Regional Development and Structural Adjustment, the provinces were ranked under six categories considering the indicators of demographic characteristics, employment, education, health, competitive and innovative capacity, financial status, and accessibility. According to this classification, İstanbul is categorized as a first-grade province with its ranking as the first province; Malatya is categorized as a fourth-grade province with its ranking as the 42nd province; Muş is categorized as a sixth-grade province with its ranking as the last (81st) province.

Table 1. Distribution of the students by gender, age, and class

		f	%
Province	İstanbul*	105	33.1
	Malatya**	106	33.4
	Muş***	106	33.4
Gender	Female	150	47.3
	Male	167	52.7
Age	14	15	4.7
	15	78	24.6
	16	83	26.2
	17	78	24.6
	18	51	16.1
	19	12	3.8
Class	9.	87	27.4
	10.	78	24.6
	11.	59	18.6
	12.	93	29.3
	Total	**317**	**100.0**
School	Anatolian High School	212	33.1
	Private Basic High School	105	66.9

**İstanbul Başakşehir Birikim Basic High School, **Malatya Yeşiltepe Anatolian High School, ***Muş İbni Sina Anatolian High School*

The students were evenly distributed by school, gender, and class. In the class variable, only the 11th-graders had a lower distribution than the rest of the students. The distribution by age revealed that 15-, 16-, and 17-year-old students were evenly distributed while 14-, 18-, 19-year-old students had a lower distribution.

Data Collection Tools

The survey developed by Bozkurt (2015) for the determination of the musical preferences of middle-school students with respect to their emotional moods was modified by changing certain items and choices and used as the data collection tool in the study.

Firstly, it would be appropriate to explain what these changes are. In the original form of the survey, there are open-ended questions about how the students feel and which emotion they experience intensely after the music genres listened to for each emotional state, as well as the music genres preferred according to the emotional state. Since the present study was based on the music genres preferred according to emotional states, this open-ended question was omitted in terms of limitations. Therefore, since the content analysis was not performed, additional validity-reliability tests were not carried out. Also, in the question of the most preferred music genres in original form, there were "Training Music" and "Military Music" options. However, examining the results, it was revealed that none of the students selected these options (Bozkurt, 2015). Therefore, there was no need for a separate validity-reliability test since the relevant options were not effective, and it was decided to remove these two options from the survey and apply the survey accordingly to the students.

The survey was made up of two sections. The first section contained questions about gender, class, music listening frequency, and receiving a music education outside school. The second section contained questions about students' preferences for musical genres and vocalists, the emotional mood they most frequently experienced when they needed to listen to music, and which musical genres they preferred when in different emotional moods. The students could choose a maximum of three choices for the musical genres they most preferred. Moreover, the students could freely write the vocalists they preferred without a limit to

the number, thus allowing choosing multiple vocalists. Finally, the students could choose a single emotional mood they were in when they needed to listen to music. The classification of the emotional moods was based on the primary emotions that were proposed by Parrot (2001), which comprises love, joy, surprise, sadness, fear, and anger.

Data Analysis

The data obtained from the surveys were analyzed using the SPSS 24.0 package program. At this stage, considering students could choose to write multiple musical genres and vocalists, the analyses were carried out by considering the number of choices instead of the number of individuals. Firstly, the frequencies (f) and percentages (%) of the answers to the questions oriented to the individual differences in demographic characteristics and musical lives were determined and visually presented as tables and plots. The most preferred musical genres and vocalists, in which emotional mood the students listened to music, and the most preferred musical genre when they intensely experienced each emotional mood were analyzed in the same manner. However, the number of the most preferred vocalists was too high and, thus, the values for 12 vocalists who had a frequency value over 20 and whom all groups had a preference for were presented in the paper.

The Chi-Square test was applied for the analyses of the relationships between demographic characteristics and musical lives of the students and the most preferred musical genres. The distribution values were examined based on the distribution of the most preferred musical genres and demographic characteristics within themselves. The K-S test ($p>.05$) and Kurtosis-Skewness coefficients (±2) were examined for normality analysis, which revealed that the values did not deviate from normality. The Cramer's V values were calculated for the Chi-Square test to determine the effect sizes (Cohen, 1988; Gravetter & L. Wallnau, 2013). The Cramer's V values were interpreted by following the criteria proposed by Rea and Parker (2005) in which values in the range of .00-.10 represent a negligible relationship, values in the range of .10-.20 represent a weak relationship, values in the range of .20-.40 represent a moderate relationship, values in the range of .40-.60 represent a partially strong relationship, values in the range of .60-.80 represent a strong relationship, and values in the range of .80-1.00 represent a very strong relationship.

Results

Table 2. The most preferred musical genres

Genre	f	%
Turkish Pop-Rock	170	23.0
Foreign Pop-Rock	134	18.0
Turkish Rap- Hip Hop	106	14.0
Arabesque-Fantasy	102	14.0
TFM*	81	11.0
Foreign Rap-Hip Hop	58	8.0
Religious Music	44	6.0
TMM**	27	4.0
Classical Music***	18	2.0
Protest	14	2.0
Total	754	100.0

**Turkish Folk Music, **Turkish Maqam Music, ***Western Classical Music*

The distribution in Table 2 reveals that the most preferred musical genre was Turkish pop-rock (23.0%), followed by foreign pop-rock (18.0%) while the least preferred musical genres were protest, classical music, and TMM, respectively. Table 3 shows the distributions of the most preferred vocalists by percentages and frequencies ranging from 12 to 20.

Table 3. The most preferred vocalists (>20%)

Vocalists		Genre	f	%
Ahmet Kaya	=	Protest	98	26.0
Mustafa Ceceli	=	Turkish Pop	55	14.0
Azer Bülbül	=	Arabesque-Fantasy	27	7.0
Ebru Gündeş	=	Arabesque-Fantasy	25	7.0
Müslüm Gürses	=	Arabesque-Fantasy	25	7.0
Yıldız Tilbe	=	Arabesque-Fantasy	23	7.0
Sancak	=	Turkish Pop	22	6.0
Taladro	=	Turkish Rap	21	6.0
Duman	=	Turkish Rock	21	6.0
Rihanna	=	Foreign Pop	21	6.0
Uygar Doğanay	=	Arabesque-Fantasy	21	6.0
Hozan Aydın	=	Turkish Folk Music	21	6.0
Total			754	100.0

Ahmet Kaya ranked first as the most preferred vocalist as a protest music singer, followed by Mustafa Ceceli who is a Turkish pop music singer-songwriter. The preferences of the students for Azer Bülbül, Ebru Gündeş, Müslüm Gürses, and Yıldız Tilbe, who can be grouped as arabesque-fantasy music singers despite their range of performances in different musical genres, were close to each other (7%). Taladro, Sancak, Duman, Rihanna, Uygar Doğanay, and Hozan Aydın were also among the most preferred vocalists with close frequencies. Hozan Aydın is distinguished from other performs as the only performer who uses Turkish folk music motives in his music and performs in Kurdish. Table 4 shows the most frequent emotional moods of the students when listening to music.

Table 4. The most frequent emotional moods when listening to music

Emotion	f	%
Sadness	125	39.4
Joy	123	38.8
Love	56	17.7
Anger	10	3.2
Fear	2	.6
Surprise	1	.3
Total	317	100.0

Table 4 reveals that the students mostly listened to music when in a sad mood (39.4%) and joyful mood (38.8%), followed by the love mood with 17.7%. The students listened to music at a much lower rate when in other emotional moods.

Musical Preference with Respect to the Students' Emotional Moods

Table 5. Love-liking and joyfulness-happiness

Love	f	%	Joy	f	%
Turkish Pop-Rock	142	24.6	Turkish Pop-Rock	164	25.7
Arabesque-Fantasy	121	21.0	Foreign Pop-Rock	146	22.8
Turkish Rap-Hip Hop	79	13.7	Turkish Rap-Hip Hop	102	16.0
Foreign Pop-Rock	73	12.7	Foreign Rap-Hip Hop	87	13.6
TFM	57	9.9	Arabesque-Fantasy	43	6.7
TMM	30	5.2	TFM	42	6.6
Religious Music	25	4.3	TMM	20	3.1

Foreign Rap-Hip Hop	23	4.0	Religious Music	17	2.7
Classical Music	19	3.3	Protest Music	10	1.6
Protest Music	8	1.4	Classical Music	8	1.3
Total	577	100.0	Total	639	100.0

The students listened to Turkish pop-rock (24.6%) and arabesque-fantasy (21%) when feeling love; they listened to Turkish and foreign pop-rock when feeling joy. In the joyfulness category, Turkish pop-rock was the most preferred genre (25.7%), followed by foreign pop-rock and Turkish rap-hip hop while the least preferred genres were TMM, classical music, protest music, and religious music.

Table 6. Surprise and sadness

Surprise	f	%	**Sadness**	f	%
Turkish Pop-Rock	103	20.9	Arabesque-Fantasy	149	26.8
Arabesque-Fantasy	91	18.5	Turkish Pop-Rock	84	15.1
Turkish Rap-Hip Hop	76	15.4	TFM	74	13.3
Foreign Pop-Rock	74	15.0	Turkish Rap-Hip Hop	74	13.3
TFM	37	7.5	Foreign Pop-Rock	47	8.4
Foreign Rap-Hip Hop	29	5.9	TMM	38	6.8
Religious Music	27	5.5	Religious Music	34	6.1
Classical Music	25	5.1	Classical Music	24	4.3
TMM	18	3.7	Foreign Rap-Hip Hop	23	4.1
Protest Music	12	2.4	Protest Music	10	1.8
Total	492	100.0	Total	557	100.0

In the surprise category, the students mostly listened to Turkish pop-rock (20.9%), followed by arabesque-fantasy and Turkish rap-hip hop, respectively, while the least preferred genres were foreign rap-hip hop, religious music, classical music, TMM, and protest music, respectively. The students most frequently listened to arabesque-fantasy (26.8%), Turkish pop-rock (15.1%), and TFM (13.3%) when intensely feeling sad while the preference for protest music, foreign rap-hip hop, and classical music was extremely low.

Table 7. Fear and anger

Fear	f	%	**Anger**	f	%
Religious Music	70	15.4	Turkish Rap-Hip Hop	93	18.9
Turkish Pop-Rock	65	14.3	Foreign Pop- Rock	79	16.0
Foreign Pop-Rock	62	13.6	Turkish Pop-Rock	75	15.2
I don't listen to music	62	13.6	Arabesque-Fantasy	63	12.8
Turkish Rap-Hip Hop	58	12.7	Foreign Rap-Hip Hop	58	11.8
Arabesque-Fantasy	45	9.9	TFM	38	7.7
TFM	30	6.6	I don't listen to music	27	5.5
Foreign Rap-Hip Hop	29	6.4	Religious Music	19	3.9
Classical Music	14	3.1	TMM	15	3.0
TMM	13	2.9	Classical Music	14	2.8
Protest	8	1.8	Protest	12	2.4
Total	456	100.0	Total	493	100.0

In the fear category, the students mostly listened to religious music (15.4%) when in a fearful mood while the least preferred genres were protest music, TMM, and classical music. In the anger category, the most preferred genres were Turkish rap-hip hop (18.9%), foreign pop-rock, and Turkish pop-rock while the least preferred genres were religious music, protest music, classical music, and TMM.

The relationship between the most preferred musical genres and demographic characteristics

Table 8. Results of the chi-square test with respect to gender

		Gender					
		Female (%)	**Male (%)**	**Total**	**Female (%)**	**Male (%)**	
Musical Genre	Turkish Pop-Rock	**61.8**	38.2	100.0	**28.8**	16.7	**N=754** **χ^2=48.48**** **sd=9** **Cramer's V=.25** **p=.00**
	Arabesque-Fantasy	33.3	**66.7**		9.3	**17.5**	
	Turkish Rap-Hip Hop	50.0	50.0		14.5	13.6	
	Foreign Pop-Rock	**59.7**	40.3		21.9	13.9	
	TFM	32.1	**67.9**		7.1	14.1	
	TMM	29.6	**70.4**		2.2	4.9	
	Religious Music	29.5	**70.5**		3.6	8.0	
	Foreign Rap-Hip Hop	50.0	50.0		7.9	7.5	
	Classical Music	**61.1**	38.9		3.0	1.8	
	Protest Music	42.9	57.1		1.6	2.1	
				Total	100.0		

There was a significant relationship between musical preference and gender [χ^2 (9) =48.48, p<.01] with a moderate effect size. The distribution of the genres by gender revealed that the listeners of Turkish pop-rock, foreign pop-rock, and classical music were mostly made up of female students while the listeners of arabesque-fantasy, TFM, TMM, and religious music were mostly male students. Turkish pop-rock was the most preferred genre among the female students while the male students mostly tended to listen to arabesque-fantasy music.

Table 9. Results of the chi-square test with respect to place of residence

		Place of Residence						
		İstanbul (%)	**Malatya (%)**	**Muş (%)**	**Total**	**İstanbul (%)**	**Malatya (%)**	**Muş (%)**
Musical Genre	T. Pop-Rock	35.3	**37.6**	27.1	100.0	**23.2**	**25.8**	18.6
	Arabesque-F.	25.5	21.6	**52.9**		10.0	8.9	**21.9**
	T. Rap-Hip H.	34.0	**36.8**	29.2		13.9	15.7	12.6
	F. Pop-Rock	**45.5**	31.3	23.1		**23.6**	16.9	12.6
	TFM	23.5	37.0	**39.5**		7.3	12.1	13.0
	TMM	22.2	**44.4**	33.3		2.3	4.8	3.6
	Religious Music	29.5	20.5	**50.0**		5.0	3.6	8.9
	F. Rap-Hip Hop	**46.6**	32.8	20.7		10.4	7.7	4.9
	Classical Music	11.1	**50.0**	38.9		.8	3.6	8.9
	Protest Music	**64.3**	14.3	21.4		3.5	.8	1.2
					Total		100.0	
	χ^2=59.90**	**sd=18**	**Cramer's V=.20**	**p=.00**				

Table 9 reveals that there were significant differences in musical preference with respect to the place of residence [χ^2 (18) =59.90, p<.01] with an effect size close to moderate. The students in the Muş group predominantly preferred arabesque-fantasy, TFM, and religious music; the students in the Malatya group predominantly preferred Turkish pop-rock, Turkish rap-hip hop, TMM, and classical music; the students in the Istanbul group predominantly preferred foreign pop-rock, foreign rap-hip hop, and protest music. Comparing the places of residence to each other, arabesque-fantasy, Turkish pop-rock, and foreign pop-rock ranked first as the most preferred genre in Muş, Malatya, and Istanbul, respectively.

Table 10. Results of the chi-square test with respect to class

		Class								
		9	**10**	**11**	**12 (%)**	**Total**	**9 (%)**	**10 (%)**	**11 (%)**	**12 (%)**
Musical Genre	Turkish Pop-Rock	26.5	25.9	17.6	**30.0**		**22.2**	**22.7**	**22.4**	**22.9**
	Arabesque-Fantasy	28.4	28.4	13.7	**29.4**		14.3	14.9	10.4	13.5
	Turkish Rap-Hip H.	21.7	27.4	23.6	27.4		11.3	14.9	18.7	13.0
	Foreign Pop-Rock	27.6	26.9	15.7	**29.9**		18.2	18.6	15.7	17.9
	TFM	27.2	25.9	16.0	**30.9**		10.8	10.8	9.7	11.2
	TMM	29.6	25.9	14.8	29.6	100.0	3.9	3.6	3.0	3.6
	Religious Music	**36.4**	15.9	25.0	22.7		7.9	3.6	8.2	4.5
	Foreign Rap-Hip Hop	27.6	27.6	13.8	**31.0**		7.9	8.2	6.0	8.1
	Classical Music	16.7	16.7	**33.3**	**33.3**		1.5	1.5	4.5	2.7
	Protest Music	28.6	14.3	14.3	**42.9**		2.0	1.0	1.5	2.7
						Total			100.0	
χ^2=16.75 sd=27 p=.94										

Table 10 reveals that the relationship between musical preference and class was not statistically significant [χ^2 (27) = 16.75, p>.05]. The distribution of the genres within each other showed that the 12th-grade students were the most frequent listeners of Turkish pop-rock, arabesque-fantasy, foreign pop-rock, TFM, foreign rap-hip hop, classical, and protest music while the 9th-grade students were the most frequent listeners of religious music. Those who listened to Turkish pop-rock were in the highest percentile in all classes.

Table 11. Results of the chi-square test with respect to music listening frequency

		Music Listening Frequency				
		Daily	**Other* (%)**	**Total**	**Daily (%)**	**Other* (%)**
Musical Genre	Turkish Pop-Rock	**83.5**	16.5		**23.1**	**20.0**
	Arabesque-Fantasy	**86.3**	13.7		14.3	10.0
	Turkish Rap-Hip Hop	**85.8**	14.2		14.8	10.7
	Foreign Pop-Rock	**79.9**	20.1		17.4	19.3
	TFM	**76.5**	23.5	100.0	10.1	13.6
	TMM	**70.4**	29.6		3.1	5.7
	Religious Music	**59.1**	40.9		4.2	12.9
	Foreign Rap-Hip Hop	**82.8**	17.2		7.8	7.1
	Classical Music	**94.4**	5.6		2.8	.7
	Protest Music	100.0	.0		2.3	.0
				Total	100.0	
χ^2=26.93 sd=9 Cramer's V= .19 p=.00**						

** The groups of once a week, few times a week, and once a month were combined and coded under the category of other.*

Table 11 reveals that there was a significant relationship between the frequency of listening to music and musical preference [χ^2 (9) = 26.93, p<.01]. Daily music listeners comprised the majority in all musical genres. Moreover, Turkish pop-rock was the most preferred genre of both daily music listeners and music listeners of varying frequency.

Table 12. Results of the chi-square test with respect to music education outside school

		Music Education Outside School				
		Yes	**No (%)**	**Total**	**Yes (%)**	**No (%)**
Musical Genre	Turkish Pop-Rock	8.8	**91.2**	100.0	**22.4**	**22.6**
	Arabesque-Fantasy	11.8	**88.2**		17.9	13.1
	Turkish Rap-Hip Hop	10.4	**89.6**		16.4	13.8
	Foreign Pop-Rock	7.5	**92.5**		14.9	18.0
	TFM	8.6	**91.4**		10.4	10.8
	TMM	7.4	**92.6**		3.0	3.6
	Religious Music	6.8	**93.2**		4.5	6.0
	Foreign Rap-Hip Hop	8.6	**91.4**		7.5	7.7
	Classical Music	.0	**100.0**		.0	2.6
	Protest Music	14.3	**85.7**		3.0	1.7
				Total	100.0	
χ^2=4.25 sd=9 p=.89						

No statistically significant relationship was found between the most preferred musical genres and music education outside school [χ^2 (9) = 4.25, p>.05]. The distribution of musical preferences within each other showed that those who did not receive a music education outside school comprised the majority of the students. Furthermore, students in both groups (students who received music education outside school and students who did not) mostly preferred Turkish pop-rock music.

Discussion and Conclusion

The results for the most preferred musical genres revealed that the students mostly preferred Turkish pop-rock music. Other musical genres preferred by the students were foreign pop-rock, Turkish rap-hip hop, and arabesque-fantasy, respectively. TFM had a moderate preference rate considering the distributions of other groups. The least preferred musical genres were protest, classical, and TMM, respectively. Both TMM and TFM were in the 15% percentile, indicating that the preference of high school students for Turkish music was low. In a similar manner to this study, Bozkurt (2015) found that the most preferred musical genre by students was Turkish pop-rock with a percentage of 38.3%. In their study with a sample comprising individuals who were 15 years of age or older, Sezer (2011) found that pop music listeners comprised the majority. Taşal and Vural (2011) also found a similar result for the most preferred musical genre but there were differences in the rankings as rap ranked first as the most preferred genre, followed by pop music. In their study on the relationship between the preference of adolescents for different musical genres and the personality traits of adolescents, Artemiz (2010) found that adolescents were mostly interested in and listened to pop music and rock music. Again, in a similar manner, Angı and Şendurur (2015) determined that high school students mostly listened to pop music. Ekinci et al. (2012) investigated the relationship between the music preferences of 1226 high school students and their depressive symptoms. According to this research, it was stated that rock, Turkish pop and western pop music are the most preferred genres.

It is seen that similar results have emerged in studies in different cultures. In studies on adolescents; ter Bogt (2012), Selfhout et al. (2009), Mulder et al. (2010a), Leung and Kier (2010), Mulder et al. (2010b) pop and urban (rap/hip-hop, R&B, and reggae), ter Bogt et al. (2011) pop, Getz et al. (2012) found that R&B/soul, dance music genres are the most trending genres. According to these findings, adolescents prefer pop and urban genres. On the other hand, there are many studies in the literature on age levels other than adolescents. When the researches on university students are examined; Lorenzo-Quiles (2020) mellow (pop, romantic, soundtracks, and gospel music) and contemporary (rap, hip-hop, reggae, and stronda music), Marshall and

Naumann (2018) rock/alternative and pop, Rubin et al. (2001) alternative pop and classic rock, Brown (2012) pop, rock, classical, Leung and Kier (2010) stated that pop, hip-hop, techno, punk genres are the most preferred.

The most preferred vocalist was determined to be Ahmet Kaya who was a protest music vocalist. Another vocalist who was highly preferred by the high school students was Mustafa Ceceli, who is a Turkish pop music singer-songwriter and ranked second in the distribution. The distributions of the other ten vocalists were close to each other. The vocalists whom the high school students had a tendency for were Azer Bülbül, Ebru Gündeş, Müslüm Gürses, Yıldız Tilbe, and Uygar Doğanay, who are arabesque-fantasy music singers; Sancak, a Turkish pop music singer; Duman, a Turkish rock music band; Rihanna, a foreign pop music singer; Taladro, a Turkish rapper; Hozan Aydın, a Turkish folk music singer performing in Kurdish. In their study, Bozkurt (2015) determined that the vocalists who were most preferred by students were Arsız Bela, Hadise, and Mustafa Ceceli, respectively. Mustafa Ceceli draws attention as a common name both among the middle-schoolers who comprised the sample of the study carried out by Bozkurt (2015) and high-schoolers who comprised the sample of our study. Another noteworthy point in their study is that the top three vocalists were all Turkish pop music singers. In this study, Ahmet Kaya, Mustafa Ceceli, and Azer Bülbül ranked at the top three, indicating that protest music, Turkish pop music, and arabesque-fantasy music were preferred.

The results revealed that the students mostly needed to listen to music when they were in a sad mood, followed by being in a joyful mood. The students who listened to music when in the love mood ranked third, but listening to music in this mood had a lower percentage when compared to that in a sad mood and a joyful mood. The students tended to listen to music at a lower rate when feeling anger, fear, and surprise. Similar results were also obtained in studies carried out by both Bozkurt (2015) and Nizamoğlu (2019), but the results regarding the sadness category differed since the distributions of the students who mostly listened to music when in a sad mood were lower in these studies.

The results revealed that the students needed to listen to Turkish pop-rock music and arabesque-fantasy music when intensely feeling love. The students mostly listened to Turkish pop-rock and foreign pop-rock in the joy category. Since pieces from Turkish rock and pop-rock genres are exhilarating and fast in terms of rhythm and rhythmic elements are as important and prominent as melody, it is only natural that those who feel joyful and happy tend to listen to these genres. The results revealed that the students needed to listen to Turkish pop-rock and arabesque-fantasy when they intensely felt surprised, followed by Turkish rap-hip hop and foreign pop-rock. Other musical genres were distributed evenly and had a low percentage. The tendency to listen to a variety of musical genres when in a surprised mood led to the conclusion that no musical genre was clearly listened to and attracted particular interest in a surprised mood. The students mostly preferred to listen to Turkish rap-hip hop when they predominantly felt anger, followed by foreign pop-rock, Turkish pop-rock, arabesque-fantasy, and foreign rap-hip hop, respectively. The preference of individuals who feel angry for listening to especially rap/hip-hop, foreign pop-rock and Turkish pop-rock can be viewed as a normal reaction. The results mostly agree with the findings of Bozkurt (2015), Nizamoğlu (2019), Ekici et al. (2012), Rubin et al. (2001). Ekici et al. (2012), on the other hand, found that there was no significant difference in the music preferences of high school students according to happiness, sadness and worry/fear emotional states, but only in the anger category. Accordingly, it was stated that students listen to arabesque, rap and heavy metal music genres more in anger.

There are many studies in the literature on emotional states and music preference in different cults. However, due to cultural differences, the dimensions of music preference vary. Rubin et. al (2001) found that there was no significant relationship between university students' anger status and their music preferences, and those who listen to rap music and heavy metal music had higher aggressive tendencies. On the other hand, Rentfrow and Gosling (2003) examined the relationship between personality and music preference in

four dimensions. These are expressed as reflective and complex (i.e., classical, jazz, blues, folk), intense and rebellious (i.e., alternative, rock, and heavy metal), upbeat and conventional (i.e., country, pop, religious, and soundtracks), and energetic and rhythmic (i.e., rap or hip-hop, soul or funk, and electronica or dance). Pilgrim et al. (2017) investigated the relationship between music preferences, emotional states and experienced awe, based on this classification created by Rentfrow and Gosling (2003). According to this study, a significant relationship was found between the experience of awe was related to the perception of sadness-happiness and reflective and complex music (i.e., classical, jazz, blues, folk).

We determined that the high school students mostly listened to arabesque-fantasy music when in a sad mood, followed by Turkish pop-rock, TFM, and Turkish rap-hip hop. Other musical genres were preferred at lower rates. Considering how arabesque-fantasy music especially touches on longing, yearning, and sorrow and presents these emotions in a touching and exaggerated manner, it is only natural that the students listened to this genre when feeling sad. Nizamoğlu (2019) and Bozkurt (2015) also found that arabesque-fantasy music was mostly listened to when in a sad mood. The students mostly listened to religious music when they predominantly felt fearful. The tendency for listening to religious music of the individuals who feel fearful can be explained by the religious elements related to the punishments and rewards in the afterlife and religion serving as a building block of society. Unlike this study, Nizamoğlu (2019) and Bozkurt (2015) found that students mostly listened to Turkish pop-rock when feeling fearful.

There were significant relationships between the students' musical preference and gender, the place of residence, and music listening frequency with moderate effect sizes. There was no significant relationship between the most preferred musical genre and class and receiving music education outside school.

The female students mostly listened to Turkish pop-rock while the male students mostly listened to arabesque-fantasy music. The distribution of the musical genres within themselves by gender showed that the female students comprised the majority of the listeners of Turkish pop-rock, foreign pop-rock, and classical music while the male students comprised the majority of the listeners of arabesque-fantasy, TFM, TMM, and religious music. Other similar studies (Artemiz, 2009; Angı, 2012; Göksel, 2013; Doğan, 2019) have also found that female students predominantly preferred to listen to pop music and male students predominantly preferred to listen to arabesque-fantasy music. Ter Bogt et al. (2012) found that adolescent girls prefer pop and highbrow (classical music, jazz), and boys prefer dance (house/trance, club/mellow) music more. On the other hand, Mulder et al. (2010b) concluded that girls listen to pop and urban (only age 12-17), while boys listen to dance music more. Lorenzo-Quiles (2020) pointed out that female students tend to incline more towards mellow (pop, romantic, soundtracks, and gospel music), while male students tend to prefer contemporary (rap, hip-hop, reggae, and stronda music) genres at university level. Brown (2012) emphasizes that female students listen to pop, classical, jazz, opera, soul/R&B, gospel & enka genres more. Bogt et al. (2012) found that girls prefer pop and urban genres more. According to the report prepared by the National Endowment for the Arts and conducted on adults in the USA, gender has a minor role in music preferences (n=16.479). Consequently, women prefer dance/electronica, hymns/gospel, easy listening, and musicals/operetta, while men prefer bluegrass, blues/R&B, rock/heavy metal, and jazz (Mizell et al., 2005).

With respect to the place of residence, in terms of their rates in the distribution, arabesque-fantasy ranked first as the most preferred genre in Muş, Turkish pop-rock ranked first as the most preferred genre in Malatya, and Turkish and foreign pop-rock ranked first as the most preferred genres in İstanbul. The results indicate that individuals living in rural areas have favored arabesque-fantasy music, which is associated with longing, sorrow, and yearning. Aladağ (2014) stated that the students in Sivas tended to listen to TFM while the students in Bingöl tended to listen to arabesque music. In another study with 2042 participants living in Greece, Korea, and the USA, LeBlanc, Jin, Stamou, and McCrary (1999) found that age, gender, and geography affected the preference for music listening and preference for musical genres differed depending on these

variables. Thus, the finding that musical preferences vary depending on age, gender, and place of residence overlaps across different studies.

With respect to the frequency of listening to music, the listeners of Turkish pop-rock were the most frequent music listeners in all groups. Examining the distribution of the musical genres within themselves, the daily music listeners comprised the majority in all genres. McFerran et al. (2014) adolescents average 17 hours a week, Schwartz and Fouts (2003) 22.4 hours (3 hours per day), Rubin et al. (2001) emphasizes that university students listen to music for 4 hours a day. We determined that the high school students gave priority to listening to Turkish pop music, which has a wide media and social media coverage, is heavily televised, and has channels dedicated to it. In their study, Kamalı and Temiz (2017) found that middle school students predominantly listened to popular musical genres and media have the prerogative to shape the musical taste of the public. In a similar manner, Şenoğlu Özdemir and Can (2019) found that music teacher candidates did not listen to classical music, Turkish maqam music, and Turkish folk music, which are the genres they are thought in school and will teach in their professional lives, leading to the conclusion that music education did not have a considerable effect on music listening habits. Different from these results, Ercan and Akgül Barış (2016) determined that the study group comprising state conservatory students listened to the musical genres they were being trained on in college.

The results of the study revealed that emotional mood and demographic characteristics played roles in musical preference. Hence, we recommend the following:

- To improve how students regard music lessons and shift their attitudes towards a more positive direction, the music education curriculum and musical pieces included in the curriculum should be re-evaluated while remaining loyal to the basic principles and values of education and with regard to aesthetic, didactic, and constructive concerns.
- Turkish maqam music and Turkish folk music are among the building blocks of our national culture and music but unfortunately not well-known and listened to by students. The interest and appreciation for both genres can be grown by changing how they are viewed through the inclusion of a greater number of the exceptional examples of Turkish music in the curriculum, giving a larger place to both genres in music broadcasts in both formal and private mass media, and the steering of the students towards non-governmental organizations that perform these musical genres.
- Considering how music listening tendencies vary with age and in time, similar studies on emotional mood and musical preferences can be carried out with different age groups and at varying intervals.

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Cognitive and Affective Usage of Literary Products and Other Written and Printed Works in Social Studies Curriculum and Textbooks

Research Article

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ABSTRACT

In teaching social studies, literary works are functional in acquiring basic knowledge, skills and values specific to the field, developing positive attitudes towards reading, and concretising abstract concepts. However, the effective use of these products in social studies textbooks is only possible by using them in accordance with the content and objectives of the course. In this context, the aim of this study is to identify the literary products and other printed works quoted in the Social Studies Curriculum (SSC, 2018) and in 4th to 7th-year social studies textbooks published in 2019, and to determine the cognitive and affective level of use of these products. The sample of the study consists of 4th, 5th, 6th and 7th-year social studies textbooks (2019) in the EBA online education platform that was updated in 2019 and SSC. Document analysis method, one of the qualitative research designs, was used in the research. The data were analysed descriptively. The researcher showed that the questions on literary products and works in the social studies textbooks were mainly questions at comprehension level, as in understanding the text. Questions at analytical, creative, evaluative and affective levels were encountered, even if in a limited number. It was observed that literary products of more diverse genres and contents are associated with a greater number of learning areas in the social studies textbooks compared to SSC (2018). It was concluded that while the curriculum aimed to make use of literary works at comprehension level, the textbooks used them not only in terms of comprehension but also in a way to improve students' high-order thinking skills.

Keywords:
Bloom's taxonomy, literary products, social studies textbooks, social studies teaching

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Introduction

"Social studies" is a course created from the combination of social sciences and humanities in order to realise the purpose of teaching in citizenship education (Barr, Barth, & Shermis, 2013). The main aim of the course is to raise individuals who, as citizens of a democratic society with its interdependent socio-cultural differences in a global world, take the public interest into consideration, have the ability to make rational decisions, and have developed certain values and skills (Doğanay, 2002). It was found out, unfortunately, that the students' attitude towards this course, despite its significant social gains, is quite low compared to language, literature and other social courses (Öztürk, Keskin, & Otluoğlu, 2014). Similar research results showed that social studies course is one of the courses least liked and least valued by students, who find its topics boring and abstract (Guzzetti, Kowalinski, & McGovan, 1992). According to Shug and Bery (1987), the most important reason for this situation is that students cannot obtain sufficient information about the aims of the course and cannot establish a relationship between it and their lives (Öztürk, Keskin, & Otluoğlu, 2014). According to Davis and Palmer (1992), the main reason for this is related to the traditional methods of social studies education based on the textbook. According to the critics, textbooks often include sequential events, numerical results and narratives on important people, places and dates. They state that textbooks containing items that are out of context and unrelated lead to disappointment for the reader (Krey, 1998).

Negative criticisms made against social studies textbooks (Tyson & Woodward, 1989, cited in Guzzetti, Kowalinski, & McGovan, 1992, p. 114) created a need for reviewing the textbooks. The opinion that textbooks alone cannot be sufficient in social studies education and that they should be supported with literary products as alternative teaching materials received widespread support (Demir & Akengin, 2012). Especially children's literature products were recommended to social studies teachers as supplementary materials to the textbooks. First, in 1962, Leonard Kenworthy published a list of recommended books in social studies education and their use according to year level (Smith, 2008, p. 7). Based on the standards that it develops each year since 1972 and in line with the most suggested objectives and curricula in US states and regions, the National Council of Social Studies (NCSS) supports teachers in using children's literature and providing resource for enabling students to be more knowledgeable about social studies and have a more meaningful education (Şimşek, 2006, p. 134). In support of textbooks, NCSS has especially created a descriptive list of trade books comprising children's literature products. Informative trade books for children have offered and continue to offer more content variety to teachers. Teachers can choose from these lists two or three works that focus on the basic educational concepts, generalisations or skills. The Social Studies journal publish articles on the importance of children's literature products in social studies teaching in areas such as environmental education, values education, character and moral education (McGowan and Gazzetti, 1991; cited in Şimşek, 2006, p. 132-133). On the use of literary works in teaching social studies, there are 164 articles published in peer-reviewed professional journals on between 1929 and 1988 (Smith, 2008, p. 7).

Rich literature resources and book diversity can revitalise social studies education for students. They provide opportunities for more enthusiasm, more lively discussions, and critical reading at a broader level in classes (Davis & Palmer, 1992). Risinger (1992) states that especially when the literature suitable for the social studies curriculum is used, the courses raise student interest and that the student can picture periods and understand the thoughts and feelings surrounding an event (cited in Almerico, 2013, p.5). Through literary works, students can encounter people living in different times and places, get to know different cultures and their own cultures, and appreciate the way of life related to these cultures. This can improve their empathetic thinking skills and strengthen their character development in order to be individuals who are away from dogmatic thoughts, can think critically, and have positive attitudes and values (Öztürk, Çoşkun Keskin, & Otluoğlu, 2014). According to Columba, Kim and Moe (2009), the use of illustrated trade books in teaching mathematics, science and social studies can provide children with the chance to find themselves in the

characters they encounter. Carefully selected quality literature can lead to the emergence of emotions and reactions in children similar to those in stories, and the ability for children to move these to a different time or place. This can enable students to learn social studies concepts through interaction by reading and discussing stories and information (cited in Almerico, 2013, p. 3). VanSlanderight (1995) noted similarly that trade books, when used along with textbooks, enhance understanding, and that many teachers use trade books in addition to textbooks. Considering all these positive results, literary works are important resources in breaking the mould of traditional teaching methods, enabling students to experience knowledge from many different perspectives and ensuring that children take responsibility for their learning (Kornfeld, 1994, p. 281, cited in McGrain, 2002, p. 1).

Many studies and literature research conducted on the use of literary products as a teaching tool in social studies courses suggest that such products increase the interest of students, support the learning of the course cognitively, enable the development of disciplinary skills, make affective learning enjoyable, and play an important role in value transfer (Akkuş, 2006; Akyol, 2011; Bacak, 2008; Beldağ & Aktaş, 2016; Çalışkan, 2005; Er & Şahin, 2012; Erdoğan, 2007; Guzzet, Kowalinsk & McGowan, 1992; Gülüm & Ulusoy, 2008; Keskin, 2008; Krey, 1998; Kaymakcı & Er, 2013; Martin, 2012; Mindivanlı, Küçük & Aktaş, 2012; Nelson & Nelson, 1999; Oruç & Erdem, 2010; Özkan & Geneç, 2017; Öztürk, Keskin & Otluoğlu, 2014; Öztürk & Otluoğlu, 2002; Smith, Monson, Dobson, 1992; Smith, 2008; Şimşek, 2006; Tekgöz, 2005; Yeşilbursa, Sabancı & Hamarat, 2013; Yiğittir & Er, 2013).

The use of literary genres in social studies teaching in Turkey gained its real significance with the new SSC (2005), which adopted a constructivist learning approach in 2005. This curriculum planned to benefit from literary works in the section of explanations on the gains of almost all units and in the section on recommended activities to be carried out in courses. In the SSC that was updated in 2018, statements regarding the need to use literary genres in social studies course and encourage students to read these works draw attention similarly. One of these statements can be found in Item 8 under the heading of the points to be considered in the application of the curriculum. In this item, the following general explanation is made: "Social Studies course should be supported with literary products by making use of genres such as legend, epic, fairy tale, proverb, folk tale, folk song and poetry. Students should be encouraged to read literary works such as novels, historical novels, short stories, memoirs, travel writings and anecdotes that will endear the subjects to them." However, when compared to the 2005 SSC in general terms, it is seen that the activity table related to the gains in which literary works are frequently emphasised is not included in the curriculum. Literary works are encountered in a limited number of gains. The main purpose of this study was to specifically identify the obvious deficiency in the curriculum regarding literary works and other printed works, whose educational outcomes are extremely important, and to determine how this situation is reflected in the textbooks. As a matter of fact, no study is found to be conducted on literary works and other written works of this nature as referenced in the SSC updated in 2018 and in the social studies textbooks published in 2019. An examination of the literature showed a limited number of recent studies that analysed the literary genres and the use of these products in social studies textbooks at different year levels (Tokcan, 2016; Oruç, 2009; Kaymakcı & Er, 2013). No study was found that addressed the use of literary works and other printed works in textbooks at a cognitive and affective level. In this context, the aim of the present study is to identify the literary products and other printed works in SSC (2018) and in 4th to 7th-year social studies textbooks published in 2019, and to determine the use of these products at cognitive and affective levels.

Method

This section presents the research design, study sample, data collection tools and data analysis, respectively.

Research Design

The study was conducted based on qualitative research approach and processes appropriate to the nature of this approach. Qualitative research can be defined as studies in which qualitative data collection methods such as observation, interview and document analysis are used and a qualitative process is followed to reveal perceptions and events in a realistic and holistic manner in the natural environment (Yıldırım & Şimşek, 2008). Document analysis method, one of the qualitative research approaches, was preferred in this study. "Document analysis covers the analysis of written materials containing information about a fact or facts to be investigated" (Yıldırım & Şimşek, 2008, p. 187). In such studies, determining whether the sources are authentic or not is an important criterion for the reliability of the research (Yıldırım & Şimşek, 2008). The documents of the present research are original and consist of social studies textbooks published in 2019, prepared by different authors and publishers.

Study Sample

As documented by Yıldırım and Şimşek (2008, p. 197), "it may not be possible to analyze all document data as a whole. For this reason, researchers often try to create a sample from the dataset at hand". Similarly, it requires more extensive research and a longer period to link Social Studies textbooks in Turkey to all of the terms and examinations so a sample selection is included for the work of the current study. Therefore, a typical case sampling method, which is a purposeful sampling method, was used. In this type of sampling, "the aim is to have knowledge about a particular area by studying average situations or to inform those who do not have sufficient knowledge about this area, subject, application or innovation" (Yıldırım and Şimşek, 2008, p. 110). The sample was selected from among the textbooks on the EBA (Education Information Network) online social education platform, which was created by the Ministry of National Education and is widely used by teachers. It includes 4th-Year Social Studies Textbook (SSTB-4) written by Tüysüz (2019), the 5th-Year Social Studies Textbook (SSTB-5) written by Şahin (2019), the 6th-Year Social Studies Textbook (SSTB-6) written by Yıldırım, Kaplan, Kuru and Yılmaz (2019) and the 7th-Year Social Studies Textbook (SSTB-6) written by Azer (2019).

Data Analysis

The data of the research were analysed by content analysis method. According to Patton (2014, p. 453), content analysis generally refers to written documents such as "interview documents, logs" etc. rather than observational data. In the textbooks that were subjected to content analysis, deductive qualitative analysis was preferred. According to Yıldırım and Şimşek (2008), deductive analysis is the analysis of data according to a predetermined framework. This study used two frameworks in deductive analysis. The first is the learning areas of "Individual and Society" and "Culture and Heritage" and the other learning areas/units in the textbooks and SSC (2018). In this context, the genres and distributions of literary works and quoted main works in the social studies textbooks and the curriculum were determined according to learning areas/units. In the second deductive analysis phase, the questions asked about these works in the textbooks were evaluated according to the template of Davis and Palmer (1992, s. 128) at information, comprehension, application, analysis and evaluation levels, which, utilising Bloom's taxonomy, shows how a teacher can use activities appropriate to different behavioural levels when teaching social studies course with the help of literary works. The levels of respective gains in SSC, which encourages the use of literary works and main written and printed works, were analysed similarly using the below template. Findings obtained from social studies textbooks and SSC were analysed comparatively and tabularised.

Analysis stages of literary works as prepared by Davis and Palmer (1992, p. 128) using Bloom taxonomy;

Information level: Questions involving the basic information contained in the literary products, such as asking the names of the main characters in a story, asking about the sequential events in picture stories or

expressing what the character said, were evaluated within this scope. Examples from the textbooks: "Which geographical features of Çarşamba are mentioned in the above folk song?" (SSTB-4, 2019, p. 80). "Which natural resources of Oltu are mentioned in the poem?" (SSTB-4, 2019, p. 81). "What are the symbols of rulership according to the first text?" (SSTB-7, 2019, p. 38).

Comprehension level: Those questions that involve students' simplistically describing an event or situation in a literary work in their own words, such as paraphrasing the story or making guesses about what might happen in the next chapter, were evaluated at comprehension level. Example questions from the textbooks that were evaluated at comprehension level: "What can you say or what inferences can you make regarding the above statement/text? What is the message sought to be given and what could be the reasons?" Specific examples: "What do you think the following proverbs mean?" (SSTB-5, 2019, p. 152), "What is intended to be told in the first two stanzas of the National Anthem?" (SSTB-5, 2019, p. 174).

Application level: Those questions that involve students' concluding an event or situation in a literary work differently, such as reconsidering a character of a story in a different position, transferring the character to that position, and answering questions like "what if the character was not there but here" or "what would the character do or how would he/she behave if he/she was not in that situation but in this situation" were evaluated at application level. An example from the textbook: "Associating the phrase 'I love the created because of the Creator' with the rug, write an essay on the idea, 'We are all different patterns in the same rug.'" (SSTB-6, 2019, p. 32).

Analysis level: The questions that encourage comparing and contrasting two characters, identifying and analysing the general characteristics of main characters, and telling the story from a different point of view were evaluated at analysis level. An example from the textbook: "Based on the text, write down what you have learned about the economic, cultural and religious aspects of the Uyghurs in the boxes below" (SSTB-6, 2019, p. 63) and "State the Prophet Muhammad's (pbuh) messages in the Farewell Sermon by comparing them with the life in the Arabian Peninsula in the Age of Ignorance." (SSTB-6, 2019, p. 63).

Synthesis: Imagining an assumed situation. Making a poster to ensure a story is read by people. Creating a character and making this character speak according to the story. A question type for literary works was not encountered at this level.

Evaluation level: The questions that involve deciding whether a character should behave in a certain way, how the story will influence children's current lives, and whether the story has been actualised, and justifying the decisions were assessed at evaluation level. In the study, the questions about expressing opinions about literary works, making suggestions and assessments for solutions were evaluated at this level.

Examples from the textbook: "Write a composition about the importance of our flag and our National Anthem" (SSTB-5, 2018, p. 174). "Evaluate this activity of Social Assistance and Solidarity Club in terms of social unity and solidarity" (SSTB-6, 2019, p. 38). "What were the political, military and economic benefits of the Ottoman State's granting of rights to non-Muslims? Discuss it." (SSTB-7, 2019, p. 52)", "Which of these cultural features do you think should be kept alive? And why?"

In the textbook, a few question types associated with the affective learning area were encountered regarding literary and written and printed products. It is generally argued that the gains in the affective field will not happen before the act of knowing. We cannot feel a positive or negative emotion towards what we do not know. It is observed that that these affective reactions do not gain continuity, even if implied otherwise. For the gains related to the affective domain, the first step is becoming aware of an object or fact, the second is being open to the stimulus, and the third is controlled and selective attention. The stage encountered in this study is the "Openness to Receiving" stage. Openness to receiving: In this stage, the person has noticed the stimulus, and there is an orientation towards it (Baştürk & Taştepe, 2013). Examples from the textbooks: "What

feelings do you experience when singing the Turkish National Anthem" (SSTB-5, 2019, p. 174). "What can you say about the feelings of those who leave and receive money from charity stones?" (SSTB-6, 2019, p. 35).

Multiple analyst triangulation was utilised to increase the reliability in confirming the accuracy and validity of the data. Triangulation of analysts means "having two or more persons analyse the same qualitative data independently and comparing their findings" (Patton, 2014, p. 560). In the present study, it was tried to examine the "consistency" of the findings in the data analysed by two researchers (Patton, 2014, p. 248). The reliability formula (Reliability = Consensus / (Consensus + Disagreement) proposed by Miles and Huberman (2016, p. 64) was used in the analysis. The percentage of reliability was 80% in the first stage, 90% in the second stage and 96% in the third. Reliability is expected to be around 90% depending on the size and range of the coding scheme (Miles & Huberman, 2016, p. 64). In the analysis performed with analyst triangulation, the reliability formula of Miles and Huberman was used to increase the reliability of the study.

Findings

This section presents findings about the distribution of literary products and written and printed works addressed in 4th to 7th-year social studies textbooks (2019) and SSC (2018) by learning areas and the cognitive and affective levels of the questions regarding these products.

Findings on Literary Products and Written and Printed Works in the 4th-year SSTB and SSC

The distribution of literary works and written and printed works by learning areas in the 4th-year SSTB and SSC in terms of 4th-year gains is given in Table 1.

Table 1. Distribution of literary products and written and printed works in the 4th-year SSTB and SSC by learning areas

Learning Area	Genres of Literary Product					
	SSTB-4	n		SSC-4	n	Total
Individual and Society	Poetry	1	1			
Culture and Heritage	Memoir Book	1	4	Biography	1	1
	Political History Book	1				
	Biography	1				
	Speech	1				
People, Places and Environments	Folk Song	1	3	Poetry	1	3
	Poetry	1		Short Story	1	
	Legend	1		Epic	1	
Science, Technology and Society	Memoir	1	1			
Production, Distribution and Consumption	Poetry	1	2			
	Proverb	1				
Active Citizenship	Short Story	1	5			
	Speech	1				
	Aphorism	1				
	Composition	2				
Global Connections	-		-	-		
Total	16			4		

As Table 1 shows, 16 works containing, in addition to a book of political history, memoirs, compositions, speeches, biographies, folk songs, legends, proverbs, short stories and aphorisms are found in the 4th-year SSTB, while 4 different genres of literary work is encountered in SSC. These literary products in the textbook mostly relate to the areas of "Active Citizenship" (n=5), followed by "Culture and Heritage" (n=4) and "People, Places and Environments" (n=3). The least number of literary products is encountered in the learning area of "Individual and Society" (n=1) and "Science, Technology and Society". No literary work is found in the

"Global Connections" learning area. Four literary genres, including biography, poetry, short story and epic, are seen to be included in 4th-year gains in SSC (2018). These literary works are included in "Culture and Heritage" (n=1) and "People, Places and Environments" (n=3) learning areas in SSC. Two gains related to literary products in these learning areas;

Culture and Heritage "Students understand the importance of the "National Struggle" based on the lives of the heroes of the National Struggle. The gain is worked on in the context of biography teaching".

People, Places and Environments "Students make inferences about their place of residence and its surrounding landforms and demographic characteristics. When working on this gain, literary products such as poems, stories and epics are used".

As is seen, the curriculum recommends making use of "biography" in the realisation of the first gain and "literary products such as poems, stories and epics" in the second gain. The genres of literary works included in the textbook are not limited to these types and learning areas. Different types and numbers of literary works are found in a wide variety of learning areas.

The taxonomy level of the questions about literary works in the 4th-year SSTB is given in Table 2.

Table 2. Distribution of literary genres and written and printed works in the 4th-year SSTB and taxonomy level of questions regarding these products

Literary Genre	**Literary Genre**		**Total**	**Taxonomy Level**				
	Involving Questions	**Not Involving Questions**		**Infor-mation**	**Compre-hension**	**Appli-cation**	**Analy-sis**	**Eval-uation**
	n	**n**	**n**	**f**	**f**	**f**	**f**	**f**
Poetry	3		3	1	3		2	
Speech	1	1	2		1			
Memoir	1	1	2		1			
Biography		1	1	-	-	-	-	-
Proverb	1		1		1			
Folk Song	1		1					
Legend	1		1		1			
Aphorism		1	1					
Composition	2	-	2	-	-	-	-	-
Short Story	1		1		1			
Other literary products				1	2			
Total	11	4	15	2	11		2	
Sum Total		15				15		

Table 2 shows that 15 literary products in 11 different literary genres, including poetry (n=3), memoir (n=2), composition (n=2), speech (n=2), biography, folk songs, poems, legends, proverbs, short stories and aphorisms are used in the 4th-year SSTB. While no questions are found for one-fourth (n=4) of these literary

works, there are 15 questions for three-fourths (n=11). The taxonomy level of the analysed questions is predominantly at comprehension level (f=11). However, a limited number of questions regarding the relevant literary works are encountered at the levels of information (f=2) and analysis (f=2).

The two gains which are involved in "Culture and Heritage", "People, Places and Environments" learning areas in 4th-year SSC and which relate to the literary works mentioned above are at comprehension level. The questions regarding the literary works in the 4th-year SSTB are predominantly at comprehension level in accordance with the curriculum.

Findings on Literary Products and Written and Printed Works in the 5th-Year SSTB and SSC

The distribution of literary works by learning areas in the 5th-year SSTB and SSC in terms of 5th-year gains is presented in Table 3.

Table 3. Distribution of literary products in the 5th-year SSTB and SSC by learning areas

Learning Area	**Genres of Literary Product**					
	SSTB-5	**n**		**SSC-5**	**n**	**Total**
Individual and Society	Diary	1	2	Book	1	1
	Aphorism	1				
Culture and Heritage	Aphorism	1	1	-	-	-
People, Places and Environments	-	-	-	-	-	-
Science, Technology and Society	Aphorism	1	5			
	Biography	4				
Production, Distribution and Consumption	Proverb	1	1			
Active Citizenship	Poetry/National Anthem	1	2			
	Aphorism	1				
Global Connections	Roman	1	4	-		
	Epic	1				
	Aphorism	2				
Total	17				1	

An examination of Table 3 reveals that 5th-year SSTB includes 17 literary works in the genres of diary, aphorism, biography, proverb, poetry, novel and epic. The highest number of these literary works are in "Science, Technology and Society" (n=5) learning area, followed by "Global Connections" (n=4). The lowest number is in "Culture and Heritage" (n=1) learning area, and no literary work falls to the learning area of "People, Places and Environments".

As for 5th-year gains in SSC (2018), one that can be associated with literary works is encountered in the learning area of "Individual and Society".

SS.5.1.3. As individuals who are aware of their rights, students are supposed to act in accordance with the duties and responsibilities required by the roles they take in the groups that they participate in.

The importance, while planning personal time, of taking into consideration playing games, studying, book reading, sleeping, spending quality time with family and friends and using mass media is emphasised.

It is mentioned in the explanation regarding the above gain in SSC that importance should be attached to ensuring that students gain the habit of reading books while planning their personal time. Unfortunately, no other expression or gain regarding literary works is encountered in the curriculum. However, many and different genres of literary works are found in the learning areas of 5th-year SSTB.

The cognitive and affective taxonomy levels of the questions regarding these products are given in Table 4 in order to determine how literary products are used in the 5th-year SSTB.

Table 4. Distribution of literary genres in the 5th-year SSTB and taxonomy level of questions regarding these products

Literary Genre	Literary Product		Total	Taxonomy Level		
	Involving Questions	Literary Genres Not Involving Questions		Compre-hension	Eval-uation	Affective (receiving)
	n	n	n	f	f	f
Diary		1	1			
Biography	4	1	5	1		
Proverb	3		3	2		
Anthem	1		1	1	1	1
Roman		1				
Epic		1				
Aphorism	3	2	4	3		
Total	11	6		9	1	1
Sum Total	17			11		

An examination of Table 4 shows that 5th-year SSTB includes questions regarding 11 out of 17 literary products from seven different genres including biography (n=5), aphorism (n=5), proverb (n=3), anthem (n=1), novel (n=1), epic (n=1) and diary (n=1). No questions are encountered about one third of literary works (diary, novel, epic etc.). When the taxonomy levels of the questions are analysed, it is noteworthy that the most questions (f=7) are at comprehension level. One each question (f=1) is encountered at evaluation level and at receiving level in the affective area. SSC does not directly include any literary work, apart from mentioning the affective importance of gaining the habit of "reading books" in "Individual and Society" learning area among 5th-year gains.

Findings on Literary Products and Written and Printed Works in the 6th-year SSTB and SSC

The distribution of literary works and written and printed works by learning areas in the 6th-year SSTB and SSC in terms of 6th-year gains is provided in Table 5.

Table 5. Distribution of literary products and written and printed works in the 6th-year SSTB and SSC by learning areas

Unit	Genres of Literary Product					
	SSTB-6	n	Total	SSC-6	n	Total
Us and Our Values	Short Story	1	8		-	
	Sociocultural History	1				
	Information	1				
	Aphorism	3				
	Proverb	1				
	Hadith	1				
Journey to History	Oghuz Khan Epic	1	16	Epic	1	3
	Epic of Genesis	2		Inscription	1	
	Ergenekon Legend	1		Other resources	1	
	Sociocultural History	7				
	Political History	2				
	Poetry	1				
	Farewell Sermon	1				
	Aphorism	1				

I Participate in Administration	Aphorism		3	3		
Our International Relations	Aphorism		2	2		3
Total		28			3	

An examination of the distribution of literary products by units in the 6th-year SSTB shows, as seen in Table 5, that the most literary works and written and printed works on socio-cultural history and political history are included in the unit "Journey to History" (n=17), followed by the units "Us and Our Values" (n=8), " I Participate in Administration" (n=3) and "Our International Relations" (n=2), respectively. Apart from these units in the textbook, no literary works and written and printed works or encountered in the units "Life on Earth", "Science and Technology in Our Life", "I Produce, I Consume, I Am Conscious". According to an analysis of SSC (2018), only a general expression involving epics, inscriptions and other literary works is found in the learning area of "Culture and Heritage", which corresponds to the unit "Journey to History". The curriculum contains no statement regarding literary works in any learning field other than "Journey to History".

In the 6th-year learning area of "Culture and Heritage" in SSC (2018), attention is drawn to benefiting from the literary products of epics and inscriptions in the explanation regarding the actualisation of the gain of "Students are supposed to make inferences about the geographical, political, economic and cultural characteristics of the first Turkish states established in the Central Asia". In 6th year, no other gain is mentioned other than this one. As can be seen in Table 5, however, 6th-year SSTB involves different genres of literary works in various rates in four learning areas.

In order to determine how literary products are used in the 6th-year SSTB, the cognitive and affective levels of the questions regarding these products are covered in Table 6.

Table 6. Distribution of literary genres and written and printed works in the 6th-year SSTB and taxonomy level of questions regarding these products

Literary Genre	**Literary Product**			**Taxonomy Level**					
	Involving Questions	**Not Involving Questions**	**Total**	**Infor-mation**	**Compre-hension**	**Appli-cation**	**Analy-sis**	**Eval-uation**	**Recei-ving**
	n	**n**	**n**	**n**	**f**	**f**	**f**	**f**	**f**
Sociocultural, historical book	8	2	10	1	7		1	1	1
Political book	1	1	2		1				
Epic	3		3		5				
Proverb		1	1						
Short Story			1		1				
Farewell Sermon	1		1				1		
Hadith		1	1						
Poetry	1		1		1				
Aphorism	7	2	9		6	1			
Total	21	7		1	21	1	2	1	1
Sum Total		29				27			

As seen in Table 6, there are 29 products containing literary works and written and printed works in the 6th-year SSTB. These products are mostly quoted from sociocultural, historical books (n=10), followed by aphorisms (n=9), epics (n=3), political books (n=2) and sermon, hadith, proverb, short story and poetry (each n=1). In general, questions were asked about two-thirds of the literary works in the textbook (n=21), while no questions were found for one-third (f=7). The literary works for which no questions are asked include two aphorisms, one hadith and one proverb. As for the taxonomic level of the questions for literary products, most of the questions are at comprehension level (f=21). In the 6th-year SSTB, questions at application and analysis levels (f=2), which are not encountered in other textbooks, are noteworthy. In general, comprehension level questions regarding literary works and written and printed works predominate in the 6th-year SSTB. Questions at the level of application, analysis, evaluation and affective reception are also found, even if in a limited number. As seen above, a gain related to literary products in SSC (2018) 6th-year "Culture and Heritage" learning area is at comprehension level.

Findings on Literary Products and Written and Printed Works in the 7th-year SSTB and SSC

The distribution of literary works and written and printed works by learning areas in the 7th-year SSTB and SSC in terms of 7th-year gains is given in Table 7.

Table 7. Distribution of literary products and written and printed works in the 7th-year SSTB and SSC by learning areas

Unit	Genres of Literary Product					
	SSTB-7	**n**	**Total**	**SSC-7**	**n**	**Total**
Communications and Human Relations	Short Story	1	3	-	-	-
	Aphorism	1				
	Drama: Karagöz and Hacivat	1				
I Participate in Administration	Sociocultural History	12	47	Travel Book	1	1
	Memoir	1				
	Travel Book	27				
	Political History	7				
Population in Our Country	Economic Geographical History	2	6			
	Novel	1				
	Poetry	1				
	Sociocultural History	2				
Science in the Course of Time	Proverb	1	13	Socio-Scientific Products	9	9
	Hadith	3				
	Socio-Scientific History	9				
Economy and Social Life	Drama	1	10			
	Poetry	1				
	Short Story	2				
	Socio-Economic	5				
	Travel Book	1				
Living Democracy	Political History	10	12			
	Aphorism	1				
	Sociocultural History	1				
Bridges between Countries	Aphorism	2	2			
Total		93			10	

Table 7 shows that most literary products and various sociocultural, scientific and political written and printed works quoted in the 7th-year SSTB are found in the unit of "I Participate in Administration" (n=47), followed by "Science in the Course of Time" (n=13), "Living Democracy" (n=12) and "Economy and Social Life" (f=10). The least number of literary works are encountered in the units "Population in Our Country" (n=6), "Communication and Human Relations" (n=3) and "Bridges between Countries" (n=2). An examination of SSC (2018) shows the presence of explanations regarding the use of travel books and socio-scientific resources in the learning areas of "I Participate in Administration" and "Science in the Course of Time". As a matter of fact, in SSC (2018), one each gain related to literary products is encountered in two learning areas at in 7th year.

Culture and Heritage: SS.7.2.5. Students are supposed to give examples for Ottoman understanding of culture, art and aesthetics. Examples from travel books of domestic and foreign travellers are provided.

Science, Technology and Society: SS.7.4.2. Students discuss the contributions of scholars raised in the Turkish-Islamic civilisation to the scientific development process. The level reached by the Turkish-Islamic civilisation in the scientific field is emphasised. Scholars such as Al-Harezmî, Fârâbî, İbn-i Sînâ, el-Jezerî, İbn-i Haldûn, Ali Kuşçu, el-Hâzinî, Piri Reis and Kâtip Çelebi and their works are mentioned.

As seen above, SSC (2018) draws attention to the use of travel books of domestic and foreign travellers in its statement regarding the realisation of one of the respective gains, and to written works related to scientists in the other.

In order to determine how literary products are used in the 7th-year SSTB, Table 8 presents an analysis of questions regarding these products.

Table 8. Distribution of literary genres and written and printed works in the 7th-year SSTB and taxonomy level of questions regarding these products

Literary Genre	**Literary Product**		**Total**	**Taxonomy Level**				
	Involving Questions	**Not Involving Questions**		**Information**	**Comprehension**	**Application**	**Analysis**	**Evaluation**
	n	**n**	**n**	**f**	**f**	**f**	**f**	**f**
Short Story	2	1	3		3		1	
Travel book	21	7	28	1	49		2	9
Novel	1		1		4			
Drama	1	1	2		1			
Sociocultural history	4	11	15		6			
Socio-scientific history	2	7	9		6			
Socio-economic history	2	3	5		1		1	
Socio-economic geography		2	2					
Political history	12	5	17	2	17		3	1
Hadith		3	3					
Proverb	1		1		1			
Memoir	1		1		4			
Poetry	1	1	2		3			
Aphorism		4	4		1			
Total	48	45	93	3	51		7	10
Sum Total		93			71			

Table 8 shows that 7th-year SSTB covers 93 works quoted from 14 different literary genres, including travel book (n=28), political history (n=17), socio-cultural history (n=15), socio-scientific history (n=9), socio-

economic history (n=5), socio-economic geography (n=2), short story (n=3), aphorism (n=4), hadith (n=3), poetry (n=2), drama (n=2), memoir (n=1), proverb (n=1) and novel (n=1). Questions were asked for 48 of these products and no questions were asked for about half of them (n=45). Literary works for which no questions are encountered include aphorism, hadith and drama. Moreover, no questions are encountered regarding quotations made from some sociocultural history, political history and socio-scientific books. When the distribution of questions regarding literary works and written and printed works is examined, questions at comprehension level (f=51) are found the most. There are also question types that involve high-order thinking skills including evaluation (f=12) and analysis (f=7). Generally, in the 7th-year SSTB, while questions at comprehension level are asked about literary products, it is possible to encounter question types that involve more high-order thinking skills than other social studies textbooks. SSC (2018) requires to carry out a cognitive activity in the learning area of "Culture and Heritage" at comprehension level based on literary products, and also in the learning area of "Science, Technology and Society" again at comprehension level based on the works of important scientists. In general, the curriculum and the textbooks emphasise the utilisation of literary and other written and printed products at the level of comprehension.

Conclusion and Discussion

The present study aimed to determine the literary products and other written and printed works in SSC (2018) and the 4 to 7th-year social studies textbooks and the use of these products at cognitive and affective levels.

Research results showed that proverbs and aphorisms were the common literary products in all social studies textbooks. It was ascertained, however, that literary genres showed a balanced distribution, especially including poetry, with a small numeric difference in the 4th-year SSTB; biographies, aphorisms and proverbs predominated in the 5th-year SSTB; socio-cultural works, aphorisms and epics were the most common in the 5th-year SSTB, and; written and printed works with political and socio-cultural content, especially travel books, were more in number than other literary products in the 7th-year SSTB. In a study analysing the social studies textbooks of the 4th, 5th, 6th and 7th years published in 2006, Kaymakcı (2013) concluded that the books quoted "stories, in particular, biographies, memoirs and aphorisms", followed by "speeches, diaries, poetry, idioms, anecdotes, travel notes, articles, manis, legends, letters, Dramas, songs/folk songs, proverbs and nursery rhymes". From past to present, aphorisms and proverbs seem to be included in textbooks. No research was encountered regarding the situation with any other written works.

The present research showed that 7th-year SSTB included written and printed works and literary products 6 times more than 4th year, 5 times more than 5th-year and 3 times more than 6th-year SSTB. Thus, 7th-year SSTB, published in 2019, was found to be the textbook that includes the most literary products and written printed works compared to the textbooks published in 2006 and 2011. The rate of utilising literary products in the 4th-year SSTB that was updated in 2019 is observed to have decreased significantly compared to 2006 and 2010 (Kaymakcı, 2013).

According to an analysis of the distribution of literary products by learning areas in social studies textbooks, it varied at each year level. The most literary products were found in the learning areas of "Active Citizenship" and "Cultural Heritage" in 4th year, "Science, Technology and Society" and "Global Connections" in 5th year, and "Culture and Heritage", along with other written and printed works, in 6th year and "Active Citizenship" in 7th year. However, SSC (2018) made explanations regarding utilising literary products for one each gain in the learning areas of "Culture and Heritage" and "People, Places and Environments" in 4th year, "Individual and Society" in 5th year, "Culture and Heritage" in 6th year and "Culture and Heritage" and "Science, Technology and Society" in 7th year. It can be argued that SSC generally failed to establish a relationship between learning areas and literary works and that the curriculum is insufficient in this respect. Tokcan (2016) determined that in SSC (2005), which was drawn up in accordance

with the constructivist approach in 2005, association with literary products was made for 8 activities involving 18 different gains in six learning areas in 4th year; eight activities involving 13 gains in six learning areas and all the gains in the learning area of "Power, Administration and Society" in 5th year; 10 activities involving six gains in three learning areas in 6th year, and; six activities involving eight gains in four learning areas in 7th year. Similarly, Şimşek (2011) determined that the status of benefiting from children's literature products in 2005 SSC was positive in terms of density and perspective compared to the 1998 program. Şimşek stated that the use of children's literature products in the 2005 program was planned in general explanations, activities and almost all gains of each unit.

It was found out that questions were not asked for all literary works in the social studies textbooks. The questions included were predominantly comprehension-level ones that mainly involved understanding the text. In the social studies textbooks, a few questions were encountered at the level of analysis in 4th year, evaluation in 5th year, analysis and evaluation in 6th year, while more questions were noticed at the level of assessment and analysis in 7th year. Unlike other textbooks, however, there was one each affective question in the 5th and 6th-year SSTB. On the other hand, in SSC (2018), two gains related to literary works in 4th year, one in 5th year, one in 6th year, one in 6th year and two in 7th year were at comprehension level. It can be argued that SSC (2018) did not include statements regarding the use of literary products in a way to develop high-order thinking skills, nor incorporated enough gains to develop affective skills. In an analysis of the 2005 SSC, Şimşek (2016) points out that the curriculum recommended that children's literature products should be used with activities that are determined for every subject at the levels of analysis, synthesis and evaluation.

The results of the present research show that the level of social studies textbooks and SSC to include literary products and to benefit from them in a way to develop high-order thinking skills is insufficient compared to previous years. This calls attention to the areas that need to be improved in social studies textbooks and SSC.

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Mobbing, Teacher Victimization and Faculty Trust: A Structural Equation Model

Research Article

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ABSTRACT

This research aims to reveal the effects among teacher victimization, mobbing and faculty trust by constructing a structural equation model. The data were collected from 1144 teachers working in the Sanliurfa province of Turkey by cross-sectional surveying with a form prepared online that consisted of questions regarding demographics, multidimensional teacher victimization scale, the mobbing scale, and the omnibus t-scale. The results showed that mobbing affects teacher victimization and faculty trust, teacher victimization negatively affects faculty trust. It is concluded that mobbed teachers think that they are victimized by the faculty and they lose their trust in the faculty.

Keywords:
Teacher, principal, school violence, school psychology

Introduction

School violence is a multifaceted and multilayered problem and how it affects administrators, teachers, and students has become a major concern for all stakeholders. School safety is an important issue because a safe teaching and learning environment is essential for the effectiveness and efficiency of an education system. The studies conducted on school violence show that the number of violent acts (bullying, teacher victimization, mobbing, etc.) in school is on the rise, which makes all stakeholders feel violence is an inevitable part of school life and schools are not as safe as they should be.

Administrators, teachers, and students need to feel safe from violence in their schools to be able to focus on their teaching and learning. However, school violence (bullying among students, mobbing, teacher

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victimization) has become ordinary and incidents in which administrators bully the teachers, students violently attack their peers, teachers and other school personnel have become relatively common.

Teacher victimization, which is a comparatively understudied and underrated issue, requires more attention from policymakers, administrators, researchers and so on because it affects not only the victimized teacher but the students, other teachers, effectiveness and efficiency of schools, education system and the larger community itself. Teachers' being a victim due to a school-related reason cause fear and anxiety within them and lead them to consider school environment as a psychologically distressing place to be, which prevents them from taking initiatives and do their job as professionally as expected of them (Ozdere & Terzi, 2018). Besides, their emotional and physical well-being, their commitment, job performance, job satisfaction and so on are closely related to how safe they feel at school (Yang et al., 2019). Moreover, the lost days of work, lost wages, training and replacement of teachers leaving the school or profession, medical and psychological care expenses are some of the other detrimental results of the problem. Given the damaging effects of teacher victimization, there is an urgent need to take effective and preventive measures to respond to teacher victimization.

The starting point of this research is the idea that violence tends to occur when there is no trust or lack of trust among the parties. In the literature review, there are no studies that analyze the relation between teacher victimization and faculty trust. Thinking that teacher safety is closely related to faculty trust, this study is conducted to investigate whether there is a relationship between faculty trust and teacher victimization. It is hoped to shed light on a different dimension of the problem, which is the effect of faculty trust on teacher victimization (mobbing and violence directed to teachers by students and others). It is important to reveal a relation among mobbing, teacher victimization and faculty trust for a better teaching environment and thus student success.

Mobbing

Mobbing is usually defined as the set of hostile actions such as verbal, physical, sexual aggression, harassment, bullying, isolation, professional discredit, etc. and unethical communication which are systematically, repeatedly and intentionally directed to one individual by one or some people to disturb victim's mental, physical, social well-being in an organizational context. These actions happen quite often (almost every day) and persist at least six months against the same person which aims to injure the victim and to keep him out of the workplace and result in considerable psychic, psychosomatic and social misery on the victim's part (Leymann, 1990). Such behaviors may not seem hostile on the surface but just because it is being constantly repeated, it will affect the victim negatively in the long run and serve the perpetrator's ultimate goal which could be the exclusion of individuals/groups of individuals from the organization (Cornoiu & Gyorgy, 2013).

Mobbing which is described as psychological terror is an emotional offense (Leymann, 1990). It could stem from factors related to the characteristics of the aggressor (jealousy, racism, prejudice, psychological problems, stereotyping, etc.), the victim (his/her being an intelligent, productive, creative, well-educated person with high intellectual capacity might cause jealousy and make them target (Cobanoğlu, 2005), the organization (bad management, high-stress workplace, unethical practices and unfairness, nepotism, etc.), or the society and culture (economic factors, bad living environment, high crime rates, inequality, poverty, etc. (Kirel, 2007). In short, retribution to protect self-esteem, lack of social skills, groups' tendency to choose a scapegoat and policies of organizations are some of the most important reasons for mobbing (Poussard & Camuroglu, 2009).

Leymann (1990) identified 45 mobbing actions and classified them into five categories. These are as follow: 1. Effects on self-expression and communication refer to hostile actions such as not letting them express

and/or support their opinions and ideas, being insulted, mocked, criticized, terrorized, threated and so on. 2. Effects on social contacts refer to the isolation of the victim. As the name suggests the victims are not talked to or listened to, they are treated as if they are invisible and so on. 3. Effects on personal reputation refer to hostile actions that aim to harm their reputation by talking badly about their physical, personal, mental characteristics, religious or political beliefs, calling them names and so on. 4. Effects on the occupational situation and quality of life are about the hostile actions that harm their professional lives; giving them meaningless jobs, new tasks, tasks below or beyond their qualifications, or not giving any tasks at all. 5. The effects on physical health are about the physical well-being of the victims. The hostile actions could include being forced to do a physically dangerous job, physical violence, abuse, damaging workplace or home, sexual harassment and so on.

Teacher Victimization

Schools need to be free from violence and safe havens for all stakeholders for learning and teaching to take place effectively and efficiently. According to Maslow's needs hierarchy, safety needs are basic needs (Lester et al., 1983) and it is very important for school stakeholders to feel safe at school for effective learning and teaching processes (Donmez, 2001; Karal, 2011). While school administrators and teachers have important responsibilities for the safety of students in schools (Khoury-Kassabri et al., 2009), they have become the target of violence in many cases due to some school-related causes and are concerned about their safety (Cinar, 2007; Meadows, 2014). Studies show that the incidents of violence against teachers are on the rise worldwide (Daniels, 2007; Espelage et al., 2013; Wilson, Douglas, & Lyon, 2011; Khoury-Kassabri, Astor, & Benbenishty, 2009; Dazuka & Dalbert, 2007; Ozkilic 2012; Cumaoglu, 2007).

It is reported that teachers generally experience different types of violent acts such as disrespect, bullying, threats, intimidation, damage to their belongings, physical attack (APA, 2016; Espelage et al., 2013; Gregory et al., 2012; McMahon et al. 2014; Tomasek, 2008; Wilson et al. 2011; Atmaca & Ontas, 2014; Ozdemir, 2012). The perpetrators are usually students, parents or groups and the identity of the perpetrator affects the type and severity of the violence (McMahon et al., 2014; Tomasek, 2008; Atmaca & Ontas, 2014; Martinez et al., 2016). Besides, the characteristics of the perpetrators or victims, faculty, school size, school type, school resources, school location, school climate, disciplinary practices, teachers' qualifications, competency may affect teacher victimization (Gregory et al. 2012; Rose, 2009; Ozdere & Terzi, 2018).

In the studies carried out on teacher victimization, it is stated that although it cannot be eradicated, the seriousness of problem should be emphasized and the cooperation of institutions, families, media, similar organizations and society are developed to prevent, intervene, lessen the incidents (Ozdemir, 2012; Ozdere & Terzi, 2018). In other words, teacher victimization is indirect violence against students, the institution, the education system, and the society and all members of the community work together accordingly to address the problem (Espelage et al., 2013; Galand et al., 2007; Khoury-Kassabri et al., 2009; Martinez et al., 2016; McMahon et al., 2014; Wilson et al., 2011). However, it is stated that policymakers, researchers and the media do not pay enough attention to the problem, and thus not many efficient preventing, intervening policies and measures are produced (Ozdere & Terzi, 2018; Wilson et al., 2011).

Faculty Trust

The key to success in schools is effective teaching practices and management, and these cannot be achieved without faculty trust. Therefore, one of the most important duties of the principals as a leader is to create an environment that fosters trust among school stakeholders.

A trust-based organizational culture is crucial for the effectiveness and efficiency of schools, as it supports collaboration among school stakeholders, reduces uncertainty and maintains order. Trust is usually defined as an individual or a group's being willing to be vulnerable to another party based on the confidence

that the other party is benevolent, reliable, competent, honest, and open (Hoy, 2002; Hoy & Tschannen-Moran, 1999; Hoy & Tarter, 2004). As the definition suggests trust has five pillars (benevolence, reliability, competency, honesty, and openness) and both parties are willing to become defenseless because they are confident that neither parties will be exploited (Hoy, 2002; Hoy & Tschannen-Moran, 1999; Hoy & Tarter, 2004; Rousseau, Sitkin, Burt, & Camerer, 1998).

For the trust, there needs to be interdependence between the parties (Hoy, 2002; Rousseau, Sitkin, Burt, & Camerer, 1998) which means both the parties will provide what is asked of them when they are asked (Butler & Cantrell, 1984; Hoy, 2002; Mishra, 1996; Rotter, 1967). Interdependence requires vulnerability and the degree of confidence one has in the face of vulnerability and risk is the degree of trust. There is no trust without benevolence which refers to the belief that both parties' expectations will be met, their self-interests will be protected, no harm will come to the trusting party, and their vulnerability will not be exploited (Baier, 1986; Cummings & Bromily, 1996; Hosmer, 1995; Hoy, 2002; Mishra, 1996; Putnam, 1993). Reliability is the combination of dependability and predictability, which means both parties will know what to expect from each other and believe that they both act in accordance with each other's interests (Butler & Cantrell, 1984; Hosmer, 1995; Hoy, 2002). The trust needs to be established that both parties are reliable, dependable, attentive and ready to take responsibility for their actions while they do not resort to deceptive ways to protect their self-interests only (Govier, 1992). Competency refers to the qualifications, knowledge, skill and expert knowledge one should have to perform as expected and consistent with standards suitable to the task. No matter how benevolent and reliable one party is, the trust may not occur if they are not competent enough to perform as expected and consistent with the standards to meet the expectations of the trusting party (Baier, 1986; Butler & Cantrell, 1984; Hoy, 2002; Tschannen-Moran & Hoy, 1998; Tschannen-Moran, 2000; Mishra, 1996). Honesty is related to the consistency between what is said and what is done, which means one's being ready to accept the responsibility for their actions and not distorting the truth not to face the consequences of their actions or to protect their self-interests or to get away with them. It is about the truthfulness, integrity, and authenticity of a person or a group. (Baier, 1986; Cummings & Bromily, 1996; Hoy, 2002; Tschannen-Moran & Hoy, 1998). Openness is related to how much relevant information is shared with the other party. Sharing personal or organizational information makes the trusting party vulnerable because it means giving oneself away (Butler & Cantrell, 1984; Hoy, 2002; Mishra, 1996). Openness nurtures trust, and vice versa (Kramer, Brewer, & Hanna, 1996).

Method

Design

The study employed the ex post facto co-relational causal design (Cohen, Manion & Morrison, 2007). This design is used when research variables already exist in nature, leaving no room for manipulation (Fraenkel, Wallen & Hyun, 2012). Since there is a lack of manipulation, this design generates results which have weaker causality comparing to the experimental design. Yet, it can reveal the causality when an experimentation is not possible. Thus, it can be considered as an alternative method to the experimental design.

The data were collected by surveys. The perception and attitudes of a large sample can be demonstrated by this method, and its validity and reliability can be demonstrated with standard data collection tools and thus generalizable results can be obtained (Christensen, Johnson & Turner, 2013). When the data is collected at once, it is cross-sectional and when it is collected more than once in wider periods, longitudinal surveying is performed (Fraenkel, Wallen & Hyun, 2012, p. 394). In this study, the data were collected by cross-sectional surveying.

Participants

The population of the study consists of about 26000 educators working in the Sanliurfa province of Turkey. Among them, 2600 teachers were selected randomly and were sent links to the online data collection tool. A total of 1144 teachers participated in the study. The descriptive statistics of the participants are presented in Table 1.

Table 1. Descriptive statistics of the participants

Variable	Category	Frequency	Percentage
Gender	Male	533	46.6
	Female	611	53.4
Duty	Teacher	872	76.2
	Principal	101	8.8
	Deputy principal	171	14.9
Seniority	0-5 years	501	43.8
	6-10 years	215	18.8
	11-15 years	129	11.3
	16 years and above	299	26.1
School Type	Kindergarten	85	7.5
	Primary School	404	35.3
	Secondary School	357	31.2
	High School	297	26.0

Data Collection Tools

1. Multidimensional Teacher Victimization Scale: The Multidimensional Teacher Victimization Scale (MTVS) was developed by Yang et al. (2019) and is a 24-item self-report rating scale for measuring teachers' perceptions of how often they have been victims of violent behavior perpetrated by students. It consists six subscales, which reflects six forms of teacher victimization (TV): (1) physical TV, (2) social TV, (3) verbal TV, (4) cyber TV, (5) sexual harassment, and (6) personal property offenses. The scale was adapted into Turkish by the author.

2. The Mobbing Scale: The Mobbing Scale was developed by Aiello et al. (2008) and adapted into Turkish by Laleoglu and Ozmete (2013) was used in the study. The scale consists of questions aimed at determining mobbing behaviors based on interpersonal relationships. It consists of 48 items that determine the level of relations of the employee with their colleagues, whether the individual is exposed to physical, psychological violence and harassment, the level of feedback about the job he/she is doing, whether the opinion of the individual is received or not, and whether he/she is informed about the changes in the business. The high scores obtained from the scale indicate that the employees are mobbed, while the low scores indicate that they are not mobbed.

3. The Omnibus T-Scale: The Omnibus T-Scale consists of 26 items that measure three dimensions of trust (trust in the principal, trust in colleagues, and trust in clients (students and parents)). The scale was developed by Tschannen-Moran and Hoy (2003) and adapted into Turkish by the author. It consists three subscales which reflects the source of faculty trust: (1) principal, (2) colleagues, and (3) clients. The reliabilities of the three subscales typically range from .90 to .98. Factor analytic studies of the Omnibus T-Scale support the construct and discriminant validity of the concept.

Data Collection

The data were collected with a form prepared online. Compared to classical paper forms, online forms can save cost and time, can be easily applied to large audiences and facilitate data analysis (Fan & Yan, 2010;

Selm & Jankowski, 2006). Also, online forms can be considered equivalent to paper forms since they do not affect the research results (Huang, 2006). The online form included questions regarding demographics (gender, duty, seniority, school type) and 3 scales.

Data Analysis

A structural equation model was constructed to reveal the effects among teacher victimization, mobbing and faculty trust. The data were analyzed with R, an open-source statistical programming language (Ihaka & Gentleman, 1996). R has been widely used in the last 20 years (Field, Miles & Field, 2012). Experts create package programs to perform certain analyzes with R (Beaujean, 2014). Explanatory factor analysis is done with the psych (Revelle, 2018) package in the R library. Confirmatory factor analysis is done with the lavaan (Rosseel, 2012) package. Multivariate normality assumption analysis of the data is done with the mvn (Korkmaz, Goksuluk & Harmless, 2014) package. When the multivariate normality assumption is analyzed, the Doornik-Hansen (2008), Henze-Zirkler (1990), Mardia (1970, 1974) and Royston (1992) tests are found to be significant ($p < .001$). Therefore, exploratory factor analysis is done with principal axis factoring (PAF) (Strahan, 1999), confirmatory factor analysis and structural equation modeling was performed by diagonally weighted least squares (DWLS) calculation (Mindrila, 2010).

Results

Mean, standard deviation, skewness, kurtosis and correlations of the study variables are shown in Table 2. According to means, teachers of the study trust their faculty and do not feel victimized and mobbed. All the correlations among the variables are significant and on a low level.

Table 2. Statistics of the variables

	Teacher Victimization	Faculty Trust	Mobbing
Mean	1.09	4.10	2.15
Standard deviation	0.22	0.68	0.52
Skewness	4.80	-0.57	2.52
Kurtosis	29.4	0.33	10.9
Faculty Trust	-0.33*		
Mobbing	0.32*	-0.40*	

* $p < .001$

The structural equation model constructed to reveal the effects among teacher victimization, mobbing and faculty trust had a good fit to the data (AGFI=.96, CFI=.98, TLI=.98, RMSEA=.02). To save place and easy understanding of the effects, the simplified drawing of the model is presented in Figure 1. According to the model, mobbing affects teacher victimization on a low level (β=.37, $p<.001$). This implies that mobbing causes teachers to feel victimized. Also, teacher victimization negatively affects faculty trust on a low level (β=-.17, $p<.001$). This means that teachers who feel victimized lose their trust in faculty. Mobbing affects faculty trust on a medium level (β=-.67, $p<.001$). To sum up, mobbed teachers think that they are victimized by students and lose their trust in the faculty.

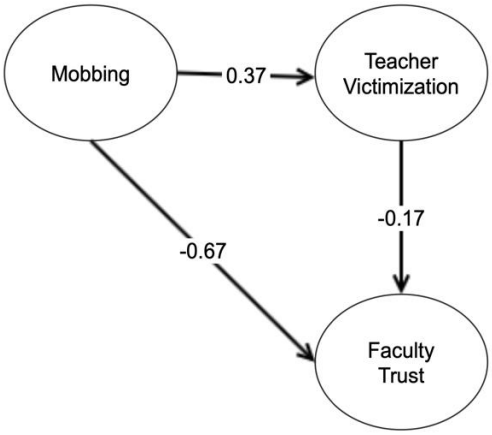

Figure 1. The Simplified Drawing of the Model

Discussion and Suggestions

This study aimed to reveal effects among teacher victimization, mobbing and faculty trust by constructing a structural equation model. The model proved that mobbing reduces faculty trust and induce teacher victimization. This result make sense with the relevant literature. Mobbing is a destructive phenomenon with devastating effects both on the victim and the organization (Branch, Ramsay, & Barker, 2012). The most important responsibilities to prevent mobbing lies on the shoulders of administrators, managers, and ones in charge. They need to be aware of the occurrence of mobbing; act fair, constructive while dealing with mobbing, create a safe working environment, reorganize the organizational structure and willing to educate the personnel in terms of the causes and results of it (Mercanlioglu, 2010).

This research adds to the relevant literature by indicating that mobbing causes teacher victimization and reduced trust in faculty. The causes and consequences of teacher victimization are not studied much (Espelage et al., 2013; McMahon et al., 2014; Wilson et al., 2011, Ozdere & Terzi, 2018). When it comes to teacher victimization, the negative effect of violence is not limited to the victim only because the safety of school administrators and teachers, who have important roles in students' psychological and academic development, and who are responsible for the safety and well-being of students, is a prerequisite for the effectiveness and efficiency of the education system. Therefore, teacher victimization seems to be a serious problem in terms of its results on individual, organizational and social levels and should not be ignored (APA, 2016; Sungu, 2015; Wilson et al., 2011; Ozdere & Terzi, 2018).

This research reveals the relation between teacher victimization and faculty trust that was never investigated. In the literature, there are several studies in which different dimensions of trust and faculty trust has been studied in terms of different variables (Goddard, Tschannen-Moran, & Hoy, 2001; Hoy & Tschannen-Moran, 1999; Smith, Hoy, & Sweetland, 2001, Hoy, 2002). In some studies, organizational variables that affect trust in schools were examined and faculty trust was determined to affect job satisfaction and efficiency and effectiveness of schools (Maele & Houtte, 2009; Maele & Houtte, 2012; Farnsworth, Hallam, & Hilton, 2019). In some other studies, it was determined that faculty trust is an important variable in students' academic success (Goddard, Tschannen-Moran, & Hoy, 2001). It was pointed out that faculty trust affects teacher-student relations positively and supports students' academic success because it is an element that helps teachers develop their talents and become more effective (Howe, 2016). For this reason, it is emphasized that school administrators need to try to develop each dimension of trust among stakeholders for the effectiveness and efficiency of schools (Hoy & Tschannen-Moran, 1999). As a result, effective learning and teaching is a collaborative process, and trust is an essential element in this cooperation. Trust is an important tool that can be used to create environments that support effective cooperation to reach the goals of the school. A trust-based environment is important for more effective education and training. In this context, faculty are

considered important in terms of effectiveness and efficiency in achieving the pre-determined goals of the school.

A positive working environment that enhances collaboration and mutual respect among the personnel is a key factor for the success, effectiveness, and efficiency of an organization. However, the opposite -a negative working environment, the lack of respect- leads to lower performance and efficiency (Alparslan & Tunc, 2009; Cornoiu & Gyorgy, 2013). Mobbing which may stem from as a result of inefficient leadership or perpetrator or victim's certain characteristic has devastating effects not only on the person assaulted but also on the organization and society (Cornoiu & Gyorgy, 2013).

A school principal needs to develop a high trust environment at their schools (Bryk & Schneider, 2003). Teachers trust the principal when they believe that she/he will protect their interests and good for their word (Tschannen-Moran & Hoy, 1998). Also, a principal who is willing to build trust needs to be honest, friendly, helpful, accessible, consistent, facilitating, law-abiding as well as showing that he cares about teachers, communicates effectively, involves stakeholders in the decision-making process, supports taking initiative and risk, supports the professional development of teachers while paying the utmost attention to organizational justice (Bryk & Schneider, 2003; Brewster & Railsback, 2003). In the formation of a high trust environment, teachers also have responsibilities as much as the school principal (Tschannen-Moran & Hoy, 1998). It is important that they see their colleagues as honest, dependable and reliable professionals who can take initiative and autonomous decisions, show loyalty to their students, communicate and collaborate with others effectively for school effectiveness (Hoy & Tarter, 2004).

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An Interdisciplinary Approach to Earthquake Awareness of Turkish Middle School Students

Research Article

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ABSTRACT

Project based learning (PBL) is believed to be a useful strategy to support students' achievement, attidudes and awareness. The studies have revealed that this effective tool has an important role on performance of students. This is a qualitative study on a project competition regarding the Turkish students' PBL practices to investigate earthquake awareness. The competition has been implementing by The Scientific and Technological Council of Turkey (TÜBİTAK). Data from 130 projects described in project catalogues were analyzed with content analysis technique. The results show that the projects have made for secure and healty life after or in case of earthquake to a large scale though soil, waves, vibration, plate tectonics and seismic zone which have important roles on such event are being emphasized in those student practices to some degree. It is concluded that since the students have some troubles in learning micro and macro universe, they must have used daily life topics in their PBL practices. They made for their projects to prepare public, fellows, buildings and environment to earthquake disaster. They preferred concrete topics than predominantly abstract ones in such geographical event to a large extend. As far as earthquake is an interdisciplinary topic, the students' projects need to have an integrative approaches to realize their earthquake awareness. As earthquake education has some interdisciplinary features with its concrete and predominantly abstract context practiced by PBL projects in a competitive way, the teachers need to focus on such content for improving the quality of earthquake awareness.

Keywords:
Project based learning, Earthquake awareness, Student projects, Competition, Interdisciplinary education

Introduction

Competition in teaching and learning process is accepted as a strategy for supporting the students' achievement attitudes and awareness. Even though most countries advocate cooperative learning, few ones recommend competition in educational practices. For example, United States students are keeping with

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Germany and Japan to be the first in mathematics and science. Although it is known as a traditional way of learning, competition is seen in a positive perspective for a better understanding by some of educational authorities to some extend (Ediger, 2001).

In recent years, project competition has been a well-known student practice in Turkey. This process is for children in science and implemented at middle school education. First, it started in 2006 with the advisory of Ministry of National Education (MNE), and since 2017, TÜBİTAK has been organizing the competition. The students need to go through a selection stage in 12 regions before the final step. The national winners have been awarding and their written descriptions for the projects have been publishing online.

As a critical samples for learning with projects, each year's catalogue can be a useful data for understanding how the students learn the scientific topics. This way of learning is a useful strategy for creating flexible learning environment (Doppelt, 2003). As it is clear that learning with projects is a suitable way of learning, integrating this process with a competition is a new situation for learning environment of individuals. Therefore, connecting the PBL and a competition process need to be clarified taking care of the scientific topics in general and earthquake education particularly.

Project Based Learning (PBL)

PBL has been a long tradition in American's public schools since the beginning of the 19th century. It was first applied in elementary schools and extended to all grade levels. This method focused on real life problems with a quantitative viewpoint initially, it was quickly applied and adopted to any interest to children and youth. This traditional viewpoint was replaced with student-centered practices. Today, it is being reclaimed by the education researchers to educate the 21st century skills (Burlbaw, Ortwein & Williams, 2013).

It can be stated that PBL has been a powerful teaching and learning method for some centuries mentioned above. This process has been motivating the students. It prepares students for college, careers and citizenship. Such instruction way helps students meet standards, demonstrate in depth knowledge and thinking skills. It can allow teachers to teach in a more satisfying way. Additionally, it provides schools and regions with new ways to communicate and connect with adults, public and the society (Lamer, Mergendoller & Boss, 2015: 2).

A meta-analysis on the effects of PBL on science education reveals that it can be used more effective compared to traditional learning approaches. Furthermore, the study claims that PBL has a great effect size in different subjects such as physics, chemistry, biology, and science at different levels from primary trough higher education (Balemen & Keskin, 2018). As a brief conclusion of both studies, it is clear that PBL has a wide usage in science education to study the daily life topics and problems.

According to the results of the study carried out by İlter (2014) demonstrates that PBL practices, improve students' understanding regarding the social studies concepts including earthquake awareness. As a curricular content at 5th grade level in Turkish Science Education Curriculum (MNE, 2018b: 29), earthquake is being handled as a daily life topic in student practices and other teaching instructions. The location of earthquake both in social science and science education curricula leads us to the idea that this natural event has an interdisciplinary viewpoint. PBL with interdisciplinary approaches can be carried out in all disciplines with realizing multiple literacies which are necessary to understand a subject fully (Berman & Kuden, 2017).

PBL includes the development of skills in practice, and improves academic achievement. It is fostering of less tangible issues such as motivation and self-discipline among the students (Harmer, 2014). Therefore, PBL is not only a useful strategy for the production of tangible products but also has an important role on predominantly abstract topics. Since earthquake is a subject of various disciplines at primary and middle

school level education, it is an interdisciplinary topic and has lots of tangible contents and predominantly abstract ones to some degree.

Earthquake in Science Curricula and Practices

Earthquake is a largely used topic in science education. According to the Australian Curriculum, it has a location at 9th grade (ACARA, 2015). This is also a subject for The Washington State Science Standards at middle school levels (Dorn, 2010). Earthquake is being handled both in New Zealand Science (ME, 1993) and The Ontario Science and Technology Curricula at 5th grade (OSTC, 2007).

As stated above, earthquake has a location at various degree in some countries' science curricula. There are few learning outcomes in Turkish Life Science Curriculum from 2nd through 3rd grades (MNE, 2018a), and at 4th grade in Turkish Social Studies Curriculum (MNE, 2018c), and at 5th grade in Turkish Science Education Curriculum (MNE, 2018b).

Both the science education and other disciplines' curricula include the topics regarding earthquake and therefore, earthquake education become a widely used topic in general and earthquake awareness particularly. For instance, a seismology education program organized by Subedi et al. (2020) in Nepal, a seismic Country, was established at 22 schools to increase earthquake awareness of the students. The results of the study indicate that such educational activities are effective in raising earthquake awareness of children. Another study on earthquake disaster cognition and response (EDCR) of middle and high school students reveals that social and demographic features and prior experiences for earthquakes are playing important roles in students' EDCR ability (Wei, Su & Li, 2020).

Both of the studies mentioned above (Subedi et al., 2020; Wei, Su & Li, 2020) lead us to the idea that the earthquake experiences in prior disasters and in school practices have an important role on earthquake awareness. Therefore, it is natural to be expected that earthquake is going to be a valuable and daily life topic in student practices. The students can focus on the problems regarding the elements of the earthquake such as soil, seismic zone, disaster, safety, first aid, alarm systems, fire, social and educational issues. While the topics such as alarm systems, fire, first aid, disaster are predominantly tangible issues, soil, seismic zone, force, motion, vibration, plate tectonics, social and educational issues are abstract topics to a large scale. For this reason, this separation needs to be examined in student projects under the title of earthquake.

Learning Earthquake Topics

Learning nature of the earthquake has some distinguishing characters from the other discipline based subjects such as physics, chemistry or biology etc. Earthquake have both concrete and predominantly abstract topics and interdisciplinary approach. For example, force and fields are invisible (Salmi, Kaasinen & Kallunki, 2012) concepts and therefore, they are abstract content to a large extend. As known that earthquake's force has a relationship with currents in the Earth's mantle (Lomnitz & Wisner, 2012), it can be accepted as a topic of macro universe. Earthquake force, the damages, the impact of earthquakes on the nature, and protecting humans from the earthquake vibrations and waves are curricular topics (OSTC, 2007).

It can be assert that some scientific topics which are predominantly abstract ones have difficulties in learning process since the invisible feature. "Abstract" means "existing in thought or as an idea but not having a physical reality". This usage may include a misunderstanding which means that heat, temperature, sound, rainbow etc. are not physical topics. In fact, we can use at least one of our sense organ effectively for identifying this natural event.

People can sense the earthquake using five-sense organs whereas the real reason of this disaster cannot be understand easily as it mainly regards the macro events cited above. It is driven by huge convention currents in the Earth's mantle (Lomnitz & Wisner, 2012). Just as force and fields are invisible events and we

can only visualize or sense the effects of them (Salmi, Kaasinen & Kallunki, 2012), predominantly abstract issues such as the seismic zone or plate motion are invisible topics for the learners as well.

This separation must have had some reflections on the student practices carried out in the project competition in Turkey. The macro and micro universe has some invisible structures. For example, the structure of the matter is ultimately invisible and micro world (Das, 2015). PBL which can include an experiential learning method begins from tangled experiences to reflective observation, then to abstract conceptualization to active experimentation (Efstratia, 2014). As PBL is mainly interested in experiential and experimental learning, the predominantly abstract issues in student projects regarding the earthquake education need to be examined. This examination can be critical samples for learning of earthquake in PBL practices in a national competition with an interdisciplinary viewpoint. Therefore, this study mainly focused on the earthquake awareness of the students in their integrated projects.

Earthquake awareness requires to have the right and sufficient knowledge for creating such awareness, the right attitudes to realize how to act against the geological event (Demirci & Yıldırım, 2015). It can be asserted that such event includes some pedagogical, psychological, social, technological, interdisciplinary and scientific aspects. Similarly, PBL practices have combinations with all theses subjects (Cho & Brown, 2013; Doppelt, 2003; Lamer, Mergendoller & Boss, 2015; Berman & Kuden, 2017; Harmer, 2014). Therefore, the PBL practices made in the project competition need to be examined for understanding the viewpoints on earthquake, investigated the predominantly abstract context and identified the integrated topics. For this aim, the researcher put forward the following problems for this study.

The Problems

1. What are the views of the middle school students about the earthquake?
2. Can they use the predominantly abstract topics in their science projects?
3. Can they have an integrative viewpoint on earthquake topics?

Methodology

Research Design

This study uses a qualitative research design by analyzing published documents of the project competition. A qualitative design study mainly focused on understanding the meaning and context, identifying the unanticipated phenomena, developing causal explanations and understanding the events or actions in processes (Maxwell, 2012; 221). Documentary method does not assume that the researcher know more than the participant actors, but that those actors, themselves, do not know what they really know (Bohnsack, Pfaff, & Weller, 208). Therefore, the researcher chose the content analysis of the projects documents as the exact and correct description of the earthquake awareness in the PBL practices.

Participant Students to The Project Competition

It is a national and governmental organization. The participant students come from around Turkey for final meeting after the regional selection in 12 regions. After the regional step, they get the final stage of the competition. This stage takes place in Ankara. The finalist projects catalogues have been published by TÜBİTAK on web site since 2017 through 2019, and the survey was conducted on these project documents. The participation to the competition is voluntary. It is organized and supervised by TÜBİTAK.

Data Collection

This research utilized a two step data collection process; 1) Project Selection: The projects analyzed were obtained by searching for the related booklets published online by TÜBİTAK. The project catalogues were written in Turkish and selected projects topics were translated in English. 2) Focusing on Earthquake

Awareness: A total of 31.342 project tittles were examined whether an earthquake topic had been handled in or not. Therefore, the analyzing unit of the study was determined as "earthquake content". A total of 130 projects are representing analyzing criteria for inclusion of the data analysis step.

The Process of Coding

The researcher collected the written documents and selected the earthquake projects, then gave a code to each one. The codes are including the published years, catalogue numbers (No) and subjects in orderly. All the information can be reached on the projects documents. The researcher used the project codes determined for this study. Table 1. shows us the project codes from 2017 to 2019. Abbreviations for the subjects are determined as follows: PHY=Physics, CHY=Chemistry, BIO=Biology, COD=Coding, MAT=Mathematics, HIS=History, GEO=Geography, TEC=Technology, SOF=Software, VAL=Values Education

Table 1. An Example for Coding Process of Each Project

Project's Number	*Year*	*Catalogue Number*	*Projects' Discipline*	*An Example*
1	2017	1385	BIO	1-2017(1385)BIO

As stated in Table 1., one can find the examined project named as 1-2017(1385)BIO following the coded PBL practices. The firs project examined in this study was made in 2017 and the catalogue number written in published document is 1385. It is a subject of Biology and the researcher determined it as the first project for examination process of this study.

Data Analysis

Projects that met the criteria were analyzed by a qualitative technique called as content analysis. They were analyzed for determination of the categories for connecting them to the research question. These categories are valuable for grouping the projects in line with the variable (earthquake content and categories) of the current study. In this systematic document analysis, some of the identified categories are clarified and simplified to describe the focused data.

The researcher determined to analyzing unit as "earthquake content" mentioned in pages of each project. The project catalogues were examined by the researcher and a science education expert worked in the field separately. The text including the analyzing unit were identified and underlined. The obtained words were categorized in line with the content analysis process of Mayring (2015). The analysis of the documents were conducted as follows:

*The underlined words were examined. The terms and their combinations including the earthquake contents were identified. The categories were named using the common terms

*The similar topics were gathered in one category. The topics in categories were summarized and the category was constituted.

*The topics under the same category were presented with an example at least.

*The results relative to the categories generated by the researcher and the experts separately were compared and the consistency is calculated as 84 percent. The inconsistent categories were revised for intercoder reliability.

*Finally, the researcher repeated the examination and categorization process for the 130 PBL practices at part of earthquake content five months later. The researcher has the opinion that there are not remarkable corrections for the determined data and generated categories.

Findings

This section includes the findings for the next three research problems handled in this study. The first problem is about the middle school viewpoints on earthquake, and the second one is about the usage of predominantly abstract topics in science projects of middle school students, and the third one is focusing on interdisciplinary viewpoins of students in their PBL practices.

1. What are the views of the middle school students about the earthquake?

Table 2. represents the categories for the students' viewpoint on earthquake in science projects. It includes the students' studied topics for earthquake which is important duration of the natural disaster.

Table 2. Important Issues (Categories) for The students at Part of Duration of Earthquake

Related Period	*Categories*	*Frequency (f)*
A. Before Earthquake	1.Construction of Resistant Building	44
	2.Early Warning System	32
	3.Improving Public Understanding	10
	4.Home Safety	20
	5.Soil Investigation	9
B. During Earthquake	6.Earthquake Education	1
C. After Earthquake	7.Alarm for The Earthquake	6
	8.Earthquake Effects on Urbanization	3
	9.Eartquake Effects on Living Things	5

Table 2. points out that the students made their projects taking care of the time of earthquake. Therefore, the researcher decided to examine the projects in line with duration of the disaster. According to the projects made for the preparation to the disaster, most of the students determined their projects for asserting some solutions regarding earthquake awareness.

A. Before Earthquake: Categories for Preparation to The Earthquake:

1. Construction of Resistant Building

Category of *Construction of Resistant Building* includes the projects for building resistant houses towards the *earthquake shakes* (12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 27, 25, 26, 28, 29, 30, 31, 33, 35, 36, 40, 42, 43, 44, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55) and designing earthquake *isolator* (17, 27, 37, 34, 37, 38, 39, 45) and conducting studies on *dangerous buildings* (41).

2.Early Warning System

There are 32 student projects made for alam design and therefore, the category is called as *Early Warning System*. The students designed models for alarm systems, bells or sensors for earthquake disaster(projects' number from 99 through 130). Few of them includes simple or easily found materials such as waste substance and salty water (112, 118). They emphasized the earthquake occured in sleeping or in nights and suggested the alarm models for this situation.

3. Improving Public Understanding: Public and Earthquake

The students think that there are lots of relationships between *public* and *earthquake*. As they focused on this connection in their projects, the researcher named the category as *Public and Earthquake*. Nearly half of them include the public understanding or public sense for earhquake (85, 87, 88, 90, 91, 92, 93, 94). Social responsibility for earthquake has been located in only one project (86). Psychology is an important topic for the projects takaing care of after the earthquake. Post-Earthquake Psychology (89), is an important issue in the students' suggestions.

4.Home Safety

Category of *Home Safety* is another viewpoint for preparation before earthquake. The projects includes designing safety beds or bedrooms as a preparatory work (56, 62,63, 75). The students must have planned to make a lifesaving model for home design. They suggested projects for secure home designing egg shaped capsule for earthquake (57, 59), survival capsule (65, 67), safe places iniside homes (58, 61, 64, 70), magnetic furnitures (98). Making a first aid kit is onother topic of the projects under this category (66, 71, 72, 73). There are two projects for securing the furnitures physically (68, 69).

5.Soil Investigation

There is a category for macro understanding of earthquake modelling soil investigation. These projects are mainly based on the curricular topics called as *plate tectoincs, seismic zone* or *soil*. The students want to find a valuable solutions to the problematic issues in earthquake damages. Therefore, this category named as *Soil Investigation*. Seismic zone map is the most selected topic which includes understanding the soil of the buildings for earthquake safety (81, 82, 83). Seismic wave or seismic energy are the next topics handled in student projects. Seismic vibration and tsunami (84), soil liquefaction (76, 77, 79), plate tectonics (78) and an historical viewpoint to Van Earthquake (80) are the rest topics handled under this category.

B. During Earthquake: What can be done when earthquake occurs?

6.Earthquake Education

Since earthquake is an important subject in curricula, in daily life of indviduals and in educational practices, the students want to bring such natural disaster and instructional process together. Therefore, the name of the category was identified as *Earthquake education*. Only one of the projects under this category includes the earthquake awareness of the students who are their fellews (98). It aims to examine the middle school students' earthquake awareness.

C. After Earthquake: The Effects of Earthquake on Alarm Systems, Urbans and Living Things

7.Alarm for The Earthquake

Category of ***Alarms for The Earthquake*** includes a student project made for automatic door with sensor (7). The students intend safety and automatical door to be opened during and after the earthquake. They want to design automatic systems for earthquake safety with three projects (6, 8, 9). Additionally the projects in this category are mainly carried out for explaining the seismic load (11) designing alarm systems for fire (10).

8.Earthquake Effects on Urbanization

Category of *Earthquake Effects on Urbanization* is covering the projects regarding building the constructions in the residental areas after the natural disaster. The students believe that earthquake has an important role on the urban planning and urbanization. Therefore, the researcher decided to name this relationships as *Earthquake Effects on Urbanization.* The first project of this category is about the people resident on the *seismic zones* (95). The students examined the historical earthquakes occured in Van and Gölcük (96, 97). They handled the urbanization in a practice (97). The effect of this natural disaster has an important effect on the urban population and population changes and they debated these issues in their studies as well (96, 97).

9.Eartquake Effects on Living Things

Category of *Earthquake Effects on Living Things* includes the projects (2, 3) regarding the relationship between *plant* and *earthquake*. There are three projects (1, 4, 5) handling the effects of earthquake on living organisms. Although most projects include the eartquake in a biological context, only one of them integrate both earthquake and living things in an interdisciplinary way containing physics context.

The students made most of the projects for *preparation to the earthquake*. They preferred projects for a secure life taking same precautions such as *construction of resistant building* (44 projects), designing *early warning system* (32 projects), improving *public understanding* (10 projects), designing *safe home*s (20 projects) and investigating the *soil* or *seismic zones* (9 projects). All these things to do are frequently chosen topics by the participant students *before* the earthquake.

The project for earthquake education is an important practice for learning what can be done *during the disaster* (only one projects). It is about an *alarm designation* for fire *after* the earthquake (6 projects). They handled the earthquake effects on *urbanization* in their practices (3 projects). Apart from thinking human-centered, they could brought *earthquake* and *living things* in only 5 projects.

2. Can they use the predominantly abstract topics in their science projects?

The categories shown in Table 2. are representing the students' viewpoints on earthquake. Although most categories have *tangible features* for learning, only one of the category named as Soil Investigation is *predominantly abstract* as it is concerned with soil, seismic zone, vibration, force and plate tectonics which belong to macro universe. There are only 9 projects including such *invisible topics* whereas the students carried out a total of 130 practices.

Understanding the real reason of *soil*, *seismic zone*, *vibration*, *force* and *plate tectonics* related to earthquake has an important part in *earthquake education* as well as the preparation, construction and home designation prior to natural event. Even though most of the things to do before, during and after the disaster can be learnt in a *tangible way*, there are few projects modelling the *macro universe features* of earthquake. Therefore, they preferred tangible events than predominantly abstract issues in earthquake education to a large extend.

3.Can they have an integrative viewpoint on earthquake topics?

The third problem of the study is about the holistic viewpoint of the Turkish middle students on earthquake. The published catalogues are including the subject in each projects carried out by them. The researcher collected those integrative data from these written documents and then, the integrations were cited in the following Table 3. Such disciplines having relation with earthquake are shown in Table 3.

Table 3. Interdisciplinary Relationship between Earthquake and Disciplines (Subjects)

Categories		*Natural Sciences*							*Social Sciences*		
	f	*BIO*	*PHY*	*MAT*	*TEC*	*SOF*	*COD*	*CHE*	*GEO*	*HIS*	*VAL*
1.Construction of Resistant Building	44		33	3	3			3	2		
2.Early Warning System	32		29				3				
3.Improving Public Understanding	10		4						3	2	1
4.Home Safety	20		10		2	2	1		4	1	
5.Soil Investigation	9		5						3	1	
6.Earthquake Education	1								1		
7.Alarm for The Earthquake	6		4		1	1					
8.Earthquake Effects on Urbanization	3		1						1	1	
9.Eartquake Effects on Living Things	5	4	1								
Total	130	4	87	3	6	3	4	3	14	5	1
TOTAL					110					20	

According to the Table 3., it can be clearly understood that the students prefer to choose various disciplines for understanding the *concrete* and *predominantly abstract features* of the earthquake event. Even though they could bring such natural disaster and various disciplines together, they preferred *natural sciences*

to *social ones* to a large scale. As stated in Table 3., they could make relationships with natural sciences more than social disciplines apart from geography. It is possible to make connections with *physics largely* as well *geography*. The earthquake projects have relations with t*echnology* to some extend whereas there are very little *interdisciplinary approach* on connecting such event and other disciplines. As a brief conclusion, the students have *interdisciplinary viewpoint on earthquake education* but these integrations are focused on *physics, geography, technology* and *history* to a large grade.

This study purposed to examine the problems for identifying the students' earthquake awareness, learning the predominantly abstract topics for earthquake and determining the interdisciplinary viewpoints on such natural event. As a result of the data categorized for these purposes, the researcher summarized the outcomes of the studies as follows:

Firstly, the students made for their projects to *prepare the public, and fellows, and buildings and environment* to the earthquake. Therefore, most of the students are interested in such preparation prior to the natural event. Secondly, they chose *concrete topics than predominantly abstract ones* in earthquake disaster to a large grade. Although most of the things to do before, in case and after earthquake can be learnt in a tangible way, there are few projects modelling the macro universe features such as force, vibration, zone and plate tectonics. Thirdly, as far as earthquake is an interdisciplinary topic, the students' projects on such event need to have *integrative approaches*. The results of the study point out that the students have *interdisciplinary viewpoint on earthquake education* but these relationships are focused on physics, geography and technology and history to a large grade.

Discussion and Conclusion

As stated above, earthquake contents are ranging from *force* and *motion* to changes in *nature* and *public* (OSTC, 2007). Similarly, the context of such disaster includes concrete and predominantly abstract issues. In fact, abstract concepts are grounded in the same processes of concrete ones (Borghi et al., 2017). Even though force and fields are *invisible* concepts (Salmi, Kaasinen & Kallunki, 2012), they are predominantly abstract not fully. Therefore, the researcher used the adjective "predominantly" before those invisible and *macro events* as they have strong combinations with natural world.

This geological event is being cited in the curricula to have general an integrative understanding. It includes earth *magnitude, graphing earthquake waves, volcanic* and *earthquake activity*, relationships between earthquakes, *volcanos*, and *plates* and *mantle* (ME, 1993). These macro features with earthquakes' impacts on the natural world, and protecting living thins from the waves of earthquakes are curricular topics (OSTC, 2007). Although the results of the study reveal that the students focused on physics, geography and technology to a large degree, their projects' subjects are ranging from *natural sciences* to *the social ones* as well. Therefore, earthquake education is an interdisciplinary topic and the practices regarding the learning and teaching processes of such natural event need to be handled in line with this integrative perspective.

Abstract concepts are grounded in same processes of concrete ones. PBL can be a useful strategy for teachers to work together *in efficient* and *collaborative way* not only in their own disciplines but also within an interdisciplinary educational viewpoint to these concepts. This strategy has a location in official regulations in Turkey. Working with teams, in PBL practices, not only affect the school effectiveness and the success of students, but also the job satisfaction of teachers and dedication to their respective schools positively (Çelebi, Vanok & Turgut, 2016). As a similar perception, PBL involves the incorporation within the teaching and learning process of a different role of both the student and the teacher. It requires for reprogramming from an interdisciplinary viewpoint to the functions of the student as a builder of *their own learning* (Calvopiña, Nicolalde & Medina, 2017).

It is understood from the categories of the current research that the students could bring the curricular topics and various disciplines for their earthquake awareness. PBL provides them to make relationships between such *natural disaster* and *daily life*. Miller and Krajcik (2019) assert that PBL structures a science learning environment around the questions engaging students in collaborative sense. A research made by Cho and Brown (2013) to investigate how PBL is being practiced in Columbus Signature Academy (CSA), a high school located in Columbus, Indiana, USA. The researchers identified six emergent themes as the essential elements of the high school's PBL use as follows: community partners, dedicated facilitators, student group work, authentic projects, school culture, and science, technology, engineering, and mathematics (STEM)-focus. As there are lots of *natural, social, individual* context in PBL practices of that school, the researchers call for interdisciplinary collaboration for lack of this *integrative way of learning*.

Faber et al. (2014) argued the interdisciplinary works aiming of gathering information on the state of art and practice in the field of disaster resilience and *promoting co-operation and interdisciplinary methodologies in education researches* and *projects*. Their study points out that geography seems to have a close relationship with life science, earth and space, and technology. Technology, geography, earth and space, and sociology seem to be the most required areas in those studies.

As a brief conclusion of this study, this paper is addressing the requirement for interdisciplinary viewpoint to educational practices *for emergency preparedness before, in case or after the earthquake*. This perception for such emergency preparedness assures the safety of aging populations (Strong & Sullivan, 2006). Therefore, earthquake education is an *interdisciplinary topic with its concrete* and *predominantly abstract context* which can be practiced by PBL projects in a competitive way.

From the perspective of physics and geological context regarding earthquake awareness, both disciplines have a large locations in student projects. There are some additional samples for usages of earthquake education including the viewpoints to other *social* and *natural sciences*. Therefore, both the related disciplines' teachers such as *physics* and *geography need to make cooperation with each other particularly*. Additionally, teachers' collaborative works in PBL can have important roles on the attitudes of students towards the earthquake education with an interdisciplinary viewpoint.

As the students used *largely tangible content* in their PBL practices, the teachers need to give importance to *emphasize predominantly abstract topics* for earthquake awareness such as soil, seismic zone, earthquake vibration, force, plate tectonics and other related issues belong to macro-universe. The students generally focused on the preparation to the earthquake handling to design *safe home, buildings, alarm systems* and planning to *construct resistant buildings* and *public activities*. Since there are lots of works to do during and after the event, the teachers can give advices to their students including those things in a *holistic way*.

Data collection process *based on only project catalogues* is a *limitation factor* of the research. For a better understanding why the middle school students choose the determined context in their PBL practices, the detailed data may be collected from the *advisor teachers* or *the owner students directly*. Therefore, the middle students' and their advisor teachers' perceptions on the process of national project competition can be analyzed for effective and interdisciplinary learning approach.

Appendix: The abbreviations for each project examined in this study

1-2017(1385)BIO	34-2018(4253)PHY	67-2018(9980)HIS	100-2017(1991)PHY
2-2017(1532)BIO	35-2018(4802)PHY	68-2019(1662)GEO	101-2017(2028)PHY
3-2017(1533)BIO	36-2018(4953)PHY	69-2019(1664)GEO	102-2017(4430)PHY
4-2018(539)BIO	37-2018(5469)PHY	70-2019(1724)GEO	103-2017(5287)PHY
5-2019(4145)PHY,	38-2018(6027)CHE	71-2019(1844)GEO	104-2017(5740)PHY
6-2017(163)PHY	39-2018(6054)CHE	72-2019(9178)TEC	105-2017(5758)PHY
7-2017(3133)PHY	40-2018(8297)MAT	73-2019(9423)TEC	106-2017(6882)PHY
8-2017(5934)PHY	41-2018(9412)MAT	74-2019(11635)SOF	107-2017(6886)PHY
9-2019(4705)PHY	42-2019(1617)GEO	75-2019(11752)SOF	108-2017(7054)PHY
10-2019(8837)TEC	43-2019(1882)GEO	76-2017(4428)PHY	109-2017(2280)PHY
11-2019(11313)SOF	44-2019(3882)PHY	77-2017(4760)PHY	110-2017(4526)PHY
12-2017(297)PHY	45-2019(4275)PHY	78-2018(3504)PHY	111-2018(3702)PHY
13-2017(301)PHY	46-2019(4604)PHY	79-2018(4751)PHY	112-2018(4213)PHY
14-2017(343)PHY	47-2019(4703)PHY	80-2018(10312)HIS	113-2018(4944)PHY
15-2017(1651)PHY	48-2019(4972)PHY	81-2019(1671)GEO	114-2018(5045)PHY
16-2017(1812)PHY	49-2019(4979)PHY	82-2019(1919)GEO	115-2018(5344)PHY
17-2017(1935)PHY	50-2019(4997)PHY	83-2019(1929)GEO	116-2018(5500)PHY
18-2017(1973)PHY	51-2019(5674)CHE	84-2019(4589)PHY	117-2018(5542)PHY
19-2017(2122)PHY	52-2019(7295)MAT	85-2018(3251)VAL	118-2018(6431)COD
20-2017(3975)PHY	53-2019(9652)TEC	86-2018(3596)PHY	119-2018(6599)COD
21-2017(4777)PHY	54-2019(9836)TEC	87-2018(3853)PHY	120-2018(6713)COD
22-2017(5758)PHY	55-2019(9952)TEC	88-2018(4056)PHY	121-2019(3973)PHY
23-2017(5836)PHY	56-2017(1624)PHY	89-2018(9927)HIS	122-2019(4010)PHY
24-2017(6773)PHY	57-2017(1896)PHY	90-2019(1689)GEO	123-2019(4074)PHY
25-2017(6792)PHY	58-2017(6742)PHY	91-2019(1732)GEO	124-2019(4117)PHY
26-2017(6882)PHY	59-2018(3939)PHY	92-2019(1756)GEO	125-2019(4323)PHY
27-2017(6935)PHY	60-2018(4431)PHY	93-2019(3832)PHY	126-2019(4347)PHY
28-2017(2502)PHY	61-2018(5200)PHY	94-2019(8150)HIS	127-2019(4423)PHY
29-2018(3398)PHY	62-2018(5257)PHY	95-2018(3922)PHY	128-2019(4590)PHY
30-2018(3813)PHY	63-2018(5283)PHY	96-2018(10294)HIS	129-2019(4886)PHY
31-2018(3913)PHY	64-2018(5306)PHY	97-2019(1836)GEO	130-2019(5043)PHY
32-2018(4089)PHY	65-2018(5485)PHY	98-2019(1656)GEO	
33-2018(4189)PHY	66-2018(6473)COD	99-2017(301)PHY	

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An Investigation of the Sources of Stress Experienced by the Pre-service Music Teachers during Musical Instrument Education

Research Article

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ABSTRACT

This study attempts to investigate the sources of stress experienced by the pre-service teachers during musical instrument education. The study employed qualitative research design. The research is a case study in qualitative framework. The sample of the study consisted of 36 students studying at the 1st, 2nd, 3rd and 4th grades in the Music Teaching Program of Fine Arts Teaching Department of Balikesir University in the 2017-2018 academic year. In the study, the structured interview technique was used to collect data. In attempts to collect the data, the pre-service teachers were asked to answer "What are the sources of stress you experience in musical instrument education?" Content analysis was used for the analysis of qualitative data. Considering the pre-service music teachers' responses, the sources of stress perceived by the pre-service music teachers during musical instrument education were grouped into three categories: performance stress, affective stress and physiological stress. As a result of the study the sources of stress experienced by the pre-service music teachers in musical instrument education were discussed and a series of suggestion presented. It is thought that the study will shed light on similar researchers and contribute to development of further studies aiming at reducing the effects of the stressors the pre-service music students experience in musical instrument education.

Keywords:
Musical instrument education, pre-service music teacher, stress

Introduction

In the current century we live in, people continue most part of their life by pushing their abilities and limits. For this reason, people inevitably experience stress (Arican, 2011). Given the etymology of the word 'stress', while it was used in the 17th century to describe hardship, straits, adversity or affliction, the use of the term "stress" has changed over the centuries and it was used in the 18th and 19 centuries to denote some

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sort of force, pressure, or strain in regards to objects, persons, organs and spiritual contexts (Aydin, 2016). There is a large body of literature on the definition of stress. When looking into the definitions of stress, the term 'stress' is widely explained as a reaction to situations that cause distress. According to Sdorow, stress is "the body's physiological reaction against physical and psychological demands." Schermerhorn (1989) defined stress as a state of tension experienced by individuals facing extraordinary demands, constraints, or opportunities.

The literature highlights two types of stress effects, namely, negative stress or eustress and positive stress or distress. Isikhan (2017) claims that positive stress has its benefits. It allows us to build resilience to cope with difficulties. According to the literature, destructive stress causes consequences such as loss of motivation, change in the quality and efficiency of performance, decline in creativity, various ailments among individuals (Allen, 1983). Stress is an essential part of life and it pops up in all areas of our lives. Stress is also un avoidable in the field of education which revolves around human. Destructive stress, as previously mentioned, can lead many adversities such as the change in the quality and productivity of individuals' performances, decline in their creativity and loss of motivation. On the other hand, the aforementioned concepts such as quality, productivity, creativity and motivation are the fundamental components of education. It is seen that the adverse effects of stress on individuals' educational life have long been researched and there is a vast literature on the impact of stress at different fields and educational levels (Akpinar, 2008; Kara, 2009; Ozdemir and Ozdemir, 2015; Savci and Aysan, 2014).

The Turkish music education is organized so as to realize three goals, namely, professional, amateur and volunteer. General music education is aimed at everyone at all levels and stages, regardless of job, profession, school and program and is intended to develop music culture. Volunteer music education aims to develop the musical behaviors necessary to increase the enjoyment and satisfaction levels of individuals who are amateurish, interested, willing and inclined to any branch of music or music. Professional music education aims to provide the musical behaviors and experience required by the music section, branch, work or profession towards people, who choose the field, branch or section of music as profession related to that section or branch or wants or shows tendency to choose it as a profession, a with a certain level of talent for music (Ucan, 1994). In Turkey, professional music education is given at conservatories, fine arts high schools, and departments of fine arts and the departments of music teaching. In many music education institutions, the curriculum involves field courses. Musical instrument education is one of those field courses. Musical instrument is one of the core materials of music education. There is yet no doubt that musical instrument education involves a challenging process. It requires to carry out routinized exercises that often take long hours because of its nature. For this reason, pre-service teachers need a strong motivation. What makes the course especially important is that it will enable pre-service music teachers to teach effective music classes in the future and thus to have professional satisfaction. Moreover, a music teacher well-trained in his/her particular instrument is likely to promote interest in musical instrument training, thus playing a pioneering role in increasing the number of people interested in the arts (Girgin, 2015). However, as stated earlier, pre-service teachers need a strong motivation in order to be able to carry out routinized exercises in musical instrument education. Destructive stress, as previously mentioned, can lead many adversities such as the change in the quality and productivity of individuals' performances, decline in their creativity and loss of motivation.

In the light of these findings, it might conceivable that the pre-service music teachers need to be equipped with coping skills in musical instrument education which has a very significant role in the professional development of the pre-service music teachers. It is therefore considered that it is of great importance to determine the stressors experienced by the pre-service music teachers in musical instrument education to develop further studies that will help the pre-service music teachers cope with stress in musical

instrument education. To this vein, the study attempted to identify the sources of stress perceived by pre-service teachers in musical instrument education. It is thought that the study will shed light on similar researches and contribute to development of further studies aiming at reducing the effects of the stress factors expressed by the pre-service music students during musical instrument education.

Method

In the study, basic qualitative research design, which is one of the qualitative research methods, was used in order to identify the sources of stress experienced by the pre-service music teachers. Qualitative research design dwells on understanding the meaning people have constructed, that is, how people make sense of their world and the experiences they have in the world (Merriam, 2013). The research is a case study in a qualitative framework.

Study Group

The sample group in the study consisted of 36 students studying at the 1st, 2nd, 3rd and 4th grades of Balikesir University in the 2017-2018 academic year.

Data Collection

In the study, the structured interview technique, one of the qualitative research methods, was used to collect data. To this end, individual interviews were conducted with pre-service music teachers. Furthermore, the students were asked to answer "What are the sources of stress you experience during musical instrument education?".

Data Analysis

Content analysis was employed for analyzing qualitative data. Content analysis can be described as a systematic method which is mainly used to condense many words from texts into fewer categories based on predefined explicit rules of coding. In document analysis, content analysis technique consists of determining goals, defining concepts, determining logical structure, determining coding categories, counting, interpreting and writing results (Buyukozturk, Cakmak, Akgun, Karadeniz & Demirel, 2012).

Findings

Given the responses given by the pre-service music teachers, the sources of stress perceived by the pre-service music teachers during musical instrument education were grouped into three categories: performance stress, affective stress and physiological stress.

Findings Regarding the Sources of Performance Stress Experienced by Pre-Service Teachers During Musical Instrument Education

The opinions of the pre-service teachers about the category of performance stress sources they experience in musical instrument training are given Table 1.

Table 1. Performance Stress Sources Experienced by Pre-Service Music Teachers During Musical Instrument Education

	The opinions of the pre-service teachers	
1	Exams	13
2	The fear of making mistakes while playing / singing a piece of music	5
3	Difficulty of playing the piece	5
4	Fear of failure	4
5	Playing/singing in front of people	4
6	The fear of bad performance	2
7	Not being properly equipped	1
	Total	34

As can be seen Table 1, the sources of performance stress perceived by the pre-service teachers were reported as follows: "Exams" (f=13), "The fear of making mistakes while playing / singing a piece of music" (f=5), "Difficulty of playing the piece" (f=5), "Fear of failure" (f=4), "Playing/singing in front of people" (f=4), "The fear of bad performance" (f=2), "Not being properly equipped" (f=1) . Accordingly, the pre-service teachers made the following remarks:

Sample: 6 (F-Guitar)…I get very stressed before exams …

Sample: 2 (F- Flute)…making mistakes about the things that I already study and know makes me feel stressed …

Sample: 5 (F-Cello)…when the pieces are difficult, I get nervous while playing and this makes me feel stressed …

Sample: 10 (F-Vocal)…fear of failure while playing makes me feel stressed …

Sample:22 (F-Violin)…performing in front of a lot of educators in the final exams makes me feel stressed …

Sample: 4 (M-Lute)…not being able to perform well makes me feel stressed…

Sample: 3 (F- Flute)…thinking that I'm not properly equipped makes me feel stressed …

Findings Regarding the Sources of Affective Stress Experienced by the Pre-Service Teachers During Musical Instrument Education

The opinions of the pre-service teachers about the category of affective stress sources they experience in musical instrument training are given Table 2.

Table 2. Affective Stress Sources Experienced by Pre-Service Music Teachers During Musical Instrument Education

	The opinions of the pre-service teachers	
1	The teacher's attitude	17
2	Practising a disliked piece	4
3	Not liking the instrument	3
	Total	24

As can be seen Table 2, the pre-service teachers explained the sources of performance stress they experienced in musical instrument education as follows: "The teacher's attitude" (f=17), "Practicing a disliked piece" (f=4) and "Not liking the instrument" (f=3). In this respect, the pre-service teachers' expressed their points of view as follows:

Sample: 6 (F- Guitar)… the psychological situation of my teacher during the lesson makes me feel stressed…

Sample: 11 (M- Vocal)… feeling obliged to practice pieces that I dislike and don't appeal to my taste makes me feel stressed …

Sample: 3 (F- Flute)… liking the musical instrument in musical instrument education is the solution to many things in musical instrument education. I don't like my musical instrument and this makes me feel stressed…

Findings Regarding the Sources of Physiological Stress Experienced by Pre-Service Teachers During Musical Instrument Education

The opinions of the pre-service teachers about the category of physiological stress sources they experience in musical instrument training are given Table 3.

Table 3. Physiological Stress Sources Experienced by Pre-Service Music Teachers During Musical Instrument Education

	The opinions of the pre-service teachers	
1	Pain	2
	Total	2

As can be seen from Table 3, the pre-service teachers noted "Pain" (f=2) as the source of physiological stress. The pre-service teachers' comments which highlight this view are as follows:

Sample: 23 (F-Piano)…my back pain makes me feel stressed…

Sample: 25 (F-Violin)…I've been experiencing pain for the past three years when playing musical instrument and this makes me feel stressed…

Discussion and Results

In the current study, the sources of stress perceived by the pre-service music teachers during musical instrument education were grouped into three categories: performance stress, affective stress and physiological stress. The most prevalent source of stress expressed by the pre-service music teachers is related to the category of performance stress. In this respect, the most stressful items according to teachers pre-service music teachers were exams, the fear of making mistakes while playing / singing a piece of music, difficulty of playing the piece, fear of failure, playing/singing in front of people, the fear of bad performance and not being properly equipped. It is seen that the pre-service music teachers highlighted exams and fear of failure. This might be a sign of exam anxiety which is also supported by the literature. Akinci postulates that exam anxiety emancipates from the fear of failure (Akinci, 2009). This situation emerges as a result of the fear of failure experienced more intensely before and during the exam. Pre-service teachers' views such as feeling incompetent can be linked with exam anxiety (Softa, Karahmetoglu& Cabuk, 2015). The pre-service teachers' fear of making mistakes while playing / singing a piece of music, and playing/singing in front of people might imply performance anxiety. Previous studies indicate that higher degree of individual exposure to the audience, size of audience and a higher status of the public trigger performance anxiety (Ryan and Andrews 2009; Fehm and Schmidt, 2006) Findings from this study show that exam anxiety and performance anxiety are the sources of stress experienced by the pre-service music teachers in musical instrument education. In this context, researchers can be encouraged to conduct research on enhancing pre-service music teachers' skills to cope with exam anxiety and performance anxiety in musical instrument education.

Another finding of the study reveals that one of the sources of stress experienced by the pre-service teacher in musical instrument education is affective stress. The sources of affective stress the pre-service music teachers experienced in musical instrument education were categorized as follows: the teacher's attitude, practicing a piece, and not liking the instrument. With respect to the category of affective stress, the pre-service music teachers stated that the music instrument teacher's attitude mostly stressed them. There are research findings in the literature implying that the attitude of instructor makes pre-service teachers feel stressed. Akpinar's study titled "The Causes of Stress of Teacher Candidates" found out that attitudes of instructors cause stress among pre-service teachers. According to Akpinar, this problem can be caused by the personality of instructors, teaching methods they use, their style of classroom management or poor communication skills. In the light of these opinions, it can be argued that the professional and personal equipment of the teacher play a vital role in psychology of student attending musical instrument education. According to Ozdemir,

Yalin and Sezgin (2004), the personal characteristics of an effective teacher are grouped into three categories: 1. Motivating personality; willingness, reliability, closeness and humor. 2. Commitment to success; high expectation of success, being encouraging and delivering supportive messages, 3. Professional behavior; being purposeful, well-informed, flexible, serious and systematic (Ozdemir, Yalin and Sezgin, 2004; cited in. Yildirim, Unal and Celik, 2011). As for professional qualifications of teachers, they are described as follows (Paoso and Korento, 2010; Bhat and et al.2008; cited in. Yildirim, Unal and Çelik, 2011) : lesson planning including field knowledge, teaching strategies, teaching materials and classroom arrangement, presentation and communication skills such as motivating students, lecturing, explaining, expressing, asking questions, discussing, drama, reading, performance, using audio-visual tools, informal observation of students' development, identifying learning difficulties, encouraging self or peer assessment, having assessment skills such as handling formal discussions, developing educational competencies such as classroom management and discipline, and continuing education. As can be seen, aforementioned personal characteristics of the effective teacher also include the lessons taught in the classroom environment. Since the musical instrument lessons are offered individually, the characteristics of the effective teacher may be different from the students' point of view. Researchers can be encouraged to carry out researches on the characteristics of effective teachers in musical instrument education according to students'views.

Given the research findings, it is understood that physiological stress is one of the most common sources of stress experienced by the pre-service teachers in musical instrument education. More specifically, the pre-service teachers reported "pain" as the source of the physiological stress. Previous studies in the literature also confirmed it. Tosun (2019) posits that occupational health problems cause pain in the musculoskeletal systems of students receiving music education, teachers and performers and thus decrease performance. The adverse effects of health problems on psycho-motor behavior not only decrease the physical performance of musicians, but also adversely affect their psychology. According to this result of the study, physical problems lead to stress among pre-service music teachers. In the light of these opinions, this paper suggests that researchers should conduct researches on physical ailments experienced by students attending music institution,and their ways of protection.

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Prosocial Behaviors of Students Attending Pre-School Education Institutions

Research Article

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ABSTRACT

This study aims to investigate prosocial behaviors of students attending pre-school education institutions. Survey research was used in the study. The sample of the research included 325 children attending five different pre-school education institutions in the 2020-2021 academic year and their mothers. The participants were determined with the convenience sampling type of purposive sampling method. The data on the prosocial behavior levels of the students attending pre-school education institutions were collected by using the "Child Prosociality Scale" Mother Form. The data were analyzed with the SPSS 22 package program. The research findings revealed that students prosocial behavior attending pre-school education institutions prosocial behavior levels were high and students prosocial behavior don't significantly differ in terms of gender variable. It was found that prosocial behaviors significantly differ according to the age variable. It has been determined that this difference is between children in the 4-6 age groups. According to the duration of attending a pre-school education institution variable, the prosocial behavior mean scores of students who attended a pre-school education institution for 3 years were found higher than scores of those who attended a pre-school education institution for 1 year. It was revealed that the mother's age and education level did not differ significantly prosocial behavior of the children.

Keywords:
Pre-school education, child, prosocial behavior, development

Introduction

Human relations play a determinant role in both society and the behavior of individuals. The quality of these relationships supports the positive behavior of an individual (Eisenberg & Fabes, 1990). Prosocial behaviors, also called positive social behaviors, directly affect the quality of interaction between individuals. Prosocial behaviors consist of actions that benefit others without any expectation (Leahy, 1979; Penner & Finkelstein, 1998), and of responses to the needs of others (Hastings, Miller & Troxel, 2015). Prosocial behaviors, which appear in the first years of life and are defined as understanding emotions and awareness of

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others' goals and desires (Eisenberg, Eggum-Wilkens & Spinrad, 2015), include empathy, sharing with others, and helping and cooperating behaviors, which toddlers gain with emotional and behavioral support, especially by parents (Knafo, Zahn-Waxler, Van Hulle, Robinson & Rhee, 2008). Prosocial behaviors consist of gains that facilitate adaptation to social life and are critical for social development. These behaviors begin to be acquired from an early age and develop when the child starts pre-school education.

Children interact with their environment from the moment they are born. Children who grow up in a social environment learn many social behaviors through relationships with other individuals. These behaviors form the basis of healthy relationships to be built throughout life. According to social learning theory, children acquire social behaviors by imitating adult behaviors and through observation (Bandura, 2001). Social-cognitive theory emphasizes that positive social behavior increases from the first years of life due to emotional maturation and increase in relationships with others (Hoffman, 2001). Paulus (2014) put forward four different models to explain prosocial behaviors. The first is the emotion sharing model, the second is the goal setting model, the third is the social interaction model and the fourth is the social norms model. These models reveal that different prosocial behaviors are supported by different psychological mechanisms. From the very early stages of development, children automatically identify others' mental states (including goals, beliefs, and desires) and then use these assessments to understand and predict the behavior of others (Frith, 2012). Therefore, individual differences are observed in the prosocial behaviors of young children in situations requiring different cognitive and social skills (Schachner, Newton, Thompson & Goodman-Wilson, 2018). Although there are individual differences in the prosocial behavior of children, they have a variety of social behaviors from an early age, including caring for and sharing with others (Eisenberg & Fabes, 1998). When children start walking, this is a critical period for prosocial behavior and socialization (Brownell, 2016). Toddlers become able to extract and evaluate others' needs, desires, and emotional states from increasingly abstract information (Brownell, 2013). Helping and sharing behaviors also occur early in development (Hepach, Vaish & Tomasello, 2013). While pre-school children acquire gains related to prosocial behaviors, these behaviors increase in later childhood (Hay, 1994). Prosocial behaviors become a necessity for children who try to adapt to their social environment from the moment they come into the world.

The pre-school period is a process in which rapid social changes are experienced in the child's life and knowledge and behaviors that critical for the future are acquired (Zembat, 2005). As children start school, the process of adaptation to the new social environment begins. In this process, children develop prosocial behaviors that contribute to their future school and life success through their social relationships with teachers, peers and other adults (Smith, 2001; Trawick-Smith, 2014). Pre-school education also plays a critical role in reducing inequalities and social exclusion. Learning environments that provide students with social competencies as well as academic skills encourage the development of prosocial behavior. Quality learning environments, which are characterized by practices that support positive relationships and interactions to enable students to socialize, offer more developmental support to children (Behrman, Cheng & Todd, 2004; Burchinal, 2018). Thus, in pre-school educational institutions, children develop prosocial behaviors that help positive interaction with other individuals, including helping, sharing, cooperating, and relaxing (Mashburn et al., 2008; Scourfield, John, Martin & McGuffin, 2004). These prosocial behaviors, which are fundamental to ensuring group cohesion and acceptance, contribute to the socialization of children. They also support students' emotional and academic development (Flook, Goldberg, Pinger & Davidson, 2015; Raposa, Laws & Ansell, 2016). In the pre-school period, when the foundations of cognitive, social, emotional and behavioral well-being are laid, students can be provided with the necessary assistance for social development through rich learning experiences.

Humans are innately social beings, and individual differences in prosocial behavior occur early in life. The ways in which prosocial behaviors change throughout development depend on biological factors and the

interaction with the environment through socialization experiences (Eisenberg, Fabes & Spinrad, 2006). Prosocial behaviors are affected by biological and environmental factors. Biological factors that affect prosocial behavior include the child's age, gender and temperament, while environmental factors include culture, education, adult and peer relationships, parental behaviors, and various factors related to the family (Eisenberg & Fabes, 1998; Knafo & Plomin, 2006). Parents' age, education level and occupation, the socio-economic level of the family, and the number of siblings can be considered as factors related to the family. Social cognitive variables, including beliefs and cognitive characteristics of young children, affect prosocial behavior (Eisenberg & Fabes, 1998). The results of research show that children with an advanced theory of mind are prone to prosocial behavior (Imuta, Henry, Slaughter, Selcuk & Ruffman, 2016) and that prosocial behavior acquired from an early age makes significant contributions to the academic and social development of children (Caprara, Barbaranelli, Pastorelli, Bandura & Zimbardo, 2000). On the other hand, parents, schools and teachers play an important role in the development of prosocial behavior (Eisenberg, Fabes & Spinrad, 2006). Parents, teachers and other adults support the acquisition of positive behaviors by guiding children socially through interpersonal relationships, helping to encourage cooperation, helpfulness, sharing, empathy, and social networks conducive to academic learning (Eisenberg, Fabes & Spinrad, 2006). Studies examining the reciprocal relationships between the parent-child relationship and children's prosocial behaviors reveal that the parent-child relationship supports prosocial behaviors (Pastorelli et al., 2016; Tur-Porcar, Doménech & Mestre, 2018). Research results revealing the relationship between school and prosocial behaviors have shown that meeting the needs for relationships, competence and autonomy in school has direct effects on prosocial behavior (Tian, Zhang & Huebner, 2018; Villardón-Gallego, García-Carrión, Yáñez-Marquina & Estévez, 2018). The interaction of students with teachers and peers in pre-school education institutions and the content of the programs implemented are also effective on prosocial behaviors (Conte, Grazzani & Pepe, 2018; Kruse, Faller & Read, 2021; O'Toole, Monks & Tsermentseli, 2017). Research reveals that biological factors and environmental factors related to the child are effective on prosocial behaviors. Prosocial behaviors, which appear at an early age and gain more importance in the pre-school period, support the holistic development of the child and play a role in facilitating social adaptation.

As children start school in the pre-school period, their interaction with the environment increases and prosocial behaviors come to the fore in social development. Examining the prosocial behaviors of children in this period in terms of various variables that affect these behaviors will help to support children socially. There are studies in the literature that examine children's prosocial behavior in terms of some variables (Altay & Güre, 2012; Bouchard et al., 2015; Çetin & Samur, 2018; Çubukcu, 2019; Karaman & Dinçer, 2020; Türkmen, 2018). In this study, the prosocial behaviors of students attending pre-school education institutions are examined in terms of different variables related to the mother and child, in line with the evaluations of the mothers. In the pre-school period, parents and teachers make great efforts to develop helping, sharing and cooperating behaviors of children because these behaviors play a supportive role in human relations. In this period, revealing the variables that affect the prosocial behavior of children can guide parents and teachers in supporting prosocial behaviors.

The aim of this research is to investigate the prosocial behaviors of students attending pre-school education institutions. Accordingly, answers to the following questions are investigated in the study:

(1) What are the prosocial behavior levels of students who attend pre-school education institutions?

(2) Do the prosocial behavior levels of students attending pre-school education institutions differ significantly according to age, gender, duration of attending a pre-school education institution, age of the mother and education level of the mother variables?

Method

In this part of the research, information about the research model, sampling method, data collection tools, data collection process and data analysis are included.

Research Model

This study aims to investigate prosocial behaviors of students attending pre-school education institutions and carried out by survey research design. Survey research is a quantitative research design that collects information by sample group to explain the attitudes, views, behaviors or characteristics of a universe (Creswell, 2012). In this study the aim is to obtain information about the prosocial behaviors of children from the sample group with the survey research design.

Research Sample

The sample of the research included 325 children attending five different pre-school education institutions in the 2020-2021 academic year and their mothers. The participants were determined with the convenience sampling method. In the convenience sampling method, a situation that is close by and easy to access is handled (Yıldırım & Şimşek, 2016). In this study, pre-school education institutions are close by and easily accessible in terms of access are selected. The research sample is limited with students attending the pre-school education institutions and their mothers. The demographic information regarding the research sample is given in Table 1 below.

Table 1. Demographic information regarding the research sample

Variable	Group	n	%
Child's Gender	Girls	167	51.4
	Boys	158	48.6
Child's Age	3	21	6.5
	4	73	22.5
	5	137	42.2
	6	94	28.9
Duration of School Attendance	1 year	189	58.2
	2 years	97	29.8
	3 years	39	12
Mother's Age	20-25	12	3.7
	26-30	77	23.7
	31-35	135	41.5
	36-40	74	22.8
	41+	27	8.3
Mother's Education level	Primary	17	5.2
	Secondary	95	29.2
	Higher	213	65.5

Table 1 demonstrates that there were 167 (51.4%) girls and 158 (48.6%) boys in the study. 21 (6.5%) children were aged 3, 73 (22.5%) were aged 4, 137 (42.2%) were aged 5, and 94 (28.9%) were aged 6. 189 (58.2%) children had attended pre-school education for 1 year, 97 (29.8%) children for 2 years, and 39 (12%) children for 3 years. When the age variable of the mothers was examined, 12 (3.7%) participants were aged 20-25, 77 (23.7%) participants were aged 26-30, 135 (41.5%) participants were aged 31-35, 74 (22.8%) participants were aged 36-40, and 27 (8.3%) participants were aged 41 and over. It was determined that 17 (5.2%) mothers had primary education, 95 (29.2%) mothers had secondary education and 213 (65.5%) mothers had higher education levels.

Data Collection Tools

Research data were collected by using "Child Prosociality Scale" Mother Form. As the independent variables of the study, the children's age, gender, the duration of attending a pre-school education institution, the age of the mother and the educational levels of the mother were obtained through the demographic information form.

Child prosociality scale: This scale was developed by Bower (2012) and based on Child Rating Questionnaire developed by Strayer (1985) and the Prosocial Behavior Questionnaire developed by Weir, Stevenson and Graham (1980). The adaptation of the scale to Turkish and its validity and reliability studies were carried out by Bağcı (2015). The scale, which is of a 5-point Likert type consisting of 21 questions, does not include a sub-dimension in the mother form. The values in the scale have been expanded from 1 (not at all characteristic) to 5 (extremely characteristic). An overall score (ranging from 1 to 5) is obtained by averaging the scores, and higher scores indicate more prosocial behavior in the child. The Cronbach's alpha reliability coefficient of the mother form was determined as .91 by Bağcı (2015). In this study, the Cronbach's alpha reliability coefficient of the scale was found .86. The Cronbach's alpha value obtained for all items indicates the total reliability of the scale and this value should be greater than .70 (George & Mallery, 2001). In this direction, the Cronbach's alpha value obtained in this study can be interpreted as giving reliable results for the data obtained from the sample group of the scale. The KMO (Kaiser-Meyer-Olkin) sampling adequacy coefficient for the construct validity of the scale was .87 and the Bartlett sphericity test value was 2045.187 ($p < .001$).

Data Collection

This research was carried out online in the 2020-2021 academic year with the voluntary participation of the mothers of students attending pre-school education institutions. Participants were informed about the confidentiality of their personal information and necessary explanations about the study were made. Personal information about mothers and children was not collected, and the data collected from the scale were used for the research.

Data Analysis

In the analysis of the data, firstly, the missing data in the data set were examined and scale forms filled without due care were removed from the data set. In the analysis of the data, 325 scale forms were taken into consideration. The data obtained within the scope of the research were analyzed using software package program. In order to examine the normal distribution of the data in the study, kurtosis (Ky) and skewness (Bs) values were examined and it was determined that the data distribution were normal. In the interpretation of the data, the significance level was accepted as .05 (Creswell, 2012). In the analysis process, independent samples t-test and one-way analysis of variance (ANOVA) were used as the normality assumption of the data was met. T-test was used in the gender variable analysis; one-way analysis of variance (ANOVA) was used in the analysis of the age, duration of pre-school education, and mother's age and educational level variables.

Findings

In this section, the findings obtained from the analysis of the research data are included. Descriptive statistics regarding the prosocial behavior of children attending pre-school education institutions are given in Table 2.

Table 2. Descriptive statistics on prosocial behaviors of children attending pre-school education institutions

Variables	n	$\bar{X}$	ss	Med	Mod	K_y	SE (K_y)	B_s	SE (B_s)
Prosocial behaviors	325	3.78	.44	3.80	4	.443	.270	-.417	.135

Table 2 demonstrates that the prosocial behavior mean score of children attending pre-school education institutions is $\bar{X}$= 3.78. Accordingly, it can be said that children have more prosocial behavior. When the descriptive statistics on the Child Prosociality Scale were examined, the kurtosis (Ky) value was found .443 and the skewness (Bs) value was found -.417. The fact that kurtosis and skewness values are within ± 1.0 limits indicates that the distribution of the data is normal (Büyüköztürk, Çokluk, & Köklü, 2015). It was determined that the research data did not differ significantly, and the data met the assumption of normality. In Table 3 below, the findings regarding the analysis of the prosocial behaviors of children attending pre-school education institutions according to the gender variable are given.

Table 3. Prosocial behavior levels of children by gender variable

Variable	Group	n	$\bar{X}$	ss	df	t	p
Prosocial behaviors	Girls	167	3.79	.46	323	.226	.821
	Boys	158	3.78	.42			

* p>.05

Table 3 demonstrates that the prosocial behavior levels of children attending pre-school education institutions do not differ significantly in terms of gender variable [$t_{(323)}$ =. 821, p> .05]. In another word, the prosocial behavior levels of girls and boys do not differ significantly. Table 4 below presents analysis of the prosocial behaviors of children attending pre-school education institutions in terms of age and duration of school attendance variables.

Table 4. Prosocial behavior levels of children by age and duration of school attendance

Variable	Source of variance	Sum of squares	Sd	Mean squares	F	p
Age	Total	63.879	324		3.943	.009*
	Between groups	2.270	3	.757		
	Within groups	61.609	321	.192		
Duration of school attendance	Total	63.879	324		6.208	.002*
	Between groups	2.372	2	1.186		
	Within groups	61.507	322	.191		

* p<.05

Table 4 demonstrates that the prosocial behavior levels of children attending pre-school education institutions differ significantly in regard to the age of the child [$F_{(3, 321)}$ = 3.943, p< .05]. According to the Tukey test, which was conducted to determine between which paired groups there was a differ significantly, it was revealed that the significant difference was between children in the 4-6 age groups. It can be said that the prosocial behaviors of children differ significantly in terms of age. It was determined that the prosocial behaviors of children differ significantly in terms of duration of school attendance [$F_{(2, 322)}$ = 6.208, p <.05]. According to the Tukey test, which was conducted to determine between which paired groups there was a differ significantly, it was revealed that the significant difference was between children who had attended school for 1 year and 3 years. It can be said that the prosocial behaviors of children differ significantly in terms of duration of school attendance. Table 5 below presents the findings on the analysis of the prosocial behaviors of children attending pre-school education institutions in regard to mother's age and educational level variables.

Table 5. Prosocial behavior levels of children by mother's age and educational level

Variable	Source of variance	Sum of squares	Sd	Mean squares	F	p
Mother's age	Total	63.879	324		2.418	.050
	Between groups	1.874	4	.469		
	Within groups	62.005	320	.194		
	Total	63.879	324		.577	.562

Mother's education level	Between groups	.228	2	.114
	Within groups	63.651	322	.198

* p>.05

Table 5 demonstrates that the variables of mother's age [$F_{(4, 320)}$ = 2.418, p> .05] and mother's education level [$F_{(2, 322)}$ =. 577, p> .05] do not differ statistically the prosocial behavior levels of children who attend pre-school education institutions. It can be said that the prosocial behaviors of children do not differ significantly in terms of mother's age and educational level variables.

Discussion and Conclusion

Prosocial behaviors, which are acquired from the early years of life and are a part of human nature, include skills that form the basis of the socialization process and facilitate social coherence. Significant progress is made in terms of social development during the pre-school period. During this period, children are in an intense interaction with the social environment they are in. This interaction affects the prosocial behavior of children. Determining prosocial behaviors and the factors affecting these behaviors in pre-school play a critical role in supporting the social development of children. In this study, the prosocial behaviors of students attending pre-school education institutions were examined in terms of various demographic variables.

When the findings regarding the determination of the prosocial behavior levels of children in the study were examined, it was found that the prosocial behavior levels of the children attending pre-school education institutions were high. From the point of this result, it can be stated that mothers had a positive perception about the behavior of their own children and that students who attended pre-school education institutions displayed positive social behaviors. The high evaluation of children's prosocial behavior by mothers can be associated with positive mother-child interaction. The relationships and attachment styles of mothers with their children can positively affect children's relationships with other individuals and their social behaviors. Similar studies reveal that the mother-child relationship is effective on prosocial behaviors (Daniel, Madigan & Jenkins, 2016; Öztürker, 2014; Paulus, Becker, Scheub & König, 2016). In addition, the relationship between mother-child attachment and social behavior has been investigated in various studies. Gross, Stern, Brett and Cassidy (2017) determined in their study that there is a relationship between secure attachment and prosocial behaviors. Bağcı (2015) found that there is a positive relationship between the prosocial behaviors of mothers and the prosocial behaviors of children. According to the study results, it can be said that when evaluating the prosocial behaviors of children in the pre-school period, mothers' views on children's behavior and the mother-child relationship should be taken into account.

The prosocial behavior levels of the children did not differ significantly in terms of the gender variable. It can be thought that the prosocial behaviors of children were supported by mothers without discrimination and that children were not labeled by the parents according to their gender roles. The lack of gender discrimination in the roles and responsibilities that mothers give to their children in the socialization process can have a positive effect on children's social behavior. In similar studies, it was revealed that prosocial behaviors do not differ significantly in regard to the gender variable (Bouchard et al., 2015; Çetin & Samur, 2018; Çubukcu, 2019; Türkmen, 2018). Similar research results support the findings of this research. There are also research findings in the literature indicating that the prosocial behaviors of children differ significantly according to gender and that girls have higher scores than boys (Altay & Güre, 2012; Bağcı, 2015; Karaman & Dinçer, 2020). This difference can be associated with the person who evaluates the prosocial behavior of children. Çetin and Samur (2018) found that the prosocial behaviors of children in their study did not differ in the mother form scores in terms of the gender variable, and that there was a significant difference in favor of girls in the teacher form scores. As regards, mothers and teachers can have different evaluations of children's prosocial behavior.

The prosocial behavior levels of the children differ significantly according to the age variable in the study. It has been determined that this difference is between children in the 4-6 age groups. In accordance with the evaluation of the mothers, it was observed that the prosocial behavior of the children increased with age. While prosocial behaviors such as helping and cooperation emerge from the second year of childhood onwards, positive social behaviors increase in the first years of childhood due to increases in cognitive, social and emotional maturation and in relationships with others (Hoffman, 2001). It can be stated that with the advancing age of children, there are differentiations in their social development, and in this process, their social relations and interactions increase and positive social behaviors are also expected to increase. In the literature, there are findings of various studies (Karaman & Dinçer, 2020; Mağden & Aslan, 2005; Zhu, Guan & Li, 2015) that reveal that prosocial behaviors in children differ in terms of age. According to Eisenberg, Spinrad, and Knafo-Noam (2015), there is an increase in prosocial behavior from early childhood to late childhood. The results obtained in this study are similar to the results of the research in the literature.

The prosocial behavior levels of children differ significantly in terms of the duration of school attendance variable in the study. It was revealed that there was a difference between children who had attended a pre-school education institution for 1 year and children who had attended a pre-school education institution for 3 years. In this case, one can say that the duration of attending a pre-school education institution affected prosocial behaviors and that there was an increase in the prosocial behavior of students who had attended a pre-school education institution for longer. Social relationships between children and adults, teacher characteristics and the quality of learning environments in pre-school education institutions are critical in improving children's prosocial behavior (Conte, Grazzani & Pepe, 2018; DiCarlo, Ota & Deris, 2020). Pre-school education supports the development of children's prosocial behaviors in the socialization process. Learning opportunities offered in pre-school education institutions and interaction with adults and peers can help the development of social behaviors that facilitate children's adaptation to the social environment. Similar studies determined that there was a relationship between the duration of pre-school education and the prosocial behavior of children, and that children who had attended school for longer obtained higher scores in terms of social relations (Baran, 2005; Brazzelli, Grazzani & Pepe, 2021; Eminoğlu, 2007; Karaman & Dinçer, 2020). The results of the research support the results of this research, which shows the importance of pre-school education in the prosocial behavior of children.

The prosocial behavior levels of the children did not differ significantly in terms of the age variable of the mother in the study. It can be stated that the age of mothers did not have a significant effect on their evaluation of children's prosocial behavior and that children of mothers of different age groups displayed similar prosocial behaviors. It can be thought that mothers were conscious about the development of their children and that the age factor did not affect this situation. Çubukcu (2019) revealed that mother's age did not affect the prosocial behavior of children. Similarly, there are research findings in the literature that reveal that mother's age is not effective on children's social behaviors (Liman, 2020; Ekici-Yaşar, 2015). However, Bağcı (2015) determined that the prosocial behaviors of children differed in regard to the mother's age and that the children of young mothers had lower prosocial behaviors. The mother's age can affect her attitude towards her children and cause differences in her behavior towards her children. However, it can be said that the mother's prosocial behaviors and her relationship with her child will affect the prosocial behavior of children more.

The prosocial behavior levels of the children did not differ according to the educational level of the mother in the study. The educational level of the mother did not have a significant effect on the prosocial behavior of the children. It can be thought that mothers have access to more data about the development of children in the information age and that they have improved themselves in social relations. Similar studies revealed that the mother's education level did not make significant difference in terms of the child's prosocial

behavior (Ekici-Yaşar, 2015; Karaman & Dinçer, 2020; Türkmen, 2018). The results obtained support the results of this study, which showed that the education level of mothers did not affect their evaluation of children's prosocial behavior.

When the results obtained in the research are examined; it was determined that the prosocial behavior levels of students attending pre-school education institutions were high and the prosocial behaviors of the children do not differ significantly in terms of the gender variable. It was found that prosocial behaviors significantly differ according to the age variable. It has been determined that this difference is between children in the 4-6 age groups. According to the variable of duration of attending a pre-school education institution, prosocial behavior mean scores of students who had attended a pre-school education institution for 3 years were found to be higher than scores of those who had attended a pre-school education institution for 1 year. It was determined that the prosocial behavior of the children did not differ significantly in terms of the mother's age and education level. Research results reveal the importance of pre-school education in children's social development and acquisition of prosocial behaviors. In line with the research results, it may be suggested to ensure that all children in the 3-6 age group receive more than one year of pre-school education. Social gains of children can be encouraged by preparing various educational programs to support prosocial behaviors. In future studies, the prosocial behaviors of children can be evaluated in multiple ways, together with parent and teacher evaluations.

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The Most Feminine and Masculine Professions according to University Students: A Mixed Methods

Research Article

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ABSTRACT

Despite increasing opportunities for women in the labour force in recent years there have been significant differences in the career processes that men and women pursue in their lives. Determining the feminine and masculine profession perceptions of university students at the most critical stage of the vocational process and detailed examination of their experiences in this field will contribute to the planning of practical recommendations and interventions. The first objective of this explanatory mixed method study was to identify the departments that Inonu University students perceive as masculine and feminine, and to discover what students who are gender-minority in these departments experience. As a result of the first stage of the study that was conducted with 959 students (The age of the participating students ranged from 18 to 30 years old (M = 21.69 years, SD = 2.05), and 564 were female (58.8%), and 395 were male (41.2%)), the most masculine professions were found to be civil engineering, mechanical engineering, and electrical and electronics engineering departments. The most feminine professions were midwifery, child development, preschool teaching, and nursing departments. In the second stage of the study, qualitative interviews were conducted with 6 female students from the most masculine departments, and with 7 male students from the most feminine departments. At the end of these interviews, the experiences of the students were combined under two main themes: "To be a female student in departments perceived to be masculine", and "To be a male student in departments perceived feminine".

Keywords:
gender role perceptions, feminine, masculine, job selection, explanatory mixed method

Introduction

Despite increasing opportunities for women in the labor force in recent years (Fullerton, 1999), there have been significant differences in the career processes that men and women pursue in their lives. This difference between the genders not only shows itself in the professions preferred by individuals, but also in

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the field of participation to the labor force. For example, although women's participation in the labor force is 48% in the world, it is around 75% in men (International Labor Organization [ILO], 2019). Labor force participation is seen as 32% for women, and 70% for men in Turkey, which is similar to the rate in the whole world (Presidential Strategy and Budget of Turkey [SBB], 2020). It is considered that there are many social, political and economic reasons under this gender imbalance in favor of men in the labor force. It is known that gender affects the preference of profession (Gokcan and Buyukgoze-Kavas, 2018), and individuals prefer professions that they think are more gender-appropriate (Gottfredson, 2002). However, strict gender role perceptions in these occupational preferences can also cause individuals to make professional preferences they actually do not want because of being socially accepted (Unsal, 2014). As a matter of fact, the positive attitudes of individuals towards their jobs (Steger, Dik and Duffy, 2012) allow them to be happier in their jobs and in their private lives (Cardador, Dane and Pratt, 2011; Douglas, Duffy and Autin, 2016).

Gottfredson (2002) considers gender role perceptions as the most important reason why men and women tend towards different professions regarding their skills and qualifications. These gender roles include information coming from young age regarding how men and women obtain from their families, teachers, the environment and the media about taking which roles (Adya and Kaiser, 2005). The person can choose professions that meet these expectations by internally selecting these social expectations for choosing his/her job (Evans and Diekman, 2009). The perceptions of parents regarding the roles in professions can cause that they prefer professions that highlight the differences in terms of gender, social constraints and strict gender roles (Hadjar and Aeschlimann, 2015). These perceptions cause that women take on roles which are more docile and risk-free (Adya and Kaiser, 2005) like motherhood and being housewives (Pascall, Parker and Evetts, 2000). These roles also cause that women turn to professions that bring relatively lower incomes, such as social services, nursing and teaching, which society says are more appropriate for them than professions such as engineering, science, law, and medicine (Hackett, Betz, Casas and Singh, 1992).

Although gender role perceptions affect and restrict both genders in different ways, it is seen that women are more affected by them. The fact that women prefer professions deemed non-fit for the role of motherhood has concerns that women may not be able to fulfill their family roles and especially their responsibilities in raising children (Fitzgerald and Harmon, 2001). Women receive generally complex and non-supportive messages from their surroundings regarding their work lives (Bogart and Stein, 1987). These messages might in any way cause that women make unfair assessments of their own preferences (Catsambis, 1995). This can turn into an unseen obstacle in the desperation of working women, which is known as "glass ceiling" in the literature, as a result of negative assessments from them or their colleagues (Lynes and Thompson, 1997). Unlike women, men are encouraged by their families at an early age to take risks. These risk experiences, which are encouraged as of childhood, raise the perceptions of competence of men, and allow them to move faster in their careers by taking risks in the future occupational selection process (Taylor-Madill and Macnab, 1990).

It is not possible to make a career development plan without considering gender roles. Previous study conducted on gender and job selection process shows that gender role perceptions are an important factor in the preferences of people for different professions and study areas (Atli, 2017; Cleveland, Stockdale, Murphy and Gutek, 2000; Korkut Owen, Kelecioğlu and Owen, 2014). However, these studies were mostly quantitative. In literature review, whether male or female, it is known that being a minority in terms of gender in a business carries various risks, and that minority genders are more likely to face mobbing (Eriksen and Einarsen, 2004) and job dissatisfaction and depression (Krimmel and Gormley, 2003). But, found no studies conducted on which departments were perceived as feminine or masculine, and what male or female students in the minority in these professions experienced in a large sampling of university students. Also, it is observed that the strict limitations caused by gender role perceptions regarding professions have become more flexible in

recent years with the influence of role models both in real life and in the media. It would be useful to consider the effects of these positive changes again on gender role perceptions in professions in the context of university students. Determining the feminine and masculine profession perceptions of university students at the most critical stage of the vocational process and detailed examination of their experiences in this field will contribute to the planning of practical recommendations and interventions. For this purpose, the Explanatory Design was used to obtain more comprehensive explanations for this problem by using the combining power of qualitative and quantitative research designs. This study focused on two questions: (a) What were the most feminine and masculine departments perceived by university students? (b) What did the male students experience in the most feminine-perceived departments, and the female students in the most masculine departments, and how did they explain it?

Method

Mixed studies are generally defined as integrating and analyzing quantitative and qualitative data that are collected in a single study for a better understanding of the study problems (Creswell and Plano-Clark, 2011; Tashakkori and Teddlie, 1998). In this way, the strengths of quantitative and qualitative paradigms are combined, which provides serious advantages to researchers. In this study, an explanatory mixed design from mixed-pattern research was used to determine and explore the gender perceptions of university students regarding departments. This preference gave the advantage of quantitative research, which in a broad sampling allowing to sort students for gender role perceptions numerically (i.e. masculine or feminine) related to departments, and also offered the advantage of qualitative research that allowed to explore what students in the minority studying in masculine and feminine departments experience in the context of these perceptions. The explanatory mixed method is used widely to explain or clarify the qualitative stage and the results of quantitative data, which is the second stage (Creswell and Plano-Clark, 2011).

Although less common, the explanatory pattern uses the quantitative stage as a prescriptive pattern to determine the form of participant selection (Morgan, 1998). In this research, the quantitative phase was used as a preliminary study to determine the departments perceived as masculine and feminine and to understand what minority students studying in these departments experienced. Table 1 summarizes the key components of the sequential mixed methods research design. The sample, data collection, and data analysis are described in more detail below.

Table 1. Research design

Phase	Procedures	Product
Quantitative Data Collection	*n=959 university students	* Numeric data
Quantitative Data Analysis	*Data screening (mean, standard deviation) *SPSS quan, software v.23	*Missing data, descriptive statistics
Connecting Quantitative and Qualitative Phases	*Purposefully selecting participants from students studying in departments perceived as the most feminine and masculine *Developing interview questions	*Participant (n=13) *Interview protocol
Qualitative Data Collection	*Semi-structured interviews with 13 participants	*Text data (interview transcripts, documents)
Qualitative Data Analysis	*Coding and thematic analysis *Nvivo 11 qualitative software	*Codes, categories and themes

Integration of the Quantitative and Qualitative Results	*Interpretation and explanation of the quantitative and qualitative results	*Discussion *Implications *Future research

The participants were selected from Inonu University students in Malatya province, which is located in the Eastern Anatolian Region of Turkey with a population of approximately one million at all stages of the study. Approximately 70% of Inonu University students are from Malatya and nearby Eastern and Southeastern cities. It may be said that the Eastern and Southeastern provinces of Turkey are more traditional and conservative than other parts. This brings the prediction that the gender role perceptions of selected students are sharper and more traditional than in other regions. The participants were told at both stages of the research that they could leave at any time and that they had no legal obligations in all stages of the study. During the quantitative stage of the study, they were told that their personal information would be protected, and group evaluations would be done by using only numbers in the analysis of the data to make participants feel safe. Similarly, during the qualitative stage of the study, they were also told that code names would be used in the data reporting process (Confidentiality and anonymity preserved), and that no information would be used to identify their personal information.

Stage I: Quantitative Study

Participants

There were 15 faculties and 61 departments at Inonu University in 2019. For the quantitative stage, which is the first stage of the research, 959 university students from 12 faculties (Dentistry, Pharmacy, Education, Arts literature, Law, Economics and Administrative Sciences, Theology, Communication, Engineering, Health Sciences, Medicine, Agriculture) and 57 departments were selected by stratified sampling method. The age of the participating students ranged from 18 to 30 years old (M = 21.69 years, SD = 2.05), and 564 were female (58.8%), and 395 were male (41.2%). A total of 165 students (17.2%) were at the first grade, 201 (21%) were at the second grade, 253 (26.4%) were at the third grade, 305 (31.8%) were at the fourth grade, and 35 (3.6%) were at the fifth grade.

Measures

A survey form that was developed by the researcher was used to measure the gender role perceptions of the university students regarding their departments. The first part of this survey form included the personal data of the students such as faculty, department, class, and age. The second part of the survey form was created to determine the level of perception of 61 undergraduate programs as masculine and masculine at Inonu University. They were asked to mark on the rating scale their opinion of how feminine, neutral or masculine each profession is. Each of these 61 undergraduate programs was considered as an item on the survey form. Each department was defined as 0 "neutral" in the survey form that was prepared in 11-point Likert-type. Numbers that moved from neutral to the left (1, 2, 3, 4, 5) showed the "masculine" perception level of a profession, and the numbers moving to the right (1, 2, 3, 4, 5) showed the "feminine" perception level of a profession. The markings in the during the analysis process in "masculine" section were entered as minus (-1,-2,-3,-4,-5), and the markings in the "feminine" section were entered as plus (1, 2, 3, 4, 5) to the SPSS-23 data analysis program. The gender role perception of a department was determined as "masculine" (e.g. -5) as the value increases towards minus, and if it mowed towards plus, as "feminine" (e.g. 5). The data were collected face to face by the researcher in the classroom environment.

Data Analysis

Firstly, 1021 people were included in the application; however, the 62 missing or incorrectly filled out survey forms were excluded, and analyses were made on the remaining 959 survey forms. For example, the

"3" marking made by a participant on the "masculine" was analyzed as "-3" during the analysis, and the "3" marking on the "feminine" side was analyzed as "+3". Arithmetic mean and standard deviation values were used for each section in the survey form. The mean scores were sorted beginning from large to small, and are presented here in Table 2.

Results of Stage I

The mean scores and standard deviations of the gender role perceptions of the university students belonging to the departments are presented in Table 2.

Table 2. The mean scores and standard deviations of the gender role perceptions of the university students belonging to the departments

Departments	Mean	Standard Deviation
Midwifery	3.97	2.051
Child Development	3.30	2.136
Pre-school Teacher Education	2.94	2.249
Nursing	2.91	2.256
Special Education	1.65	2.441
English Teacher Education	1.21	2.082
Public Relations and Publicity	1.18	2.310
Art Teacher Education	1.14	2.062
Classroom Teacher Education	1.04	2.253
Psychological Counseling and Guidance	1.03	2.160
Piano	0.94	2.210
Music Teacher Education	0.89	2.024
Painting	0.82	2.084
English Language and Literature	0.78	1.916
Turkish Teacher Education	0.67	2.073
Turkish language and literature	0.58	1.963
Ceramic	0.49	2.574
Food Engineering	0.45	2.303
Biology	0.44	2.135
Plant protection	0.41	2.510
Graphic Design	0.33	2.139
Musicology	0.25	1.712
Science Teacher Education	0.25	1.958
Pharmacy	0.18	1.963
Turkish Folk Music	0.12	2.124
Audiology	0.12	1.830
Sociology	0.11	1.956
Music Technology	0.09	1.873
String Instruments	0.09	2.160
Landscape architecture	0.02	2.594
Philosophy	-0.03	2.030
Physical Therapy And Rehabilitation	-0.04	2.312
Social Studies Teacher Education	-0.05	1.933
Divinity	-0.06	2.338
Molecular Biology And Genetics	-0.10	1.974
Journalism	-0.12	2.241
International Relations	-0.22	2.199
Garden Plants	-0.22	2.722
Medicine	-0.31	1.910

Law	-0.32	2.114
History	-0.49	2.023
Chemistry	-0.52	1.962
Biomedical Engineering	-0.55	2.279
Dentist	-0.58	2.268
Maths	-0.67	2.064
Computer Education and Instructional Technologies	-0.90	2.226
Chemical Engineering	-0.92	2.120
Physics	-1.00	2.174
Economy	-1.05	2.071
Business	-1.11	2.123
Finance	-1.11	2.182
Econometrics	-1.18	2.162
Physical Education and Sports Teacher Education for the Disabled	-1.19	2.626
Political Science And Public Administration	-1.42	2.227
Computer Engineering	-1.76	2.214
Physical Education and Sports Teacher Education	-2.02	2.312
Sports Management	-2.37	2.280
Education Of Training	-2.40	2.330
Electrical and Electronics Engineering	-2.92	2.144
Mechanical engineering	-3.13	2.164
Civil engineering	-3.18	2.263

After the analyses, the departments that were perceived as the most "feminine" were Midwifery (*M* = 3.97, *SD* = 2.051), Child Development (*M* = 3.30, *SD* = 2.136), Pre-school Teacher Education (*M* = 2.94, *SD* = 2.249), and Nursing (*M* = 2.91, *SD* = 2.256). The departments that were perceived as the most "masculine" were Civil Engineering (*M* = -3.18, *SD* = 2.263), Mechanical Engineering (*M* = -3.13, *SD* = 2.164) and Electrical and Electronics Engineering (*M* = -2.92, *SD* = 2.144).

Stage II: Qualitative Study

Participants

The Purposive Sampling Method, which is commonly used in qualitative studies, was used in this study to collect in-depth rich data on gender role perceptions of university students in various departments (Patton, 2002). For this purpose, 13 students who were in the gender minority in the "most feminine" and "most masculine" departments that were identified among 959 university students were contacted in the quantitative stage of this study. The age of participating students ranged between 20 and 24 years (*M* = 21.69 years, *SD* = 1.25), and six were female (46.2%), and seven were male (53.8%). Detailed demographic data of the participants are presented in Table 3.

Table 3. Demographic ınformation of participants

Participant Code Name	Department	Gender	Age	Class	Gender Distribution
Metin	Child Development	Male	23	3	73 female, 9 male
Mahmut	Child Development	Male	22	3	73 female, 9 male
Nihat	Nursing	Male	24	4	65 female, 35 male
Selim	Nursing	Male	22	4	65 female, 35 male
Niyazi	Pre-school Teacher Education	Male	22	4	4 male, 29 female
Adem	Pre-school Teacher Education	Male	20	2	7 male, 25 female
Ender	Pre-school Teacher Education	Male	20	2	7 male, 25 female

Mine	Electrical and Electronics Engineering	Female	22	4	7 female, 60 male
Gamze	Electrical and Electronics Engineering	Female	23	3	8 female, 55 male
Suna	Mechanical Engineering	Female	20	2	7 female, 60 male
Emel	Mechanical Engineering	Female	21	4	2 female, 54 male
Leyla	Civil Engineering	Female	21	3	15 female, 65 male
Aslı	Civil Engineering	Female	22	2	16 female, 64 male

Data Collection Process and Procedure

The data of the study were collected 2019. To reach the participants, support was received from the students who studied in the fourth grade at Malatya Inonu University Psychological Counseling and Guidance Department. These students were asked to contact the students studying at Child Development, Nursing, Pre-school Teacher Education, Mechanical Engineering, Electrical and Electronics Engineering and Civil Engineering departments, and to obtain contact information about the people who wanted to participate by providing information about the purpose and process of the study. Then, these students were contacted, and plans were made for the appropriate location and time for the campus. Before the interview questions were developed, two students were interviewed as a pre-application, and the researcher prepared the final semi-structured interview form that would best serve the purpose of the research through these interviews. For the prepared interview form, the opinion of an experienced faculty member in the field of guidance and psychological counseling and qualitative research was taken. According to the feedback obtained, necessary corrections were made in the form in terms of convenience and intelligibility. The demographic data of the students (e.g. age, gender, department, grade are included in the first part of this form, and there are seven main questions in the second part (sample questions: *What kind of reactions do people around you show when you tell them about the department you study? What do you think about female/male students studying in your department? What advantages and disadvantages does your gender bring you when you are studying at this department?*). Before the qualitative interviews began, participants were informed of the purpose and content of the research and their consent was obtained. Each interview lasted a mean of 20-25 minutes, and were recorded on mobile phones and transcribed verbatim.

Data Analysis

The transcribed texts of the interviews with university students were uploaded to the NVIVO-11 program, and analyses were made with this program. The Inductive Thematic Analysis, which was defined by Braun and Clarke (2006), was used to find the repeated patterns in the dataset and to define the procedure in a detailed way. In this procedure, the analysis was carried out through the following procedure:

Author (coder 1) and domain expert (coder 2) initially shared four of the 41 transcripts in equal numbers and at random. Coder 1 familiarized himself with the texts by reading these two transcripts without notes, and then created initial codes that contained deterministic, interesting, and meaningful statements. Afterwards, coder 2 performed the same procedure. The researcher and the domain expert came together and the codebook was created considering the similarities and differences. This book contained codes, definitions and sample expressions. Later, the transcripts were exchanged between the researcher and the domain expert and the original coding was initiated. The actual coding process was carried out according to the code book and when new codes emerged, the researcher and the domain expert came together and revised the code book. Throughout the process, an attempt was made to maintain a holistic and analytical view of the data by writing memos about what the codes meant, their relationships to each other, and under what possible themes they

were grouped. After coders coded their documents, they coded the other coders' documents over their uncoded version.

Preliminarily generated candidate themes were verified by checking their compatibility with the coded data content and the entire dataset. The boundaries, names, and definitions of the created themes were clarified in accordance with the essence of thematic analysis to cover the entire dataset with its deep and rich content. After the dataset and the created themes were reviewed one last time, the salient, detailed, and persuasive statements of the participants were determined to be used in the article. The writing of the data obtained as a result of the thematic analysis was completed by associating it with the research questions and existing literature.

Validity and Reliability

There is no single way to check the consistency of the analysis (Miles et al., 2014). It is suggested that Coder 1 can code over the document coded by Coder 2. However, it is recommended that Coder 1 goes over the uncoded document rather than the coded document to check for consistency (Miles et al., 2014). Coder 1, coded the documents coded by Coder 2 over the uncoded version. Coder 2 also encoded the documents encoded by Coder 1 over the uncoded version. Coder 1 and coder 2 met to discuss the similarities and differences, and consistency was checked. The researcher and the domain expert met and shared information about the consistency between coders, not only after the analysis, but also throughout the analysis process.

Results of Stage II

The researcher and domain expert met after coding was completed and reached full agreement on the generation of 42 initial codes and five categories as "The process of choosing the department", "the reactions of the students in the department", "the reactions of the family and other social environment", "the advantages and disadvantages of a future career", and "struggles against sexist approaches". These categories were presented under two main themes as "Being a female student in a masculine-perceived department" and "Being a male student in a feminine-perceived department", which were considered to be more inclusive as a whole to present the experiences of students more fluently.

Being a Female Student in Masculine-Perceived Departments

In the interviews, three of the female students said that they preferred their department consciously in the first place because it was suitable for their own abilities. Suna, who preferred mechanical engineering despite the words "You cannot do this!" because it was perceived as a masculine profession around her, said, "I have a lot of interest in gun mechanics. I mean, because I have a great interest in guns, I think I can express myself better in this profession, so I chose it", adding that she chose this department in line with her own interests. Three other female students said they loved their department they were currently studying at, but their initial goal in the university entrance exam was not engineering. Emel, who said that her main goal was to study at the Faculty of Medicine, but preferred the Mechanical Engineering Department because she could not score adequately, said: "When I could not choose medicine, I chose it because I considered it was the closest field where I could get a job like this."

Female students who came to the engineering department said that they were generally welcomed in the department, with some male students asking questions like "Why did you choose this department?" "They usually ask why engineering. When I explain myself, they understand, but they are surprised, they are even happy. Because men also want these sections to be preferred by women, probably", adding that the male students in their class were both surprised and happy with their presence. Similarly, Leyla, who studied at Civil Engineering Department, said that the presence of female students in her class was extremely welcome by men:

> *The male students in the class are very happy. I mean, what can they do, there is no girl. I mean, think of it this way, there are very few girls, there are too many men. After a while, where there is a female, there is politeness. You are well-appreciated in the classroom when you are a girl. I think men are happy about it.*

However, although studying engineering is welcome by many male students, female students still have to fight some prejudices in activities because of their gender, said Gamze, who was an Electrical and Electronics Engineering student.

> *If you want to do a project, there are students who say I will be at the forefront of you. Because I am a man, you are a woman. I mean, if you want to do a project, you have to work very hard and be very advanced. Of course, we also have boyfriends who support us.*

Female students said that they experienced various advantages and disadvantages because they studied in these masculine-perceived departments. Although two students said that the small number of female students in engineering departments would bring them advantages in finding a job in the future, it is possible to argue that the overall tendency is more intense on disadvantages. The most obvious disadvantages experienced by female students are that they have difficult times in finding a job after the graduation because of their gender, and because of the low number of female students in the department and because their teachers were usually men, they are more in the background in some activities. Mine, who is an electrical and electronics engineering student, expressed concerns about finding a job after finishing university in the future:

> *We say that there are fewer job opportunities for schoolgirls when we finish this department. That is because businesses employ male students. They see it as a job that requires strength, there is this perception. Because the idea that fine works fit women and rough works fit men is effective here, too.*

Leyla, who is a Civil Engineering student, said that one of the disadvantages they faced was that men are more central, and they are in the background because there are male teachers and students in general in the department:

> *When the number of schoolgirls is few, you are a little shy in the classroom environment. Men are much more dominant. Our teachers are all men, because they graduated from the department. Male students communicate with the teacher more than we do when the teacher is a man. The girls are a little shy on the one hand.*

Some female students studying at engineering department said they were supported by their social circles, but they were generally surprised and found it odd. It was seen in the interviews that these female students made serious efforts to prove themselves to both their departments and to their social circles with the slogans, "Girls can also be good engineers!" For this, most women said they wanted support by saying "More schoolgirls should choose these departments". Gamze, who studied at Electrical and Electronics Engineering department, said that she could do the engineering profession very well, and she struggled for both her own and for other women, and that she was working hard to break the social mold judgments:

> *I mean, I am under a lot of pressure in general. I am proud of myself for choosing this profession. There are of course difficulties. Let me give you an example, even your best friend can say, "You are a woman, you know, I am one step ahead of you when you are in a profession. "But I mean, maybe it is in terms of the industry that he is one step ahead of me because he is a man, but in terms of talents, I think I am ahead of him. This profession is not just men's". We will see this in the future.*

Suna, who is similarly studying at Mechanical Engineering Department, said she would succeed by doing her best, to prove it not only for herself, but also for people who told her "You are not going to succeed":

> *In general, most people think that women are not going anywhere in this business. They think women cannot succeed in this in any way, both physically and mentally. I am confident about it, and I think I am going to make ambition. So, I do not know this yet, I hope everything will be good.*

Being a Male Student in Perceived Feminine Departments

Four of the male students said that they preferred this department because it was highly probable for them to find work, two because it fit their own skill sets and interests, and one student because s/he did not have enough points for the department they were originally targeting. It was seen that the preferences of male students in the areas perceived as feminine concentrated on the anxiety of finding a job. Nihat, who studied in the nursing department, said, "I preferred this department because the working conditions are good, the fee is good, the hope of being appointed is higher." Niyazi, who studied at preschool teaching, similarly explained that he preferred this department because he had a high opportunity to find a job after finishing the department, and also it suit his own abilities and interests:

> *Considering the current economic situation of our country, I can find a job easier after graduating from preschool teaching. It is both comfortable in terms of being appointed, and it is a department I love that I can improve myself in the future. I love children. I am glad I chose this department.*

It was observed in interviews made with male students that female students in departments that are perceived as feminine considered the presence of male students positively in general. In this respect, it can be argued that male students studying in department that are perceived as feminine are more accepted than female students studying at engineering. Studying in nursing department provides an advantage for male students to move patients who cannot be moved by using their physical strength. However, in addition to this advantage, some students also said that female patients did not want male nurses, and that they had problems with these issues in internships. Nursing student Nihat said, "The advantage of studying at this department is that in some cases there are areas where we will use our strength. We can easily do things when we help the transfer of patients to another department by lifting and transferring them. As a disadvantage, some patients do not want men to provide care for them". Male students studying in Child Development Department said that the number of female students was very high in this department, and there were positive things such as the decrease in ordinary slang speech and rude behaviors among men, but also that they felt inadequacies in their interactions with their peers because of the small number of men.

Male students, especially those who were studying at Child Development Department, which is perceived as feminine, said that they had difficulty explaining this to the people around them. Since the Child Development Department, which is generally preferred by female students, is directly identified with the role of motherhood, it is seen that male students studying at this department received reaction as more confusion and people found it odd in their social circles. Metin, who studied in the Child Development Department, said:

> *People become surprised and find it odd when I tell people the department I study at [Child Development]. They say, "Isn't it girls' department?" But I am confident, and I believe that I can. Because of the tough nature of men, people think in this way. That is the point of view of the society.*

However, the students studying at Nursing and Preschool Teaching Department, where the number of the male students is more than that of the Department of Child Development, said that this profession was previously considered only as women's profession, but in recent years, these considerations have started to change. Male students said that these patterns within the society will disappear in time, and that they were fighting for it. Niyazi, who studied at Preschool Teaching Department, said that the number of boys has increased in recent years, but also that it was still not enough, so they needed to go a long way. Selim, who is a nursing department student, said, "I think it is very nice that we are in this department because we just show that it is not a women's profession only. After we started the nursing department, they saw how much we were needed in this profession", and added that men started to play important roles in the nursing profession.

Discussion and Conclusions

One of the most important factors in men and women's choosing different professions is their perception of gender roles, which they create through the feedback they receive from families, teachers and their surroundings as of a young age regarding their own skills and qualifications (Gottfredson, 2002). It is possible to argue that the gender role perceptions in various professions have changed in a positive way in recent years with the increase of role models that have washed away the strict limitations that were created previously. It is considered that examining the possible effects of this change with the present study will contribute to the literature. The purpose of this study, which was structured based on these grounds, was to determine the gender role perceptions of university students from various departments by using the unifying power of qualitative and quantitative approaches.

It was determined in the quantitative phase of the study that the Civil Engineering, Mechanical Engineering and Electrical and Electronics Engineering Departments are perceived as the most masculine departments; and the most feminine professions were identified as Midwifery, Child Development, Preschool Teaching and Nursing Department. As it is already known, individuals are influenced by the meanings that society and culture place on gender when making decisions about choosing careers, expectations about how they should behave, values, feminine and masculine characteristics associated with them, in other words gender roles (Bhasin, 2003; Dökmen, 2012; Staggenborg, 1998). These influences also affect the professional choices of people (Gottfredson, 2002). Literature show that men mostly prefer science and engineering; and women, on the other hand, prefer career areas related to social work, education, and administrative support (Evans and Diekman, 2009; Hackett, Betz, Casas and Singh, 1992). In his study on gender role perceptions of high school students related to various professions, Atli (2017) reported that engineering was among the professions perceived as the most masculine, and among the most feminine perceived professions was the nursing profession. Similarly, this study shows that departments such as Nursing, Child Development and Preschool Teaching, which evoke the roles of motherhood and especially the actions of raising children, are perceived as feminine professions. The Typology Theory of Holland is one of the most popular theories used in the process of choosing profession (Brown and Brooks, 1996; Sharf, 2006). One of the personality types in this theory is the personality type, which includes using realistic personality-type tools, dealing with machines, and technical skills, which includes areas of men's preference in general (Sharf, 2006). Atli and Kaya's (2017) study conducted on university students found that the realistic personality type scores of the students studying at engineering department were higher than those of other students. One of the main reasons for this is that boys are constantly supported by their social circles to deal with tools and repair work as of a young age. It was seen in this study that the fields of engineering, which include more technical work, are perceived as more masculine departments. Although the rates of the presence of both genders in professions perceived as masculine or feminine have increased in recent years, it is seen that the judgments regarding gender role perceptions remain still strong in some professions.

The purpose was to understand what kind of lives the female students in the departments perceived as masculine and the male students in the departments perceived as feminine during the qualitative phase of the study. Some female students studying at engineering department said that despite the negative feedback they received from their social circles, they liked their department and preferred them because they saw that they fit their own interests and abilities. They also said that they were mostly well received by male students in their departments, but in some cases they were left behind because of the large number of male students. They also said that the biggest disadvantage experienced by female students was the difficulty in finding jobs easily in engineering where male dominance is seen after graduation. One of the biggest risks that the existing gender roles can cause in various professions is that, women experience discrimination in employment (Niles and Harris-Bowlsbey, 2013). Most male students who studied in departments perceived as feminine said they preferred these departments because they were likely to find job. Since these departments are more associated with motherhood and childcare, they said that sometimes it was found odd by their social circle, but male

students who start studying in these departments gradually started to have a place in the profession. Both female students and male students who were minority in their departments agreed that their perception of the strict gender role of their departments needed to change. For example, female students said that engineering should not be perceived as a masculine profession, and they struggled to change the perceptions of both men and their own genders. Similarly, men stated that they showed their classmates and professional employees that they can succeed in the departments they studied, and that these social perceptions changed in time and may be better in the future.

It may be very difficult to understand the career development of individuals without considering the social gender roles. It is likely that the effects of gender role perceptions are higher on selecting one's job especially in societies such as Turkey, where traditional values are more pronounced. These social perceptions format what kind of behaviors individuals should do as a woman or a man, and what their professional preferences will be either obviously or implicitly. As a result, it is understood that gender roles affect the quality of life of both genders whether male or female. In this study, it was observed that both groups of students strived to be academically successful in their departments, as well as fought the disadvantages that arose from their own gender.

Career theories argue that gender role perceptions work for men and women at different densities, and career consultations should be made by considering these differences (Gottfredson, 2002; Super, 1990; Zunker, 2006). The impact and unrealistic limitations of these differences on both genders must be considered by families and especially educators as of a young age, and it should be avoided that these judgments prevent abilities and interests. School counselors, especially high school counselors, who are at a critical stage in the professional selection phase of high school students, should make students realize the gender role perceptions, and the unrealistic limiting effects of these gender role perceptions on professional preferences. In the professional guidance studies to be done at schools, masculine and feminine role models who work and succeed in professions widely perceived by the community as masculine or masculine should be introduced to the students, and their positive experiences should be shared with the students on their career days. School counselors should implement programs and interventions to raise awareness of gender equality. In the present study, both female and male students experienced various disadvantages in their departments. It is recommended that department teachers at the university make more motivating efforts to ensure that students of minority gender are integrated into the department and to avoid that they fall back in activities.

I believe that the findings of this study has methodological and applicable contributions to the literature. With this study, I tried to provide a methodological contribution to identifying gender role perceptions of university students at various departments, and to show how descriptive mixed methods can be used to analyze a complex problem, such as what students' genders in minority experience in departments perceived as feminine and masculine. Aside from this contribution, I also tried to offer practical recommendations to practitioners by expressing what university students at an important and critical stage in their careers experience in the face of patterns created by gender role perceptions in detail.

Limitation and Future Research

As it is the case in any study, there are some limitations in this study. Considering all the stages of this study, a total of 972 university undergraduate students studying at Inonu University in the city of Malatya in Eastern Anatolian Region of Turkey were included in the study. Although the study was conducted with a broad sampling, it should be tested in different and larger samplings in order for the findings to be more generalizable. Gender role perceptions related with professions are influenced by cultural factors severely. Inonu University students mostly come from Malatya and the Eastern and Southeastern cities of Turkey. These cities have relatively traditional values compared to any other part of Turkey; therefore, they can predict that gender role perceptions regarding professions may be sharper and stricter. For this reason, I believe that it will

be useful to compare the findings of the present study by conducting studies at universities where there are students with different ethnographic structures in future studies. Another limitation of this study is the inability to collect data from people who perceive themselves as non-binary. Because ethical committee approval is not granted when you ask questions about race/ethnicity and non-binary in Turkey.

Declaration of Conflicting Interests

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Ethical Statement

All procedures performed in studies involving human participants were 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.

Data Availability Statement

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

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Effectiveness of Student-Made Short Videos in the Education of Pre-Service Literacy Teachers

Research Article

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ABSTRACT

This study aims to determine the relationship of educational video production with educational video consumption and academic performance and identify the views of pre-service literacy teachers about the process. It has a convergent parallel mixed-method design. An eight-week two-stage experimental process took place with the participation of 53 pre-service literacy teachers. At the first stage of the process, the pre-service literacy teachers produced argumentative monologues. Next, at the second stage, they created short videos composed of argumentative monologues. The data collection tools were the Video Evaluation Form, the Taxonomic Test to Measure Success, the Scale of Adults' Levels of Acceptance and Usage of Video-Sharing Websites for Educational Purposes, and the survey. According to the results of this study, the process of learning by producing short videos enhanced academic success and supported in-depth learning. The success levels of the participants in topics on which the videos were produced were significantly higher than their success levels in topics on which the videos were not produced. Even if the pre-service literacy teachers were challenged at certain points during the process of learning by producing videos, they thought that the video production prepared them for their professional future with diverse perspectives. On the other hand, only half of the participants had positive viewpoints about the process. The presence of negative viewpoints reduced the quality of the videos that were produced. However, academic success was not affected by this situation. There was no significant relationship between the pre-service literacy teachers' educational video consumption and production behaviors.

Keywords:
video-based learning, student-made videos, short video, teacher training, speaking

Introduction

Research Aim

Videos have been utilized in courses for educational purposes for a long time. In the simplest terms, video-based learning is the user's acquisition of information and skills from videos on different platforms by

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using tools such as desktop PCs, telephones, and tablet PCs (Giannakos, 2013). In a conventional classroom setting, teachers can use videos either as a primary (Espino et al., 2020) or a complementary material (Winch & Cahn, 2015). That being said, the physical closure of educational institutions all across the world due to the COVID-19 pandemic has paved the way for the emergence of a new video-based learning era (Pal & Patra, 2020). Video-based learning stopped being just a complementary education model and became the primary education model.

In this study, an experimental process that is centered around the video-based learning model is in place. The study aims to determine the effectiveness of student-made, 1-5-minute short videos in the education of pre-service literacy teachers under the distance education offered by using video conferencing. The research process touches upon some form of video-based learning.

The research objectives are as follows:

1) Showing whether the production of 1–5-minute short videos composed of argumentative monologues has any relationship with academic success
2) Identifying whether performance in producing 1-5-minute short videos composed of argumentative monologues has any relationship with the level of acceptance and usage of video-sharing websites for educational purposes
3) Finding out whether having a viewpoint in favor of the process of learning by producing 1–5-minute short videos for educational purposes has any effect on video performance scores and academic success levels
4) Revealing pre-service literacy teachers' views about the process of producing 1–5-minute short videos composed of argumentative monologues

The Usage of Video-Based Learning in Education

Video-based approaches to teaching and learning are a valuable tool in pre-service and in-service teacher education throughout the world (Masats & Dooly, 2011; Tan et al., 2020). Videos are used as a creative tool in various ways to lecture a class in an online classroom setting, to support the course by adding materials that are not included in the course, or to enable students to present their work (McGarr, 2009). Departing from this consideration, as per the review of the relevant literature on video-based learning defined as the learning/instruction of knowledge and skills by using videos, five categories have come forward across the years.

1) Conventional video use
2) Interactive videos
3) Educational videos watched based on individual preference
4) Video conferencing systems
5) Student-made videos

Conventional video use. In the context of conventional video use in education, a part of a video is displayed in the classroom, the importance of the video is stressed, and upon sharing a copy of the video, the students are encouraged to watch the video in their own time (Bracher et al., 2005). The students perceive that the video that is used in the class has the potential to improve the course by encouraging them to think (Hervas et al., 2020). However, as in the flipped model, the case in which the students do not watch the video despite the expectation of their instructors that they would before coming to the classroom may upend this positive impact (Harrison et al., 2017). In conventional video use, the control is mostly in the teacher's hands, and the teacher takes on duties such as guiding and encouraging the student. The conventional use of video in teacher education develops pre-service teachers' skills in putting their knowledge into practice (Seidel et al., 2013). Watching experienced teachers' videos of instruction in real settings strengthens pre-service teachers'

understanding of teaching (Hatch et al., 2016). Video feedback enhances the quality of the instruction provided by pre-service and in-service teachers in reading and writing courses (Boling, 2007; Brouwer et al., 2017). Conventional video use, a form of video-based learning, in teacher education has often been and continues to be a topic in research.

Interactive videos. Interactive videos keep the viewer's interest alive by opening channels that will allow them to interact with the content. While a student is usually passive in the conventional use of videos, the embedded exams, connection chains, interactive maps and 3D objects in interactive videos provide the student with the opportunity to interact, and hence, they mobilize the student (Kolås, 2015). Interactive videos containing embedded short exam questions enhance student success (Rice et al., 2019). Interactive videos not only serve as the content in education but are also a part of the evaluation process (Kuzudişli, 2019). In the flipped model, embedded pop-up questions tempt students to watch the video (Haagsman et al., 2020). With features such as optimal user immersion and spatial presence (Tan et al., 2020), 360-degree videos may be considered within the context of interactive videos. 360-degree videos are better suited to the promotion of reflection-based or skill-based knowledge rather than concrete or conceptual knowledge (Snelson & Hsu, 2020). As discerned, while conventional video use has disadvantages such as transforming the student into a passive viewer, interactive videos can overcome this disadvantage to a certain extent.

Educational videos that are watched based on individual preference. Unlike the conventional use of videos, learning does not take place inside a group in the case of individually watched educational videos. It is rather based on individual learning. If individuals are interested in self-development, they watch educational videos in the area in which they are interested. No teacher is present in the learning setting, and the student has control over the selection of video content. Research has shown that the duration, content, presentation and coverage of videos shape student preferences. It was found that user comments and the number of likes in videos, the creation of the video by female teachers, the presentation of the video by institutions other than universities and the additional exhibition of presentation visuals in the video enhanced the preferability of videos (Meseguer-Martinez et al., 2017). Besides, characteristics such as model-observer similarity, instructor credibility and conversational human voice influence learners' preferences (Utz & Wolfers, 2020). Based on this information, educational videos watched based on individual preferences embrace students of all ages and support life-long learning.

Video conferencing systems. Video conferencing may be described as a system in which the teacher and the students have the class simultaneously in a virtual classroom, and the class is recorded for those who are not present during the class or interested in watching the class later once again. In the period before the COVID-19 pandemic, video conferencing systems as a learning tool were employed to ensure that students had communication with their peers and teachers under circumstances when face-to-face communication was not possible (Al-Samarraie, 2019). The pandemic as the driving force of the transition to distance education obliged many educators, students, parents and administrators to trust video conferencing systems (Correia et al., 2020). With video conferencing systems, we as educators and students are just in the middle of video-based learning.

Student-made videos. In teacher education, videos made by students support learning from various perspectives. In the education of pre-service teachers, reflective videos created by students can be used as a means of reaching into the beliefs of pre-service teachers (Gelfuso, 2016; Puttick et al., 2021). Individual video blogs develop the reflective learning and self-regulation skills of pre-service teachers (Fidan & Debbağ, 2018). Video clubs can be designed in light of the needs of students thanks to their flexible structures and are beneficial to pre-service teachers regarding topics such as cooperative thinking and awareness-raising (Özdemir-Baki, 2020). In the age of video-based learning when the pandemic serves as the driving force, the use of student-made videos is likely to become more widespread.

Literature Review

Upon the review of the relevant literature, it is discerned that, in teacher education, a limited number of studies were devoted to student-made videos, a form of video-based learning. On the other hand, there are studies indicating that teachers or pre-service teachers have deeper thinking and learning processes when they watch videos created by themselves. For instance, Kleinknecht and Schneider (2013) showed that analyzing class instruction videos created by teachers themselves required them to make more preliminary arrangements than analyzing other teachers' videos. A study that was in support of the results of the aforementioned study and was conducted to compare the place of an individual's video and a peer's video in teacher training demonstrated that pre-service teachers perceived their own videos as more useful by rating them as 4.6 out of 5 points on average (Zhang et al., 2011). When teachers watch their own class instruction videos, they can think deeply and analytically about the instruction and learning process through constructive discussions (Borko et al., 2008). In this context, this study focused on videos produced by pre-service teachers for educational purposes.

Previous research has shown that the length of videos affects the individuals educational video watching preferences. A duration of 1-5 minutes is viewed as the ideal length of an educational video and preferred more by internet users (Harrison, 2020). In comparison to long and one-piece educational videos, modular educational videos that are short and divided into meaningful smaller parts reduce the cognitive load of learners and increase their participation in learning processes (Altınpulluk et al., 2020). Likewise, in different studies that have analyzed educational videos in teacher education, it has been discerned those pre-service teachers are asked to watch videos lasting less than four minutes (Beilstein et al., 2017; Blomberg et al., 2011; Wiens et al., 2013). Departing from this point, it may be asserted that short videos are preferred more in video consumption. In the study by Campbell et al. (2020), pre-service teachers were asked to design 1-minute videos, and they perceived the short video production process as new and handy. Compactness has begun to come to the fore as a crucial feature in educational video consumption and production for new-generation pre-service teachers. In this regard, this study examined the production of educational videos, lasting less than five minutes, by pre-service teachers.

YouTube is one of the most widely used platforms in terms of accessing educational videos (Giannakos, 2013). When people aged 20-40 years in Turkey need to watch a video on the internet, they prioritize using YouTube and tend to follow popular users (Arklan & Kartal, 2018). Being a YouTuber refers to uploading videos to YouTube regularly and earning money this way (İlhan & Görgülü-Aydoğdu, 2018). It is one of the modern professions for generation Y and generation Z. Students were determined to think that YouTube videos made the class more entertaining for them, enabled them to understand the topic better and increased their success levels when they studied individually (Alp & Kaleci, 2018). In fact, YouTube videos have contributions even to the learning of psychomotor skills such as playing a musical instrument (Güzel et al., 2020). Moreover, it is observed that not only students but also teachers used YouTube for purposes of learning and teaching. Teachers thought that YouTube videos enhanced their performance in learning processes (Kılıç & Yılmaz, 2021). Unlike Kucan et al. (2009), who studied video-watching tasks to evaluate teachers' understanding of text-based discussion, this study involved experimental research in which pre-service teachers learned by producing videos.

The relevant literature indicates that students and teachers are in a position of consumers rather than producers of video content in educational settings. In the classroom, teachers mostly use videos obtained from sources open to the public such as YouTube, instead of creating original video content for educational purposes. Students, who are also in a position of consumers just like their teachers, use YouTube regularly to find and select educational videos (Fyfield et al., 2020). Furthermore, in their private lives, almost every young person is being turned into a video content producer with social media. The source of motivation for this study

was the question, "If skills in video content production that have become a daily routine for young people were transferred to the teacher education setting for educational purposes, what effect would it have?" According to the review of the relevant literature, there is a significant gap in research comparing pre-service teachers' educational video content production and consumption. This study presents the relationship between pre-service literacy teachers' production and consumption of educational videos.

Method

This study had a convergent parallel mixed-method design. In this design, quantitative and qualitative data do not serve as sources for each other, both the quantitative and qualitative data are collected concurrently, and to what extent the quantitative and qualitative data are compatible with each other is analyzed (Creswell, 2014). During the implementation of this study, the quantitative and qualitative data were collected concurrently. Ethical approval was obtained for the research protocol from the host university (Trakya University Social and Human Sciences Research Ethics Committee / Date: 07.07.2021 / No: 2021.06.19).

The research questions were as follows:

1) Does the production of short videos composed of argumentative monologues affect the academic success levels of preservice teachers?
2) What sort of relationship does the performance of pre-service literacy teachers in producing short videos composed of argumentative monologues have with their level of acceptance and usage of video-sharing websites for educational purposes?
3) Do the viewpoints of pre-service literacy teachers in favor of the process of learning by producing short videos for educational purposes affect their video performance scores and academic success levels?
4) What are the views of pre-service literacy teachers about the process of producing short videos composed of argumentative monologues?

Sample

The study was carried out in a public university in Turkey in the Spring semester of 2021. The sample comprised 53 pre-service literacy teachers, including 17 male and 36 female pre-service teachers. The participants were selected with the convenience sampling method (Baltacı, 2018). The topic was researched in a single class.

Data Collection Process

The research process was based on a two-stage experimental design. During eight weeks, the process continued in the virtual classroom setting for three school hours per week. The topics covered in the first four weeks were discussed by the participants as monologues at the end of the course. In the four subsequent weeks, the participants produced short videos, which were composed of argumentative monologues, for the topics that were taught. The purpose of dividing the weeks into two stages was to see the effect of educational video production on the quality of instruction and the depth of learning. At the end of the process, a taxonomic test measuring success and covering the topics in the first four weeks and the last four weeks was applied among the participants.

In the process of producing videos, the participants made use of procedures such as montage making and getting visual support for the videos. They were asked to ensure that the speaker would appear as the main character on the screen in the videos, and elements added with video montages would be used as support elements without getting ahead of the speaker's image or voice. Besides, the duration of the videos they were instructed to make was limited to 1-5 minutes. In line with the study by Elçiçek (2019) about the design of a video-supported online learning setting, the participants were advised to prefer using a fluent narration in the

videos instead of a slow and boring one. Later, the student-made videos were watched in the virtual classroom. The participants' video performances were rated by four external academician observers using a quantitatively graded evaluation form.

To identify the participants' educational video consumption levels, the Scale of Adults' Levels of Acceptance and Usage of Video-Sharing Websites for Educational Purposes was applied to the participants by using an online platform before starting the process. Additionally, in the middle and at the end of the process, the participants filled in an online survey designed to reflect their views about the process.

Data Collection Tools

The data were collected with a taxonomic test to measure success, the Scale of Adults' Levels of Acceptance and Usage of Video-Sharing Websites for Educational Purposes (Kılıç & Yılmaz, 2021), a quantitatively graded evaluation form for student-made videos, and an online survey.

Taxonomic test to measure success. A test to measure success was prepared about the topics covered for eight weeks. The test contained questions that were illustrative of all levels of Bloom's taxonomy excluding the 'create' level. The 'create' level could not be included in the test as it pertained to long-term production skills. Nevertheless, students' production of argumentative monologues or creation of videos of argumentative monologues is, after all, a skill in terms of the 'create' level. To assure that the test was well-suited to the taxonomy, opinions were received from two measurement and evaluation experts. Likewise, to ensure that the test had content validity, expert opinions were received from two academicians. Moreover, two researchers in the area of language education analyzed the test in terms of language and wording. In light of the recommendations obtained from the experts in each area, a draft test comprising 35 questions was prepared. To check the reliability, comprehensibility, applicability and duration of the test, a pilot study was performed with 20 pre-service literacy teachers who were not in the sample but had taken this course before. Following the pilot study, 13 questions with item discrimination values below 0.30 and item difficulty values above 0.80 were removed from the test. Table 1 below displays the item difficulty index and item discrimination index values for the remaining 22 questions in the test.

Table 1. The item difficulty and item discrimination values for the questions of taxonomic test to measure success

Taxonomy levels	Question is for…	Item no	Item difficulty	Item discrimination
Evaluate	First four weeks	Q2	0.25	0.49
	Last four weeks	Q3	0.35	0.70
	First four weeks	Q13	0.20	0.68
	Last four weeks	Q23	0.20	0.45
Analyze	First four weeks	Q24	0.30	0.65
	Last four weeks	Q34	0.30	0.36
	First four weeks	Q4	0.55	0.43
	Last four weeks	Q22	0.45	0.54
Apply	First four weeks	Q30	0.40	0.81
	Last four weeks	Q32	0.40	0.66
	First four weeks	Q6	0.60	0.54
	Last four weeks	Q14	0.55	0.57
	First four weeks	Q26	0.60	0.49
Understand	Last four weeks	Q7	0.50	0.43
	First four weeks	Q10	0.60	0.68
	Last four weeks	Q16	0.45	0.47
	First four weeks	Q29	0.55	0.56
	Last four weeks	Q33	0.55	0.52
Remember	First four weeks	Q8	0.60	0.62
	Last four weeks	Q19	0.45	0.58

First four weeks	Q18	0.60	0.51
Last four weeks	Q35	0.50	0.63

As the item difficulty values were heterogeneous in the taxonomic test, the KR-20 reliability coefficient was calculated and identified as 0.86. In the taxonomic test, the 'evaluate' level had four questions, the 'analyze' level had four questions, the 'apply' level had five questions, the 'understand' level had five questions, and the 'remember' level had four questions. Eleven questions evaluated the topics in the first four weeks whilst the remaining eleven questions addressed the topics in the last four weeks. The mean item difficulty value for the eleven questions evaluating the topics in the first four weeks was 0.47, while the mean item difficulty value for the remaining eleven questions addressing the topics in the last four weeks was 0.42. The mean item difficulty value for the entire test was 0.45.

The Scale of Adults' Levels of Acceptance and Usage of Video-Sharing Websites for Educational Purposes (AAUS) (Kılıç & Yılmaz, 2021). To identify the participants' levels of acceptance and usage of video-sharing websites, the scale developed by Kılıç and Yılmaz (2021) was used in this study. Before the study, permission to use the scale was received from its developers by e-mail. Designed as a five-point Likert-type scale, this measurement tool has five factors and 37 items. The developers of the scale calculated the Cronbach's Alpha internal consistency coefficient for the factors of performance expectation, behavioral intention, social impact, effort expectation, and trust successively as 0.973, 0.962, 0.939, 0.907, and 0.869. In the present study, these Cronbach's Alpha coefficients were found respectively as 0.931, 0.949, 0.852, 0.902, and 0.848 for the factors of the scale listed in the order given above.

Quantitatively graded evaluation form for student-made videos. A graded form was created to evaluate the student-made videos. In grading, to avoid concentration on the median, the even number of the values was utilized. Items about persuasiveness, fluency, creativity and technical competence that could be rated from 1 to 10 were present in the evaluation form. A score of 1 showed the weakest level in the skill, whereas a score of 10 displayed the highest excellence in the skill. To identify the agreement among the raters, Kendall's Coefficient of Concordance (W) was calculated for the total scores. According to this calculation, the p-value was statistically significant ($p<0.01$). Table 2 below presents the calculation results.

Table 2. The agreement among raters in the evaluation of student-made videos

Kendall's Coefficient of Concordance (W)	0.863
Sample size	53
Number of raters	4
P	0.00*

$p<0.05$*

As is viewed in Table 2, Kendall's Coefficient of Concordance (W) showing the level of agreement among raters was 0.863. The mean value of the scores given by the external observers to each participant indicated the participant's performance score.

Online survey. The survey contained open-ended questions. The questions had the flexibility to enable the participants to express their perceptions in their own words (Merriam & Tisdell, 2016). By using the answers to the survey questions, the participants' views about the process were reflected in the results.

Data Analysis

Quantitative analysis. At the first stage, whether the quantitative data obtained with the measurement tools were normally distributed was checked. Table 3 shows the normality values for the distributions of the quantitative data.

Table 3. Normality values for the data obtained with the measurement tools

Measurement tool	Factor	Normality value
AAUS	Performance expectation	0.06*
	Effort expectation	0.00
	Social impact	0.27*
	Behavioral intention	0.00
	Trust	0.52*
Participants' video performance scores		0.20*
Taxonomic test scores (The sum of scores of the first four weeks and the last four weeks)		0.32*

n= 53, p>0.05*

Table 3 shows that there were deviations from normal distribution in the factors of effort expectation and behavioral intention of AAUS. Similarly, the skewness values for the factors of effort expectation and behavioral intention were consecutively 0.312 and 0.327. In the social sciences, data are considered to have normal distribution if the skewness value is between -1 and +1 (Hair et al., 2013). The participants' student-made video performance scores and taxonomic test scores were normally distributed. In this regard, parametric tests were utilized in the analyses. Paired-samples t-test, correlation analysis and descriptive statistics were used for the first research question. Next, correlation analysis was utilized for the second research question, and independent-samples t-test was employed for the third research question.

Qualitative analysis. The qualitative data obtained from the online survey were examined thematically by using the content analysis method (Patton, 2002). In qualitative research, reliability generally refers to the agreement between multiple coders in datasets (Creswell, 2014). In this context, in the process of qualitative analysis, support was received from co-coders who are experts in the area. The Cohen's kappa coefficient was utilized to identify the level of agreement between the co-coders in the analysis (Cohen, 1960). Table 4 displays the agreement test results.

Table 4. Agreement between the co-coders in the qualitative data analysis

Cohen's kappa coefficient	0.845
Sample size	22
Number of co-coders	2
p	0.02*

p<0.05*

The Cohen's kappa coefficient indicating inter-observer reliability was found as 0.845, which showed that there was a high-level agreement between the co-coders.

Findings

The findings are presented in this section in the same order as the research questions.

Effect of Student-Made Educational Video Performance on Academic Success

Paired-samples t-test was utilized to test whether there was a significant difference between the Success levels of the participants in the topics handled in the first four weeks and those handled in the last four weeks. Table 5 shows the analysis results.

Table 5. Results of the paired-samples t-test conducted on the scores of the success test in the topics of the first four weeks and the last four weeks

	n	$\bar{x}$	Sd	df	t	p
Taxonomic test - topics of the first four weeks	53	6.09	1.34	52	11.61	0.00*
Taxonomic test - topics of the last four weeks	53	7.85	1.65	52		

n= 53, p<0.05*

As seen in Table 5, there was a statistically significant difference between the scores of the taxonomy test for the topics of the first four weeks and those of the last four weeks ($p<0.05$). The mean taxonomy test score of the participants for the topics of the last four weeks was significantly higher than their mean score for the topics of the first four weeks. After this, the correlation between the scores of the taxonomy test for the topics of the last four weeks and the student-made video performance scores of the participants was analyzed (Table 6).

Table 6. The correlation between the participants' video performance scores and academic success levels

	Performance	
	r	**p**
Taxonomic test – last four weeks	0.488	0.00*

n= 53, p<0.05*

Table 6 demonstrates a moderate, positive and statistically significant correlation between the participants' success scores and their video production performance scores. To discern the relationship between video production performance and the depth of learning, the mean scores of the taxonomy test for the first four weeks and for the last four weeks were compared graphically based on the taxonomic categories of the test (Figure 1).

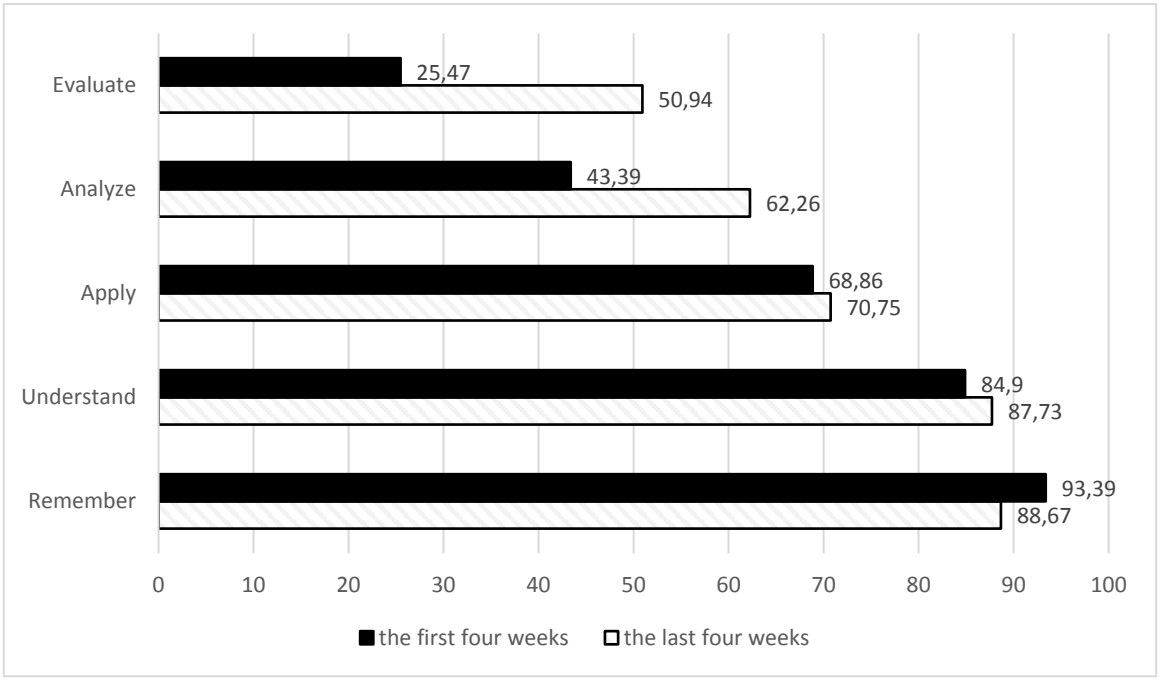

Figure 1. The comparison of the mean taxonomy test scores of the participants for the first four weeks and the last four weeks based on taxonomic categories

In Figure 1, it is seen that the degree of change between the mean scores of the 'remember', 'understand' and 'apply' categories of the taxonomy test for the first four weeks and the mean scores of the same categories for the last four weeks was lower than the degree of change between the mean scores of both periods for the 'analyze' and 'evaluate' categories. In the 'analyze' and 'evaluate' categories, the rate of success in the topics on which the participants had discussions and made videos was above 50%, while their rate of success in the topics of the first four weeks when no video was made was below 50%.

The Correlation between the Participants' Video Production Performance Scores and Their Levels of Acceptance and Usage of Video-Sharing Websites for Educational Purposes

Table 7 below exhibits the results of the correlation analysis that was conducted to answer the second research question.

Table 7. The correlation between video production performance scores and levels of acceptance and usage of video-sharing websites for educational purposes

	Performance	
Acceptance and Usage	**r**	**p**
Performance expectation	0.135	0.33
Effort expectation	0.079	0.57
Social impact	0.022	0.87
Behavioral intention	0.121	0.38
Trust	0.030	0.83

n= 53, p<0.05*

Table 7 demonstrates that there was no statistically significant correlation between the scores of the factors of AAUS and the video production performance scores of the participants (p>0.05). This finding shows that there is no relationship between participants' video consumption for educational purposes and their video production performance.

The Relationship between the Participants' Viewpoints about the Educational Short Video Production Process and Their Video Production Performance Scores and Academic Success

Tables 8 and 9 present the results of the independent-samples t-test conducted to find out whether there was any statistically significant difference in the mean video production performance scores and taxonomic test scores of the participants based on their statuses of having a favorable view about the process. According to the results of the Levene's test, the p-value was 0.72 for video production performance and 0.53 for success (p>0.05), which showed that the variances were homogeneous.

Table 8. The relationship between the participants' viewpoints about the video production process and their video production performance scores

	Viewpoint	**n**	$\bar{x}$	**s**	**t**	**p**
Performance scores	Positive	27	6.822	0.872	2.220	0.03*
	Negative	26	6.294	0.857		

p<0.05*

Table 8 shows that there was a statistically significant difference in the mean video production performance scores of the participants based on their viewpoints about the process of learning by producing videos (p<0.05). The difference in the mean video production performance scores was in favor of the participants who had a positive viewpoint about the process. In other words, the participants with a positive viewpoint had a higher mean video production performance score than those with a negative viewpoint about the process.

Table 9. The relationship between the participants' viewpoints about the video production process and their academic success

	Viewpoint	**n**	$\bar{x}$	**s**	**t**	**p**
Taxonomic test	Positive	27	7.956	1.572	0.441	0.63
	Negative	26	7.739	1.769		

n= 53, p<0.05*

Table 9 shows that based on their viewpoints about the process of learning by producing videos, there was no statistically significant difference in the mean taxonomic test scores of the participants (p<0.05). While some participants' negative viewpoints about the process of learning by producing videos were negatively associated with their video production performance scores, their negative viewpoints had no significant relationship to academic success.

The Participants' Views about the Process of Video Production for Educational Purposes

The participants' views about the process of video production for educational purposes were addressed under four themes and 18 categories.

Table 10. The participants' views about the process

Theme	Category	%
Challenging topics	Shooting the video again and again due to errors in emphasis, intonation, pronunciation, and speech	35.21
	Technical problems in recording, montage-making, and editing	29.57
	Time pressure (trouble in fitting thoughts in a video that is supposed to last 1-5 minutes)	23.94
	Failure to compose thoughts and express them verbally	11.26
Preparation for professional future	Developing the skill to speak by preparation	22.77
	Active learning	18.81
	Acquiring technological skills such as montage-making and video editing	16.83
	Developing the skill to speak briefly and effectively	13.86
	A broad process of data collection/research	10.89
	Developing the skill to work in a planned manner	8.91
	Developing the skill to reason what is in mind	7.92
Interaction	Intense student-material interaction	34.69
	Peer interaction outside class hours	33.67
	Witnessing peers' creativity during class hours	31.62
		Duration
Connecting the period outside the course hours with the course	Time spent on recording the video	1-4 hours
	Time spent on montaging and editing	4-7 hours
	Time spent on ideational preparation and production of speech text	2-10 days

Note: The percentages above show the proportional breakdown of the categories under each category.

As seen in Table 10, the participants had the biggest trouble in speaking impeccably for a long time while recording the videos. The participants thought that with diverse perspectives, the video production process prepared them for their professional future. Regarding the theme of interaction, the participants stated that the video production process made an interaction between the student and materials and between peers possible. Besides, the participants said they collaborated with their friends outside the class hours for finding and using montage-making and editing programs and watched their peers' creativity during the class hours. By virtue of video production activities performed outside the class hours, the participants made efforts for the course in the period outside the class hours as well.

Discussion and Recommendations

In this study, data about short videos composed of argumentative monologues produced by pre-service literacy teachers were analyzed to find evidence about the effectiveness of student-made videos in training teachers. In accordance with previous experimental studies (Kawash & Sailunaz, 2020; Thomas & Marks, 2014), the present study confirmed that the student-made videos that were created in the scope of this study supported learning. Besides, in line with the study by Speed et al. (2018), the student-made videos enabled the participants to have in-depth learning in the present study. On high levels of the taxonomy, the participants

had significantly higher scores of success in the topics on which the videos were recorded than the topics on which no video was recorded, and this difference was statistically significant.

It was discerned that the participants' levels of acceptance and usage of video-sharing websites for educational purposes had no statistically significant relationship to their video production performance scores. The finding that the pre-service teachers watched educational videos to facilitate learning and enhance productivity, had the willingness to watch them and found watching them safe had no effect on the qualities of the videos prepared by them, such as persuasiveness, fluency, creativity, and technical competence.

Half of the participants in this study had negative viewpoints about the activities that they performed in the video production process, whereas the other half held positive viewpoints about the process. This result had a similarity, to a certain extent, to the finding of the study by Orus et al. (2016) in which the participants were satisfied with the activities they performed in the video production process. Besides, the participants' negative viewpoints were reflected in the quality of videos that they produced. The participants with a positive viewpoint had significantly higher video production performance scores than those with a negative viewpoint. On the other hand, the negative viewpoints of the participants had no statistically significant relationship to their academic success scores. Regardless of the nature of the viewpoints held by the participants, the video production process contributed to their learning. This situation demonstrated that even if learning by producing videos enhanced the learning process, it did not always guarantee that the learners would perceive this process as a pleasing experience since it was a long and arduous process (Thomas & Marks, 2014).

In the video production process, the participants were challenged at certain points. The challenges of speaking impeccably and being obliged to make video recordings repeatedly were in common with those identified in the study by Fidan and Debbağ (2018). Not knowing how to use montage-making programs in the process of video editing was another challenge faced by the participants of this study. Even if this seemed like a negative situation, it turned to be an opportunity for the participants to interact with their peers and have a taste of peer learning. Outside the class hours, the participants collaborated with each other to learn how to use video editing programs, and they supported the learning processes of each other by sharing their experiences with their peers. Here, what the participants gained in learning was not the achievements supposed to be attained from the course but digital literacy skills. Today, there are different contexts of literacy such as digital literacy, information literacy, e-literacy (Watulak, 2016), media literacy (Hobbs & Jensen, 2009), and academic literacy (Nizonkiza & Van-Dyk, 2015). Considering that literacy skills are addressed mostly in the instruction of reading and writing, it was important that the participants of this study gained skills in another dimension of literacy. Based on the findings of the present study, educators may consider that in the context of teacher education, student-made videos improved peer interactions and digital literacy skills.

When learners make an educational video choice, they prioritize videos that are composed of short and meaningful parts (Altınpulluk et al., 2020; Harrison, 2020). Nevertheless, creating a short and effective video was the most challenging endeavor for the participants in the video production process. Considering the nature of the profession of teaching and the time limit of student attention (Bıyıklı et al., 2020), the tasks of producing videos with time limits helped the participants gain skills in speaking briefly and effectively, as indicated by the results of this study.

In the present study, the participants stated that the process of learning by producing videos prepared them for their professional future with diverse perspectives even if they were challenged at certain points. Doyle et al. (2020) showed that video production made students active players in their learning processes. In line with this result, the participants of this study reported that learning by producing videos enabled them to learn actively. Campbell et al. (2020) reported that activities performed by pre-service teachers in the video production process promoted cognitive, affective, and behavioral participation. In this study, the participants

had behavioral participation with their activities of speaking after preparation and had cognitive participation by making an ideational preparation for their videos. Mackay and Strickland (2018) set forth that including student-made videos in educational settings connected students' lives outside the school with the class. In line with the research mentioned above, the process of learning by producing videos in this study facilitated the participants to perform studies for the course outside the class hours. In the video production process, the participants devoted the longest time to ideational preparation. Besides, they stated that the video production process facilitated student-material interaction and peer interaction. In parallel to the study by Thomas and Marks (2014), the videos created by the participants in this study provided them with the chance to be creative and witness the creativity of their peers.

This study has limited generalizability as it was performed with the participation of pre-service literacy teachers only. Producing videos containing argumentative monologues in compliance with the branch of science in which the pre-service literacy teachers were specialized was a strength of the participants of this study. However, the lack of digital skills in using montage-making and editing programs as such skills are not covered by the curriculum of this branch of science was a weakness of the participants. If studies are carried out in a different branch of science, the results may turn out to be different. As a matter of fact, in a study that explored the contribution of video use in teacher education to professional vision, it was ascertained that pre-service teachers from different branches of science had different levels of professional vision (Blomberg et al., 2011). This is also likely for this study. Nonetheless, this study will be helpful in broadening the scope of our knowledge about the effectiveness of learning by producing videos in the education of pre-service literacy teachers. Future studies on the topic can be performed in a manner to compare pre-service teachers from different branches of science.

Conclusion

In this study, the focus was on the place of the process of learning by producing 1-5-minute short videos, which were composed of argumentative monologues, in the education of pre-service literacy teachers. The results showed that this process of learning provided the pre-service literacy teachers with achievements in topics such as increasing academic success, learning actively and deeply, acquiring digital literacy skills, obtaining the skill in speaking briefly and effectively, facilitating student-student interaction and student-material interaction, and performing activities for the course outside the class hours. Nevertheless, only half of the participants had positive viewpoints on the process of learning by producing videos. The participants' negative viewpoints were associated with lower levels of the quality of the videos they produced. On the other hand, their negative viewpoints had no significant relationship to their in-depth learning. Besides, there was no significant relationship between the participants' video consumption and production behaviors.

As highlighted at the beginning of this article, video-based learning started to manifest itself in every area of education, and it is likely to be more prevalent in the future. Studies have reported that today, most teachers consume educational videos rather than producing them, they are not well-equipped to produce interactive video content (Kolås, 2015) and need to have a certain level of competence to benefit from 360-degree videos (Tan et al., 2020). The teachers of the future should be well-equipped and prepared for video-based learning. Studies have shown that video-sharing websites that use algorithms to identify the number of views and likes have brought about problems such as the standardization of knowledge, a decrease in comment-based diversity, and the proliferation of the same styles of videos (Arklan & Kartal, 2018; Fyfield et al., 2020; Meseguer-Martinez et al., 2017). Whether pre-service teachers can produce educational videos in their potential future can be more important to the elimination of this situation than it is considered to be. Additionally, there are studies indicating that students preferred courses in the form of recorded videos instead of live and interactive courses (Yung, 2020). The students of the future are likely to demand video-based courses from their teachers besides interactive courses.

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The Mediating Role of Personality Traits on Head of School's Core Self-Evaluation Presenteeism Behaviors*

Research Article

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ABSTRACT

In this study, it was aimed to reveal the mediating role of personality traits in the effect of head of school's core self-evaluation on presenteeism behaviors. For this purpose, in the quantitative research designed in the correlational design, the research was conducted with a sample group of 310 head of schools selected by the 'simple random (random)' sampling method in the 2019-2020 academic year. Correlation and regression analyzes were utilised in the analysis of the data. In line with the findings, it was concluded that the head of school' core self-evaluations were at a medium level and their presenting behaviors were at a low level and that the head of schools mostly had A-type personality traits. According to the results of multiple regression analysis and process module and bootstrapp regression analysis, it was determined that personality traits had a partial mediation effect on the effect of core core self-evaluation on presenteeism behaviors.

Keywords:
Öz Kendilik Değerlendirmesi, presenteesim, A Tipi Kişilik, B Tipi Kişilik

Introduction

Human resources constitute the most important building block of an organization. When we look at the basis of school management, administrators can be expressed as the most effective people in ensuring the sustainability, vision, change, efficiency and success of the organization at the organizational level. For this reason, considering the effects of head of school on the management processes, it is likely that their behaviors and personality traits will have a positive or negative impact on the organizational level.

While it is known that many variables are reflected in organizational behavior within the organization, in the study, core self-evaluation, presenteeism behaviors and personality traits have been discussed and explained.

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Organizations where presentees are seen have been facing with loss of cost and productivity. Especially in the case of having a contagious disease, a single working patient poses a threat to the health of many employees in the organization (Riedel et al., 2001; Uribe et al., 2017; Widera et al., 2010; Zhang, 2015). In the study conducted by Bergström et al. (2009), it was revealed that presenteeism will cause more health problems to be experienced in the future, and therefore, the number of days that will be absent from work in the future will be higher for people who try to continue their work despite being unhealthy.

Core self-evaluation has an impact on individuals' decisions or behaviors in organizational life (Bono & Judge, 2003). Individuals with high core self-evaluation have higher performance. Since they set ambitious goals, individuals patiently strive to achieve their goals (Robbins & Judge, 2020).

Personality is an important variable for organizations since it is effective in many ways from recruitment criteria to organizational efficiency (Özsoy, 2013). Therefore, since it is thought to have an impact on core self-evaluation and presenteeism, it has formed another variable of the research. As a matter of studies in the literature, relations among presenteeism and core self-evaluation (Acaray, 2019), life satisfaction, physical and mental well-being (Güdü Demirbulat & Bozok, 2015), stress (Wan et al., 2014; burn-out (Zengin & Kaygın, 2016); work performance (Collins et al., 2005; Guluni & Yumuk Günay, 2020), absenteeism (Mc Clearn et al., 2010; Wada et al.,2013), organizational identification (Çiftçi et al.,2018), organizational commitment (Baysal, 2012), alienation from work (İşcan & Moç, 2018), type A and B personality (Üzüm & Şenol, 2019; Yavuz & Kayhan, 2020), type A and B personality and stress (Durna, 2004), presenteeism with five factor personality traits (Ulu et al., 2017; Yıldız et al., 2017) were investigated. It was considered important to determine the relationships between personality assessments, presenteeism behaviors and personality traits. In line with this importance, the main purpose of this research is to reveal the mediating role of personality traits in the effect of head of school's core self-evaluation on presenteeism behaviors. In line with this main purpose, research hypotheses were formed and hypotheses were tested.

Conceptual Framework

Core self-evaluation

The complex structure of organizations highlights the self-management and proactive behaviors of individuals. For this reason, the need for individuals to be able to trust their own competencies and to ensure their personal development has been increasing (Tims & Akkermans, 2017). At this point, the concept of self emerges. Self-concept expresses the thoughts and feelings of the individual about himself (Butler & Gasson, 2005). Core self-evaluation, on the other hand, has been expressed by Judge and others as core self-evaluation of people's judgments about themselves and their self-worth (Brunborg, 2008).

Self-esteem, generalized self-efficacy, neuroticism and locus of control are included in core self-evaluation (Judge et al., 2003). Looking at these concepts; Self-esteem refers to a person's sense of his own worth, how much he values, and how he appreciates himself (Sharma, 2014). Self-efficacy is the belief that individuals can do to achieve their goals, depending on their potential. However, it is not the skills one has, but the belief developed about what these skills can do or how much they can do in different situations (Bandura, 1997). Therefore, self-efficacy focuses on individuals' performance abilities, not physical or psychological characteristics (Zimmerman, 2000). In this context, the fact that self-efficacy has a significant impact on motivation, performance and resilience (Bandura & Locke, 2003) is also significant in terms of evaluating behaviors within the organization. Neuroticism occurs when a person tends to focus more on the negative aspects of his/her self (Watson, 2000). Locus of control is the beliefs of individuals about the factors that cause the events they have experienced (Strauser, Ketz & Keim, 2002). Rotter (1966) considered the locus of control in two dimensions: internal locus of control and external locus of control. While people with an internal locus of control believe that their own behavior is effective in the results of their actions, people with

an external locus of control attribute the consequences of events to external factors such as luck independent of them (Bernardi, 2001; Rotter, 1966; as cited in Au, 2015). With the explanation of the concepts, it turns out that there is an evaluation based on the perception and abilities of the individual for core self-evaluation (Judge et al., 2003).

Presenteeism

This concept, which was first used by organizational psychologist Cary Cooper after the second half of the 1990s (Yalım, 2005); As of the 2000s, it has been the subject of much more studies (Coutu et al., 2015). Presenteeism is defined as the decrease in the performance and productivity of individuals with physical or mental problems when they are not at work (Çiftçi, 2010; Dewa et al., 2007; Koçoğlu, 2007; Ferreira & Martinez, 2012; Zhang et al. 2015). Being absent at work occurs when employees are physically present in their work due to health problems, but cannot focus on their work mentally enough (Widera et al., 2010). In other words, while employees appear at work, they make less effort to fulfill their responsibilities at work (Gilbreath & Karimi, 2012).

Presenteeism has a negative impact on organizational performance by reducing the quality of working life (Çoban & Harman, 2012; Koopman et al., 2002). For this reason, it is seen as an important concept since it is thought that the health problems experienced by the employees will negatively affect the performance of the employees. When evaluated under certain conditions, presenteeism can be accepted as an organizational citizenship behavior and can be evaluated as a behavior that will receive praise from superiors. Therefore, it was also stated that the concept of presenteeism should not be considered as a factor that reduces the productivity of employees (Johns, 2010). However, some researchers consider presenteeism as one of the reasons why organizations suffer. In this context, researchers have revealed that compared to the decrease in productivity due to the absence of health problems, employees with health problems may cause a higher cost when they go to work despite having health problems (Burton et al., 2006; Schultz & Edington 2007).

Personality Traits

Being aware of personality traits is very useful in making sense of people's behaviors, therefore, it has been one of the subjects that are highly emphasized in different fields of social sciences as well as psychology (Bora Semiz, 2017). Personality is defined as the patterns of thought, emotion, and behavior used to react or interact (Funder, 2001; Robbins & Judge, 2020). Personality can alter over time through interaction and communication with the social environment (Robbins & Judge, 2020). In other words, since personality develops with environmental and hereditary effects, it can change over time (Parikh & Gupta, 2010). Personality reflects who we are and determines our affective, behavioral and cognitive actions as a whole (Mount et al., 2005).

Personality traits are a relatively permanent set of thoughts, feelings and behaviors that differentiate individuals from each other (Roberts & Mroczek, 2008). As the behaviors exhibited by people over time become consistent and continuous, the personality traits reflected in the behavior revealed become effective in defining individuals (Robbins &Judge, 2020). Thus, it is possible to say that the factor that creates the feelings and thoughts we form about people is personality traits. Personality traits have been discussed in different typologies in the literature. One of them is type A and B personality traits.

Types A and B personality were introduced by cardiologist Friedman and Rosenman (1974). During their clinical observations, Friedman and Rosenman thought that there might be a connection between the personality traits of their patients and heart diseases, and with their research in this area, they revealed two different personality traits, Type A and Type B (Kuannatt, 2003).

The case that led to this research of Friedman and Rosenman commenced with the repair of the upholstery of the waiting chairs in the clinic. Friedman and Rosenman noticed that the mechanic said that only the tops of the seats were worn, therefore, he constantly changed only the upper part of the seats. As they observed the patients waiting in the following processes, they realized that while waiting in line, the patients only sat at the ends of the seats due to tension, anxiety, worry, and hasty behavior. Following this point, they thought that the different behaviors of the patients were related to personality, and in their research they categorized the personality in two different typologies as Type A and Type B (Moorhead & Griffin, 1992; in cited Durna, 2005).

People with type A personality traits are more competitive, impatient, fast-eating, fast-moving, aggressive, and talkative. They act impatiently while waiting for the results of events. They want to see results as soon as possible. People who speak slowly tend to finish their sentences. If there is a job that they can complete faster, they have difficulty waiting for others to do it, and if they can, they complete the job themselves (Friedman & Rosenman 1974; in cited Kuannatt, 2003; Yavuz & Kayhan, 2020; Luthans, 2011). In addition, polyphasic thinking is another distinctive feature of individuals with Type A personality traits. In other words, they can think of two or more things at the same time. It is also possible for them to do different jobs at the same time (Kuannatt, 2003). When Type B personality traits are evaluated, the opposite of Type A personality traits is encountered. Individuals with Type B personality traits are more patient, calm, soft-tempered and far from competitive. In addition, they do not feel under time pressure and do not regret the time they spend for themselves (Luthans, 2011). Due to the complex nature of human beings, when the general evaluation of Type A and Type B personality traits is made, people may not strictly exhibit only Type A or only Type B personality traits. In some cases, it is possible to see features from both personality types (Özsoy, 2013). Therefore, it is stated that people do not exhibit either completely type A or completely type B personality traits (Pertev, 2006).

Methodology

Research Model and Research Hypotheses

In this study, which was designed with a correlational design, it was aimed to determine the mediating role of personality types in the relationship between core self-evaluation and presenteeism. For this purpose, the research model and research hypotheses in Figure 1 are given below in order to determine the mediating effect of personality types, which is the independent variable, in the relationship between core self-evaluation and presenteeism, which is the dependent variable.

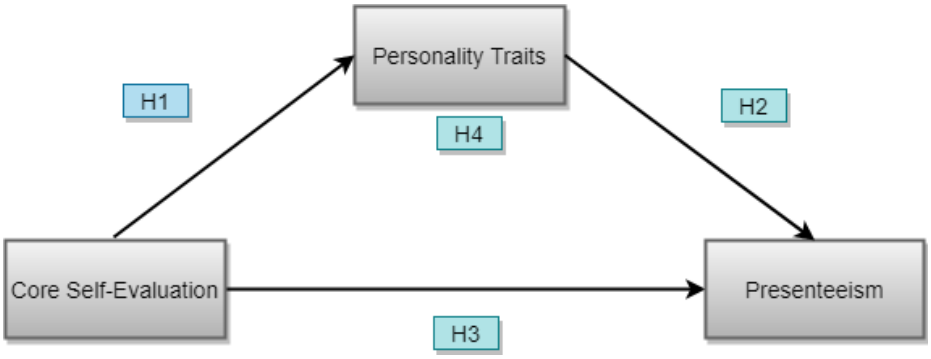

Figure 1. Research model

Hypothesis 1. Core self-evaluation has a significant impact on personality types.

Hypothesis 2. Personality types have a significant impact on presenteeism.

Hypothesis 3. Core self-evaluation has a significant impact on presenting.

Hypothesis 4. Personality types mediate the relationship between core self-evaluation and presenteeism.

Research Population and Sample

In the research, 'simple random sampling method' was chosen to determine the study group. In simple random sampling, there is no difference between the probability of individuals being selected (Büyüköztürk et al, 2011). The data were collected in the 2019-2020 academic year. The sample group of the study included 310 heads of school working in schools located in the city center of Elazig. The heads of school, 110 were heads of schoolvand 200 were deputy heads of school.

Demographic Characteristics of the Participants

The results of the cross-analysis between the titles and years of seniority and personality types of the head of school participating in the research are given in Table 1 and Table 2.

Table 1. Cross-analysis results between the titles of heads of schooland personality types

		Type A Personality	Type B Personality	Total	
		n	n	n	%
Title	Head of school	50	60	110	35,5
	Deputy Head of School	143	57	200	64,5

Considering the distribution of personality types according to the titles of the participants; The number of managers with Type A personality traits is 50, and the number of assistant managers is 143; It is seen that the number of principals with B type personality traits is 60 and the number of deputy head of school is 57.

Table 2. The results of the cross-analysis between the seniority years of the heads of school and the personality types

				Type A Personality	Type B Personality
				n	n
Precedence	**1-5 years**	Head of School		-	-
		Deputy Head of School		32	-
		Total	n	**32**	-
			%	**100**	
	6-10 years	Head of School		10	2
		Deputy Head of School		48	22
		Total	n	**58**	**24**
			%	**70,7**	**29,3**
	11-15 years	Head of School		20	34
		Deputy Head of School		22	11
		Total	n	42	45
			%	48,3	51,7
	16-20 years	Head of School		12	11
		Deputy Head of School		5	14
		Total	n	17	25
			%	40,5	59,5
	20 years and over	Head of School		8	13
		Deputy Head of School		36	10
		Total	n	44	23
			%	65,7	34,3

Considering the distribution of personality types according to the seniority of the participants; It is seen that 32 deputy heads of school, whose seniority is between 1-5 years, have Type A personality traits. There are 58 school heads of school with Type A personality traits (N=10 heads of schools , N=48 heputy heads of school) and 24 heads of school with Type B personality traits between 6-10 years of seniority (N=2 head of school,

N=22 deputy heads of school). Between 11-15 years of seniority, there are 42 heads of school with Type A personality traits (N=20 head of school; N=22 deputy heads of school), and 45 heads of school with Type B personality traits (N=34 school principal, N=11 deputy heads of school). There are 17 heads of school with Type A personality traits (N=12 head of school; N=5 deputy heads of school) and 25 heads of schools with Type B personality traits between 16-20 years of seniority (N=11 school principal, N=14 deputy heads of school). When we look at the distribution of heads with 20 years or more of seniority, 44 heads of school with Type A personality traits (N=8 heads of school; N=36 deputy heads of school), 23 heads of school with Type B personality traits (N=13 heads of school, N= 10 deputy heads of school).

Limitations of the Research

The research is limited to the answers given by the heads of school to the questionnaires. However, the research is limited to the sample consisting of the province of Elazığ.

Data Collection Tools

Information on the scales used as data collection tools in this study is given below.

Stanford Presenteeism Scale (SPS-6): The 6-item Stanford Presenteeism Scale (SPS-6), developed by Koopman et al. (1991) and used by Moç (2018), was preferred. The items in the scale are graded as a 5-point Likert (1-Strongly Disagree, 5- Strongly Agree). 1.00-1.80 "strongly disagree", 1.81-2.60 "do not agree", 2.61-3.40 "undesired", 3.41-4.20 "agree" and 4.21-5.00 "strongly agree" has been determined. The scores that can be obtained from the scale vary between 6-30. The higher the score obtained from the scale, the higher the presentetic behavior.

The exploratory factor analysis findings related to the presenteesim scale are given in Table 3.

Table 3. Presenteeism exploratory factor analysis results

Kaiser-Meyer-Olkin Measure of Sampling Adequacy: 0, 912
Bartlett's Test of Sphericity
Approx. Chi-Square: 2785,187252; df: 15; p: ,000

	Scale Item	Factor Loads	Eigenvalue	Explained Variance
Presentesim Scale	Item 5	,972	5,317	88,624
	Item 4	,961		
	Item 3	,949		
	Item 2	,932		
	Item 1	,922		
	Item 6	,911		

In the factor analysis of the scale, Kaiser Meyer-Olkin (KMO) value was 0.912 and Bartlett test of sphericity 2785,187252 (df: 15; p: ,000), it can be seen that the data is appropriate and significant for factor analysis. As a result of Principal Component Analysis, a single factor scale structure with factor loads between ,911-,972 was obtained, while the total variance explained was 88,624. In different studies in the literature, the scale was found to have a single factor (Baysal et. al, 2014; Moç, 2018; Soyalın & Kerse, 2020).

The scale used in the research was discussed in the context of the factor structure revealed in the research conducted by Moç (2018). The results of confirmatory factor analysis performed with the Amos 24.0 program are shown in Figure 2. Maximum Likelihood method was used as the estimation method. Although this estimation method is a frequently used method in structural equation modeling studies, it is necessary to provide the normality assumption of the data in order to be used together (Şimşek, 2007). The data in the study provide the assumption of normality.

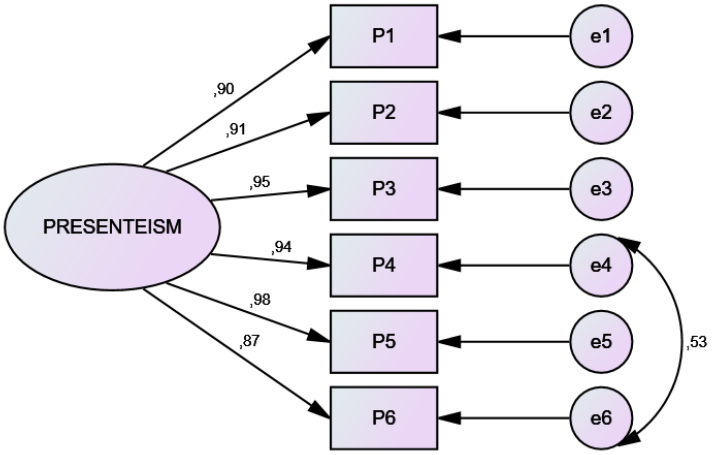

Figure 2. Presenteeism Scale Confirmatory Factor Analysis

The fit values of the model created as a result of confirmatory factor analysis have been given in Table 4. When the model fit indices were examined, it was revealed that the X2/sd and RMSEA indexes were at an acceptable level of fit, while the other indexes were at a good fit level (Meydan &Şeşen, 2011). These results show that the single-factor structure of the scale was confirmed.

Table 4. Model fit indices

Model fit indices								
X²/sd	*RMSEA*	*SRMR*	*NFI*	*CFI*	*GFI*	*AGFI*	*IFI*	*TLI (AMOS)*
4,03	**0.07**	**0.02**	**.98**	**.82**	**.96**	**.91**	**.99**	**.98**

In order to determine the internal consistency reliability of the scale, Corrected Item-Total Correlation, Cronbach's Alpha if Item Deleted and Cronbach Alpha coefficients are given in Table 2. According to Table 4, there is a high correlation between the observed variables (observed variables) and the structure they belong to. The Cronbach alpha coefficient is in the acceptable range between 0.60-0.70 (Griethuijsen et al., 2014). It has been shown that reliability above 0.70 is at a good level (Hair et al., 2006), and reliability above 0.90 is strong (Taber, 2017). Cronbach's alpha coefficient was found to be 0.974 in the study. It is possible to indicate that the reliability of the scale is at a very good level. In the study conducted by Moç (2018), Cronbach's alpha value was found to be 0.889, and 0.80 by Koopman et al.

In addition to the Cronbach alpha value, CR (Composite Reliability) and AVE (Average Variance Extracted) values are also included to ensure convergent validity. The CR value is expected to be equal to or greater than 0.70 and the AVE value equal to or greater than .050 (Fornell & Larker, 1981). For convergent validity, the CR value should be higher than the AVE value (CR>AVE; AVE>0.5) (Yaşlıoğlu, 2017). As shown in Table 5, CR=.972 and AVE=0.856 were found in the study (CR=. 972>AVE= 0.856; AVE=0.856 >0.5), convergent validity of the scale was ensured.

Table 5. Presenteeism scale reliability analysis and CR-AVE values

Presenteeism Scale Items	**Corrected Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**	**Cronbach Alpha**	**AVE (Average Variance Extracted)**	**CR (Composite Reliability)**
Item1	,888	,971	,974	,856	,972
Item2	,901	,970			
Item3	,926	,967			
Item4	,944	,966			
Item5	,958	,964			
Item6	,873	,973			

Core Self-Evaluation Scale: The 12-item scale used by Şeşen (2010) was developed by Judge et al. (2003). The items in the scale are graded as a 5-point Likert (1-totally disagree, 5-totally agree). The scores that can be obtained from the scale vary between 12-60. As the score obtained from the scale increases, the core self-evaluation also increases (Şeşen, 2010). 1.00-1.80 "totally disagree", 1.81-2.60 "little agree, 2.61- 3.40 "some extended agree", 3.41-4.20 "agree" and 4.21-5.00 "totally agree" has been determined.

The exploratory factor analysis findings related to the core self-evaluation scale are given in Table 6.

Table 6. Results of exploratory factor analysis of the core self-evaluation scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy: 0, 968
Bartlett's Test of Sphericity
Approx. Chi-Square:6280,106 ; df: 66; p: ,000

	Scale Items	Factor Loads	Explained Variance
Core Self-Evaluation Scale	Item4	,960	86,217
	Item12	,954	
	Item10	,953	
	Item 8	,952	
	Item 2	,950	
	Item 11	,949	
	Item 6	,946	
	Item 1	,911	
	Item 3	,904	
	Item 5	,904	
	Item 7	,903	
	Item 9	,850	

In the factor analysis of the scale, the Kaiser Meyer-Olkin (KMO) value was 0.968 and the Bartlett test of sphericity was 6280.106 (df: 66; p: ,000), it can be seen that the data are suitable for factor analysis and are significant. As a result of Principal Component Analysis, a single factor scale structure with factor loads between ,850-,960 was obtained, while the total variance explained was 86,217. In the adaptation made by Şeşen (2010), the scale was found to have a single factor. The results of confirmatory factor analysis performed with the Amos program are shown in Figure 3. Maximum Likelihood method was used as the estimation method.

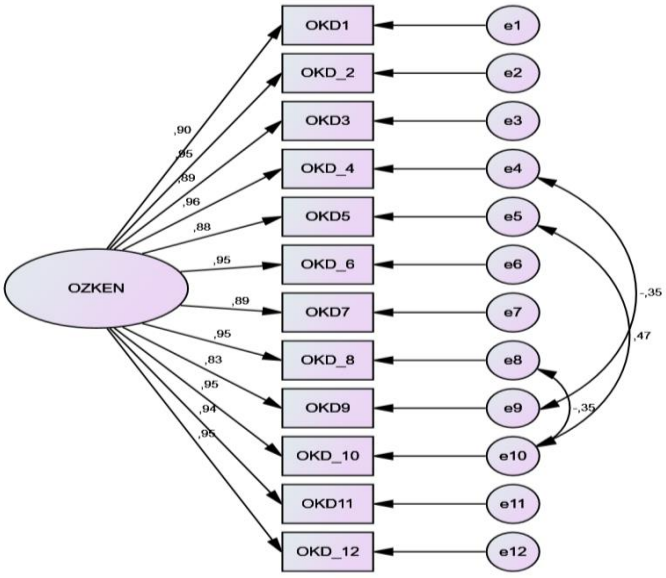

Figure 3. Core self-evaluation scale confirmatory factor analysis

The fit values of the model created as a result of confirmatory factor analysis are given in Table 7. Model fit indices show that the single-factor structure of the scale is confirmed.

Tablo 7. Model fit ındices

X²/sd	*RMSEA*	*SRMR*	*NFI*	*CFI*	*GFI*	*AGFI*	*IFI*	*TLI (AMOS)*
3,99	,098	,026	,968	,976	,902	,851	,976	,969

In order to determine the internal consistency reliability of the scale, Corrected Item-Total Correlation, Cronbach's Alpha if Item Deleted and Cronbach Alpha coefficients are given in Table 6. According to Table 7, there is a high correlation between the observed variables (observed variables) and the structure they belong to. Cronbach's alpha coefficient was found to be 0.983 in the study. It is possible to say that the reliability of the scale is at a very good level. In the study conducted by Şeşen (2018), the Cronbach's alpha value was found to be 0.85. As shown in Table 8, the scale was found to have CR=.985 and AVE=0.857 (CR=.985>AVE= 0.847; AVE=0.847 >0.5), and convergent validity of the scale was achieved.

Tablo 8. Core self-evaluation confirmatory scale and CR-AVE values

Core Self-Evaluation Scale Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach Alpha	AVE (Average Variance Extracted)	CR (Composite Reliability)
Item1	,895	,982	,983	0,847	0,985
Item2	,940	,981			
Item3	,887	,983			
Item4	,952	,981			
Item5	,886	,983			
Item6	,937	,981			
Item7	,885	,983			
Item8	,943	,981			
Item9	,825	,984			
Item10	,941	,981			
Item11	,938	,981			
Item12	,944	,981			

Personality Types Scale: The short form of Bortner Rating Scale consisting of 7 items used by Özsoy (2013) was used to determine personality types (Type A and Type B). This scale is an 8-point Likert scale. An evaluation of personality types is made by multiplying the scale score, which consists of 7 items with two opposite poles, and the total score obtained from the scale by 3. The scores that can be obtained from the scale range from 21 to 168. If the total score obtained is more than 100, it is considered as Type A Personality, and if it is less than 100, it is considered as Type B Personality (Aktaş, 2001). The midpoint of the scale was accepted as 4.50 (Özsoy, 2013). According to the internal reliability analysis of the scale, the Cronbach alpha coefficient was obtained as 0.711. The Cronbach alpha coefficient was found to be 0.634 by Özsoy (2013). According to the results obtained, the scale was accepted to be reliable.

Analysis of Data

In the research, the data were analyzed using SPSS 20 and AMOS 24 package programs. The validity and reliability analyzes of the 'Stanford Presenteeism Scale (SPS-6)' and the Core Self-Evaluation Scale used in the research were conducted. Skewness and Kurtosis values were used to measure the normal distribution of the data. Parametric tests were performed because the data showed normal distribution. Through the cross tables, the findings related to the demographic data were revealed. Correlation analysis, simple regression analysis and multiple regression analysis were used to test the research hypotheses. Before the regression

analysis, it was determined that there was no outlier value in the data set according to Mahalanobis Distance. It was also observed that there was no multicollinearity problem among the data. In order to determine the mediation effect, bootstrapp regression analysis was performed with the Process v4.0 macro.

Findings

Descriptive Statistics on Variables

Descriptive statistics regarding the scales of core self-evaluation, presenteeism, and personality types are given in Table 9.

Table 9. Descriptive statistics of variables

Variables	n	Minimum	Maximum	Mean	Std. Deviation
Presenteesim	310	1,00	5,00	2,8151	1,39296
Core Self-Evaluation	310	2,75	3,83	3,2207	,25017
Personality Types	310	3,00	7,29	4,9677	,97163

When Table 9 is examined, when the average value of the presenteeism scale is examined, the presenteeism behaviors of school administrators are at a low level with an average value of 2.8151. The mean value of the core self-evaluation scale was determined as 3.2207. In line with this value, school administrators' core self-evaluations were moderate. When personality types are examined, it is possible to state that heads of schools are more close to Type A personality traits, with the average value being 4.9677.

Hypothesis Tests

Before testing the research hypotheses, the normality distribution of the data was checked. The values obtained are given in Table 10. Skewness and Kurtosis values between -2 and +2 is the accepted range for the assumption of normal distribution (George & Mallery, 2010). Accordingly, it was accepted that the data provided the normality assumption, and parametric tests were used in testing the hypotheses.

Table 10. Skewness and Kurtosis values

Variables		Skewness	Kurtosis
Core Self-Evaluation		.228	-1,005
Presenteesim		0.78	-1.725
AB Personality Types		-.001	-.893
	Type A Personality	.720	-,487
	Type B Personality	.099	-,210

Findings Obtained Regarding the Relationships of the Variables

Pearson correlation analysis was performed to determine the relationship between all variables, including self-assessment, presenteeism, and personality types.

Table 11. Pearson correlation analysis values between variables

Variables	A	B	C	Mean	Std. Deviation
A. Core Self-Evaluation	1			3,15	1,28
B. Presenteesim	,699**	1		2,81	,97
C. Personality Types	,468**	-,534**	1	4,96	,25

N= 310; * p<.05, **p<.01

When Table 11 is examined, it is seen that there are significant relationships between research variables. Correlation coefficients between 1.00 and 0.70 are high; between 0.70 and 0.30 is moderate; between 0.30 – 0.00 can be defined as a low level relationship (Büyüköztürk et al., 2011). There is a moderately significant positive correlation between core self-evaluation and presenteeism (r= .699; p<.01). Considering the relationship

between personality scores and research variables, it was found that there was a moderately positive relationship between personality score and self-assessment (r=,468, p<.01); a moderate negative correlation was found between personality score and presenteeism (r=-.534, p<.01).

Findings Regarding the Mediation Effect

Before determining the mediation effect, it is stated that the following assumptions are provided (Baron & Kenny, 1986: Cited by Şimşek, 2007).

1. The independent variable has a significant effect on the dependent variable.

2. The independent variable has a significant effect on the mediating variable.

3. The mediator variable has a significant effect on the dependent variable.

4. When the independent variable is included in the regression analysis with the dependent variable, if the relationship between them becomes meaningless, full mediation occurs, and if there is a significant decrease in the relationship between the independent variable and the dependent variable, a partial mediation role emerges.

The results of the regression analysis performed in order to provide the above-mentioned assumptions are given in Table 12. Simple regression analysis was performed in order to determine the significant relationships between the variables in the first three stages of the regression analysis, which took place in four stages. In the fourth stage, multiple regression analysis was performed to determine the effect on presenteeism by including the independent variable self-assessment and the mediator personality types in the model.

Table 12. Regression analysis findings

1. STEP								
Independent Variable Core Self-Evaluation								
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**p**	**Collinearity Statistics**	
		B	Std. Error	B			**Tolerance**	**VIF**
1	(Constant)	,076	,338		,225	,822		
	Personality Traits	,621	,067	,468	9,292	,000	1,000	1,000
R = .468, R^2= .219, F = 86,336 p=0.000** p <. 001**								
Dependent Variable Personality Traits								
2.STEP								
Independent Variable Personality Traits								
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**p**	**Collinearity Statistics**	
		B	Std. Error	B			**Tolerance**	**VIF**
2	(Constant)	6,621	,349		18,943	,000		
	Personality Traits	-,766	,069	-,534	-11,094	,000	1,000	1,000
R = .534, R^2= .286, F = 123,082 p=0.000** p <. 001**								
Dependent Variable Presenteesim								
3.STEP								
Independent Variable Core Self-Evaluation								
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**p**	**Collinearity Statistics**	
		B	Std. Error	B			**Tolerance**	**VIF**
3	(Constant)	-9.713	.733		-13,245	,000		
	Core Self-Evaluation	3.890	.227	.699	17,135	,000	1,000	1,000
R = .699, R^2= .488, F = 293.606 p=0.000** p <. 001**								

Dependent Variable							
Presenteesim							
4.STEP							
Independent Variable							
Core Self-Evaluation							
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**p**	**Collinearity Statistics**
		B	Std. Error	B			**Tolerance**	**VIF**
4	(Constant)	-5,269			-6,356	,000		
	Personality Traits	-,487		-.340	-8,781	,000	,890	1,124
	Core Self-Evaluation	3,262		.586	15,135	,000	,890	1,124
R = .769, R^2= .591, F = 221.636 p=0.000** p <. 001**								
Dependent Variable								
Presenteesim								

p<0.01**

According to the values obtained from the first simple regression analysis, it is seen that the core self-evaluation has a positive and significant impact on the personality types score (R= .468; p<0.01). Therefore, the established regression model was significant (F = 86.336, p <.001). Core self-evaluation explains 21.9% of the variance in scores related to personality types (R = .468, R^2= .219). In other words, core self-evaluation affects personality scores by 21.9%. A one-unit increase in core self-evaluation increases personality scores by .468 points. According to these findings, Hypothesis 1 was confirmed.

Secondly, according to the simple regression analysis, it is seen that the personality types score has a negative and significant impact on the presenteeism behaviors (R= -.534; p<0.01). Personality types score significantly contributed to the model (β=-.534, t= -11.094; p<0.01). The personality types score explains 28.6% of the variance in the scores for presentation (R = .534, R^2 = .286). According to the values obtained, it was determined that a one-unit increase in the personality scores of heads of schools decreased their presenteeism behaviors by -.534. According to these findings, Hypothesis 2 was confirmed.

Third, according to the simple regression analysis, it was seen that core self-evaluation had a positive and significant impact on presenteeism behaviors (R= .699; p<0.01). Core self-evaluation contributed significantly to the established model (β= .699, t= 17.135; p<0.01). Self-assessment explains 48.8% of the variance in scores for presenteeism (R = .699, R^2 = .488). According to the values obtained, it was determined that a one-unit increase in school administrators' core self-evaluation increased their presenteeism behavior by .699. According to these findings, Hypothesis 3 was confirmed.

With the assumptions put forward by Baron and Kenny, the necessary conditions for the mediation test were met. Once the conditions were met, the independent variable core self-evaluations and the mediating variable personality types score were included in the model together, and multiple regression analysis was performed to determine their effects on presenteeism. The established regression model was found to be significant (F = 221.636, p <.001). It is seen that the relationship between core self-evaluation and presenteeism did not become meaningless, but there was a significant decrease in the effect coefficient (β= .586, p <.001)

Model number 4 in the SPSS Process 2.16 macro was used to examine the role of mediating variables in the causal relationships between the dependent variable and independent variables.

Bootstrapp Regression Analysis Findings with Process Macro

Bootstrap regression analysis was performed with SPSS Process 4.0 macro to examine the mediating role of personality traits in the relationship between the independent variable, self-assessment, and the dependent variable, presenteeism. The model number 4 shown in Fig.

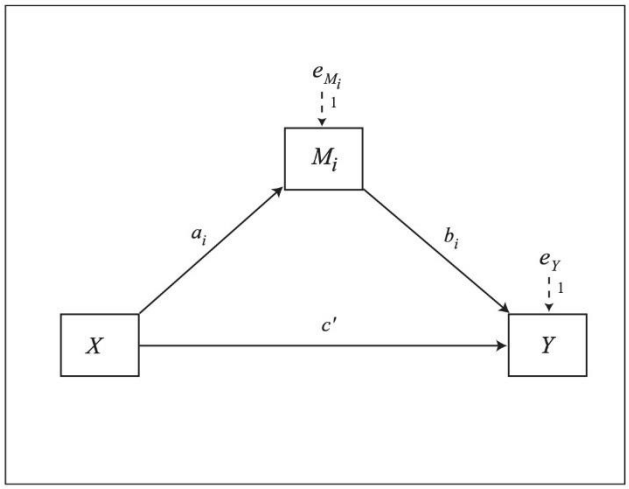

Figure 4. Statistical diagram model 4 (Hayes, 2013)

In order to test the mediating role of personality types in the effect of self-assessment on presenting behaviors, Process Module and Bootstrapp Regression Analysis Findings are also given in Figure 5 and Table 13.

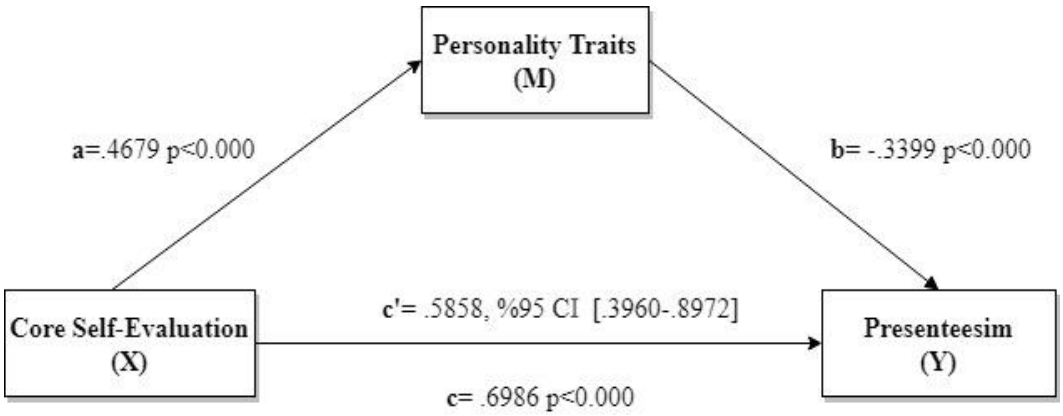

Figure 5. Modeling findings of bootstrapp regression analysis with Process module

Figure 5 indicates the findings obtained by Bootstrapp Regression Analysis (5000 samples, 95% confidence interval). It can be seen that it is similar to the results of simple regression analysis. The relationship between core self-evaluation and personality scores was positive and significant (a=.4679, p<0.01). The relationship between personality scores and presenteeism was negatively significant (b= -.3399, p<0.000); The relationship between core self-evaluation and presenteeism was found to be positive and significant (c=.6986, p<0.000). When personality traits, which are mediating variables in the effect of self-assessment on presenteeism behaviors, are included in the model, it is observed that there is a significant decrease in the effect coefficient (c'=5858, p<0.01).

Table 13. Direct, ındirect ve total effect values

N=310	Effect	Std. Error	t	p	LLCI	ULCI
Direct Effect	3,2616	,2155	15,1346	,0000	2,8376	3,6857
Total Effect	3,8899	,2270	17,1349	,0000	3,4432	4,3366
	Effect	**Boot Std. Error**	**BootLLCI**	**BootULCI**		
Indirect Effect	,6283	,1272	,3960	,8972		

When Table 13 is examined, the indirect effect of personality traits on the effect of core self-evaluation on presenteeism behaviors was found to be significant. The direct effect coefficient was obtained as 3.2616 and the total effect coefficient as 3.8899. When the bootstrap confidence interval values are examined, the mediation effect is statistically significant (95% CI [.3960, .8972]) since the lowest and highest values do not contain zero.

When the findings were evaluated, Hypothesis 4 was confirmed and it was determined that personality traits had a partial mediation effect on the effect of core self-evaluation on presenteeism behaviors. In line with the findings obtained from the analyzes, the results of testing the hypotheses are given in Table 14.

Table 14. Research hypotheses test results

Research Hypothesis	Result
Hypothesis 1. Core self-evaluation has a significant impact on personality types.	**CONFIRMED**
Hypothesis 2. Personality Types have a significant impact on presenteeism.	**CONFIRMED**
Hypothesis 3. Core self-evaluation has a significant impact on my presenteeism.	**CONFIRMED**
Hypothesis 4. Personality types mediate the relationship between core self-evaluation and presenteeism.	**CONFIRMED**

Result, Discussions and Suggestions

The capacity of organizations in terms of their effects on organizational behavior, core self-evaluation, presentation and personality traits, which constitute the research variables, are among the important issues in terms of reaching their goals. As the society's expectations from education and schools change with the effect of technological developments, schools enter into the process of change. Identifying and analyzing the factors inside and outside the organization that have an impact in this process is one of the indispensable conditions for organizational sustainability. When the roles and effects of heads of schools for institutions are evaluated, it is of particular importance that the results of research with heads of schools have a direct or indirect effect on teachers and students. Studies have shown that individuals with high core self-evaluation have higher motivation and effort to reach goals, and therefore perform at a higher level (Chang et al., 2012; Erez & Judge, 2001). In line with this result, it can be said that as heads of schools'self-esteem and self-esteem increase, their performance and success will increase as well. Personality structures, on the other hand, are determinative in relations with the environment. Reactions to events are determinative in many factors such as preferences, solution strategies, and leadership behaviors.

According to the results of the research, it was concluded that the heads of schools' core self-evaluations were at a moderate level. The high level of core self-evaluation of heads of schools is considered important in terms of increasing success in education. Since heads of schools' perceptions of themselves are reflected in management processes (Mc Cormick, 2001). In this context, Tschannen Moran and Gareis (2004) stated that the heads of schools' self-efficacy can change the success of teachers and students in educational processes. It has been revealed that the heads of schools' presenting behaviors are at a low level and they have mostly A-type personality traits, although not much above the average. In other words, they tended to show more type A personality traits. When this result is evaluated, it is likely that heads of schools will be under more stress due to type A personality traits. People with type A personality traits encounter risk factors for their health, such as stress, after a while. As a matter of fact, in studies, stress has been revealed as a cause of presenting behaviors (Macgregor et al., 2008; Yang et al., 2017). When looked at, it can be said that factors such as stress that will impair physical and mental health and presenteeism behavior are in a cause-effect relationship. In addition, according to the results of the research conducted by Yaman, Bayrakçı & Yaman (2002), it was revealed that personality traits may also be the cause of stress. Similar to this result, Hisli Şahin, Basım & Akkoyun (2011) concluded in their research that people with type A personality traits have higher stress scores than people with type B personality traits. According to the results obtained from the correlation analysis, it

was concluded that there was a moderately significant positive correlation between core self-evaluation and presenteeism; It was concluded that there was a moderately positive relationship between personality score and core self-evaluation, and a moderately negative relationship between presenteeism and core self-evaluation. In line with the results obtained, it can be stated that as the scores obtained from the personality scale decrease, that is, as the B-type personality traits are shown, the core self-evaluation perceptions of the individuals also decrease.

Looking at the results obtained from the regression analysis, it was concluded that the core self-evaluation had a positive and significant impact on the personality types score, according to the result obtained from the first regression model. Personality scores of individuals with high core self-evaluation increase in the same direction. According to the result obtained from the second regression model, it was concluded that the personality types score had a negative and significant impact on the presenteeism behaviors. This result is consistent with the results of the research conducted by Uygur and Cankül (2007). Uygur and Cankül (2007) revealed that personality traits have an impact on presenteeism behaviors. Contrary to these results, in the study conducted by Üzüm and Şenol (2019), it was concluded that type A and type B personality traits do not have any impact on presenteeism behaviors. According to the result obtained from the third regression model, it is seen that self-assessment has a positive and significant impact on presenteeism behaviors. A similar result was obtained with the results of other studies (Löve et al., 2010; Lu et al., 2014). In addition, Lu, Lin & Cooper (2013) revealed in their research that people with high self-efficacy are motivated when they are faced with a high workload and go to work voluntarily, even if their health conditions are not suitable. Bulmash (2016), on the other hand, stated that people with a high internal locus of control work more, which may lead to stress. According to the results of the multiple regression analysis and the process module and the bootstrapp regression analysis performed on the fourth regression model, it was concluded that personality traits have a partial mediation effect on the effect of self-assessment on presenteeism behaviors.

In line with the results obtained, the following suggestions can be offered to practitioners and policy developers;

✓ In order to raise the core self-evaluation of heads of schools to a high level, direct interviews with the administrators can be made by the top heads.

✓ The reasons for which the managers have low self-perceptions can be evaluated well and solution strategies can be formed in this direction. If there are adverse conditions such as excessive workload and difficult working conditions, the problems arising from these conditions can be resolved and the risk factors faced by heads of schools can be reduced to a low level.

✓ By determining the personality types of the heads, studies can be planned with the administrators at every school level. In order to determine the motivation sources of the managers or the factors that cause stress, national or local studies can be conducted.

The following suggestions can be offered to researchers in order to contribute to the literature;

✓ In the literature, the relationship between the five-factor personality traits and the presenteeism has been dealt with, and the number of studies dealing with type A and B personality traits has been very limited. For this reason, researchers can conduct research to determine the effect of type A and type B personality traits

✓ Qualitative studies, in which interviews with managers are conducted, can be carried out in order to determine the tendencies of the managers to present and to investigate the reasons.

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Researching Smoking Behaviors of Turkish Football Trainers during the COVID-19 Pandemic

Research Article

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ABSTRACT

It is stated that cigarette users potentially have a higher risk of adverse complications related to COVID-19. This study aimed to research the smoking behavior of Football Trainers (n=632) during the COVİD-19 pandemic. Participants completed an online survey, in which they reported on their smoking behavior, cigarette smokers' quit intentions, and frequency of cigarette use during the COVİD-19 pandemic. More than half of smoker participants (68.2%) reported intentions to quit smoking due to COVID-19. (40.2%) of participants reported making a quit attempt. In contrast with these good results, more than half of smoker participants reported that they did not reduce their cigarette use since COVID-19 started (69.7%) and some of the respondents (17.4%) are increased their cigarette use since COVID-19 started. In the former smokers' group (17,1%) of the respondents declared thoughts about starting to smoke again. Results showed that as the age increased, the desire and attempts of the participants to quit smoking increased. Married participants stated that they wanted and tried to quit smoking more than Unmarried participants ($p<0.05$). Our findings suggest that, for some Football Trainers, COVID-19 may lead to reduce smoking and serve as a new opportunity to quit smoking.

Keywords:
Smoking Behavior; Covid-19; Football Trainers

Introduction

After the World Health Organization (WHO) declared the Covid-19 outbreak a global pandemic, Turkey also implemented many social distancing rules, as in most other countries. Besides, due to the coronavirus pandemic, the issue of smoking and acute respiratory infection has become the subject of discussion again (www.who.int). Cigarette users have a higher risk of severe complications related to COVID-19. In the literature, there are studies related to the fact that smoking increases the risk of having more severe complications in case of contracting Covid-19 disease (Zhao et al., 2020; Patanavanich & Glantz, 2020), and

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findings are showing that smokers may experience worse consequences due to severe respiratory infection (Lawrence et al., 2019; Arcavi & Benowitz, 2004).

The use of both cigarettes and electronic cigarettes (e-cigarettes) harms the lungs, makes it difficult to breathe (Wills et al., 2019; Ghosh et al., 2019), possibly increasing the risk of experiencing COVID-19 related symptoms (www.drugabuse.gov). In a study conducted in 2020, it was reported that there is a relationship between smoking and the negative consequences of Covid-19 (Berlin et al., 2020).

One of the most critical factors that make us enjoy life is health. However, it is not comfortable with the existing circumstances to enjoy life with anxiety and fear for an epidemic, since "anxiety and fear associated with Covid-19 can cause social exclusion of people associated with the disease (Isık et al., 2021) Covid-19 pandemic causes substantial psychosocial stress on individuals and the community (Kırlı et al., 2020). People can change their health-related habits due to psychological distress caused by the Covid-19 disease, the worsening of the economy due to restrictions, isolation, and lockdowns. (Sim et al., 2010; Di Renzo et al., 2020), in this case, it may be possible to change the smoking rules at home, to reduce or increase smoking, or to quit (Klemperer et al., 2020).

Because of negative health problems that may occur due to Covid-19, most smokers may feel more defenseless to health problems and want to quit smoking, previous research and literature support this risk perception (Borelli et al., 2010; Weinstein, 1988). During the pandemic, people isolating themselves at home, crowding restrictions could be seen by some as an opportunity to quit smoking but unfortunately, very few people will quit in practice. For most people, staying at home, boredom, feelings of insecurity, the risk of losing a job, and the likelihood of dying from illness could increase the urge to smoke (Van Zyl-Smit et al., 2020). There are studies in the literature showing that the frequency of smoking increases due to stress and anxiety. In this context, it is possible that individual's smoking frequency increases because of anxiety and stress caused by the Covid-19 pandemic (Tsourtos et al., 2019; Slopen et al., 2013).

More researches are needed to examine how smokers respond to the Covid-19 pandemic and whether their smoking behavior has changed. When the literature is examined, there is no study examining the smoking behavior of football trainers. Therefore, it emphasizes the importance of our current study in terms of examining Covid-19 and smoking habits of football trainers. The aim of this study was to research the smoking behaviors of Football Trainers during the COVİD-19 pandemic.

Method

Football Trainers living in Turkey completed an online questionnaire with informed consent in Turkish. In total, 632 participants were included in the analysis. Subsequently, participants were asked, age (categorized in age group), gender, marital status, and education. Participants were divided into three subgroups: Cigarette smoker, Former smoker (means quit smoking after Covid-19 pandemic), and Non-Smoker.

Data collection tools

To examine the current smoking behaviors of Football Trainers, the following questions were asked: "Do you smoke cigarettes?". "During this period of Coronavirus pandemic, have you thought about quit smoking?"; During this period of Coronavirus pandemic, have you tried to quit smoking. "During this period of Coronavirus pandemic, have you reduced your smoking habit?"; "During this period of Coronavirus pandemic, have you increased your smoking habit?". "During this period of Coronavirus pandemic, have you considered starting to smoke again?".

Statistical analysis

Participants were categorized according to their reported smoking status and they were divided into three subgroups: Cigarette smoker, Former smoker (means quit smoking after Covid-19 pandemic), and Non-Smoker. Kolmogorov-Smirnoff tests were performed to assess the normality of distribution of variables. Data showed normal distribution. Categorical variables are reported as numbers (percentages). Cross tabulations were used for categorical variables. Chi-square analysis was used to determine whether there were statistical differences between age groups, marital status, education, and smoking behaviors of participants. A P-value <0.05 was considered statistically significant, and all analyses were performed using commercially available statistical software (IBM SPSS Statistics 21).

Findings

Participant Characteristics

Participant characteristics and cigarette use variables are presented in Table 1. The mean age of participants was 42.46 (SD: 10.05), and the majority of the sample was married (73.9%) and the great majority of the respondents (73.6%) reported that they are nonsmokers (n=465). 132 respondents (20.9%) reported that they are cigarette smokers and 35 respondents (5.5%) reported that they quit smoking after the Covid_19 pandemic.

Table 1. Participant Characteristics, n= 632

Variable	**n**	**(%)**
Gender		
Male	625	98,9
Female	7	1,1
Age Group		
20-29	67	10,6
30-39	175	27,7
40-49	233	36,9
50-59	127	20,1
60 and older	30	4,7
Marital Status		
Unmarried	151	23,9
Married	467	73,9
Divorced	14	2,2
Education		
Primary School	18	2,8
High School	220	34,8
University	313	49,5
Post Graduate (Master degree)	69	10,9
Doctorate (Ph.D)	12	1,9
Do you smoke cigarettes?		
Yes	132	20,9
No	465	73,6
Quit	35	5,5

Smoker participant characteristics and cigarette use variables are presented in Table 2. More than half of smoker participants (68.2%) reported intentions to quit smoking due to COVID-19, (40.2%) of participants reported making a quit attempt. In contrast with these good results, more than half of smoker participants

reported that they did not reduce their cigarette use since COVID-19 started (69.7%) and some of the respondents (17.4%) increased their cigarette use since COVID-19 started.

Table 2. Smoker Participant Characteristics, n= 132

Variable	**n**	**(%)**
Gender		
Male	131	99,2
Female	1	0,8
Age Group		
30-39	55	41,7
40-49	48	36,4
50years old and older	29	22,0
Marital Status		
Unmarried	27	20,5
Married	105	79,5
Education		
High School	58	43,9
University	65	49,2
Post Graduate (Master degree)	9	6,8
Quit intentions		
Yes	90	68,2
No	42	31,8
Tried to quit		
Yes	53	40,2
No	79	59,8
Reduced smoking habit		
Yes	40	30,3
No	92	69,7
Increased smoking habit		
Yes	23	17,4
No	109	82,6

As shown in Table 3, in the former smokers' group (17,1%) of respondents declared thoughts about starting to smoke again (n=35).

Table 3. Former Smoker Participant Characteristics, n= 35

Variable	**n**	**(%)**
Thinking to start smoking again		
Yes	6	17,1
No	29	82,9

Quit İntentions

Table 4 shows the results of the chi-square analysis regarding whether the intentions of football trainers to quit smoking differ according to age groups.

Table 4. Age Group * Quit intentions Crosstabulation

		Quit intentions		Total
		Yes	No	
Age Group	30-39	25	30	55
	40-49	36	12	48
	50 years old and older	29	0	29
Total		90	42	132

X^2=27.65 sd=2 P=0.00

It was observed that as the age increased, the desire of the participants to quit smoking increased. As shown in Table 4., in the 50 years old and over age group all of the respondents declared thoughts about that they have quit intentions.

Table 5 shows the results of the chi-square analysis regarding whether the intentions of football trainers to quit smoking differ according to marital status.

Table 5. Marital Status * Quit intentions Crosstabulation

		Quit intentions		Total
		Yes	No	
Marital Status	Unmarried	7	20	27
	Married	83	22	105
Total		90	42	132

X^2=27.93 sd=1 P=0.00

It was observed that Married participants stated that they wanted to quit smoking more than Unmarried participants. As shown in Table 5, in the Unmarried group most of the respondents declared thoughts about they don't have quit intentions.

Test results showed that there were no significant differences (p>.05) between education and quit intentions of participants x^2(sd=2, n=132)=4.72, p>.05. In other words, there is no significant relationship between the educational status of football coaches and their intention to quit smoking.

Tried to Quit Smoking

Table 6 shows the results of the chi-square analysis regarding whether the football trainers who tried to quit smoking differ according to age groups.

Table 6. Age Group * Tried to Quit Crosstabulation

		Tried to quit		Total
		Yes	No	
Age Group	30-39	9	46	55
	40-49	18	30	48
	50years old and older	26	3	29
Total		53	79	132

X^2=42.66 sd=2 P=0.00

It was observed that as the age increased, participants' attempts to quit smoking increased. As shown in Table 6, in the 30-39 years old age group most of the respondents declared they did not try to quit smoking.

Table 7 shows the results of the chi-square analysis regarding whether the football trainers who tried to quit smoking differ according to marital status.

Table 7. Marital Status * Tried to Quit Crosstabulation

		Tried to quit		Total
		Yes	No	
Marital Status	Unmarried	2	25	27
	Married	51	54	105
Total		53	79	132

X^2=15.14 sd=1 P=0.00

It was observed that Married participants stated that they tried to quit smoking more than Unmarried participants. As shown in Table 7, in the Unmarried group most of the respondents declared they did not try to quit smoking.

Test results showed that there were no significant differences (p>.05) between education and participants who tried to quit smoking x^2(sd=2, n=132)=5.75, p>.05.

Reduced Smoking Habit

Table 8 shows the results of the chi-square analysis regarding whether the football trainers who reduced their smoking habit differ according to age groups.

Table 8. Age Group * Reduced Smoking Habit Crosstabulation

		Reduced smoking habit		Total
		Yes	No	
Age Group	30-39		51	55
	40-49	12	36	48
	50years old and older	24	5	29
Total		40	92	132

X^2=52.23 sd=2 P=0.00

It was observed that as the age increased, their smoking habit reduced. As shown in Table 8, in the 30-39 years old age group most of the respondents declared they did not reduce their smoking habit.

Table 9 shows the results of the chi-square analysis regarding whether the football trainers who reduced their smoking habit differ according to marital status.

Table 9. Marital Status * Reduced Smoking Habit Crosstabulation

		Reduced smoking habit		Total
		Yes	No	
Marital Status	Unmarried	2	25	27
	Married	38	67	105
Total		40	92	132

X^2=8.42 sd=1 P=0.004

It was observed that Married participants stated that they reduced their smoking habit more than Unmarried participants. As shown in Table 9, in the Unmarried group most of the respondents declared they did not reduce their smoking habit.

Test results showed that there were no significant differences (p>.05) between education and reduced smoking habits of participants x^2(sd=2, n=132)=0.089, p>.05.

Increased Smoking Habit

Table 10 shows the results of the chi-square analysis regarding whether the football trainers who increased their smoking habit differ according to age groups.

Table 10. Age Group * Increased Smoking Habit Crosstabulation

		Increased smoking habit		Total
		Yes	No	
Age Group	30-39	16	39	55
	40-49	7	41	48
	50years old and older	0	29	29
Total		23	109	132

X^2=11.59 sd=2 P=0.003

It was observed that as the age of the participants decreased, their smoking habits increased. As shown in Table 10, in the 30-39 years old age group 29.1% of respondents declared they increased their smoking habit.

Test results showed that there were no significant differences (p>.05) between marital status and increased smoking habits of participants x^2(sd=1, n=132)=3.514, p>.05.

Test results showed that there were no significant differences (p>.05) between education and increased smoking habits of participants x^2(sd=2, n=132)=2.065, p>.05.

Discussion and Conclusion

COVID-19 disease has negatively affected masses worldwide (Yang et al., 2020). It is a fact that people who use combustible tobacco such as cigarettes and cigars are at risk of being exposed to more serious complications if they catch Covid-19 (Zhao et al., 2020; Patanavanich & Glantz, 2020; Vardavas & Nikitara, 2020).

Results shed light on Football Trainers' smoking patterns. The great majority of the respondents (73.6%) reported that they are nonsmokers (n=465). 132 respondents (20.9%) reported that they are cigarette smokers and 35 respondents (5.5%) reported that they quit smoking after the Covid-19 pandemic. Arpacıoğlu and Ünübol (2020) investigated the change in alcohol and cigarette use in Turkish society after the COVID-19 pandemic and related factors. It is reported that after the Covid-19 epidemic, the consumption amount of alcohol and cigarette use decreased in a larger population. Aslan et al., (2017) investigated smoking habits and attitudes toward smoking among young competitive athletes and coaches. The prevalence of smoking among young competitive athletes and coaches was reported at 33.8%. Nearly 60% of smokers reported smoking at least 10 cigarettes /day and started their habit before the start of their athletic careers. Given the high smoking prevalence amongst young athletes and coaches as role models in society, the current results highlight the importance of smoking cessation programs that are addressed to them. Compared to the findings of Aslan et al., (2017), it is seen that the smoking rate of football trainers in this study is lower.

The results obtained from the study show that most smokers think that if they catch the Covid-19 disease, the disease will be more severe than non-smokers, and they have intentions and attempts to quit smoking since the beginning of the pandemic. More than half of smoker participants (68.2%) reported intentions to quit smoking due to COVID-19. (40.2%) of participants reported making a quit attempt. In contrast with these good results, more than half of smoker participants reported that they did not reduced their cigarette use since COVID-19 started (69.7%) and some of the respondents (17.4%) increased their cigarette use since COVID-19 started. In the former smokers' group (17,1%) of respondents declared thoughts about starting to smoke again. Bar-Zeev, et al. (2021) investigated changes in smoking behavior and home-

smoking rules during the initial Covid-19 lockdown period in Israel. Only 46 (7%) of smokers achieved quit smoking during the pandemic period and nearly half (44.4%) of smoker participants increased their smoking behavior, and 16% tried to quit. It is stated that higher education was associated with quit smoking during the Covid-19 period. In this study, no effect of education on smoking cessation behavior was found. Compared to the findings of Bar-Zeev et al. (2021), it is seen that the rate of football coaches who increase smoking is lower in this study, and the rate of football coaches who try to quit smoking is higher in this study. Caponnetto, et al. (2020) surveyed smoking behavior and psychological dynamics during the Italian COVID-19 social distancing and stay-at-home policies. According to the findings; smokers stated that they slightly reduced their smoking behavior. In the group of former smokers, (33.3%) of the participants stated that they were considering starting to smoke again. In this study, we found the rate of thoughts about starting to smoke again at 17.1% in our study group. Kowitt, et al. (2020) examined smokers' perceived risk of Covid-19, quit intentions, and smoking behaviors during the Covid-19 pandemic. Three-quarters (76.0%) of the smokers believed that their risks of Covid-19 complications were higher compared to non-smokers. It is reported that (70.8%) of participants want to quit smoking due to Covid-19 and (40.5%) of the sample has tried to quit since the start of this pandemic. It is stated that participants who increased their smoking (40.9%) since Covid-19 started were more than those who reduced their smoking (17.8%). Compared to the findings of Kowitt, et al. (2020), it is seen that (17.4%) of respondents are increased their cigarette use and more than half of smoker participants (69.7%) reported that they did not reduce their cigarette use since COVID-19 started.

Another notable finding is that as the age increased, the desire and attempts of the participants to quit smoking increased. Results also suggest that as the age increased, participants' smoking habits reduced. Findings also indicate that as the age of the participants decreased, their smoking habits increased. It is encouraging that smokers who quit after COVID-19 have quit because of their personal resilience and coping skills. In an article published in February 2021, it was stated that 5% of smokers in Turkey quit smoking during the pandemic period. People over the age of 45 have a higher quitting rate throughout the epidemic (yesilay.org.tr/tr). The increase in intention to quit smoking with increasing age may be associated with more severe Covid-19 complications in older people.

It was observed that Married participants stated that they wanted and tried to quit smoking more than Unmarried participants. Furthermore, Married participants stated that they reduced their smoking habit more than Unmarried participants. These results may be due to the older age of the married participants. Another possibility is that the married participants do not want to expose their family members to cigarette smoke because they live with their families, or they do not want their children to perceive smoking as a normal situation as a result of seeing them smoking.

These changes in an individual's habits can be an important opportunity to use emerging strategies to create a smoke-free world (Caponnetto, et al., 2020). The results of this research can guide policy-makers, public health institutions, and practitioners. Due to the Covid-19 pandemic, smokers want and try to quit smoking more than before (Kowitt, et al., 2020). Findings suggest that, for some Football Trainers, COVID-19 may lead to reduce smoking and serve as a new opportunity to quit smoking. More researches are needed to examine how smokers respond to the Covid-19 pandemic and whether their smoking behavior has changed.

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Analysis of Textbooks Used in Turkish Language Courses in terms of Critical Listening Skills

Research Article

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ABSTRACT

Although the problems of individuals accessing information are off the table with the technological advancements of today, it has become more important to reach the right information. Apart from the communication process, the way for people who are exposed to information flow from mass media to choose the right information is to adopt a critical approach in listening processes and develop their critical listening skills. As critical listening is one of the skills that an individual needs to have in daily life, it is necessary to attach importance to the teaching of this skill, starting from the proper level. The reflection of critical listening, which is included in Turkish teaching programs, on Turkish lessons is through textbooks. Therefore in this research, it was aimed to determine the inclusion of critical listening skills in Turkish language course textbooks. The descriptive method was used in the research and listening activities in Turkish language course textbooks were evaluated in terms of critical listening. The scope of critical listening was taken into account when identifying the activities for critical listening skills. Therefore, the classification in the research by Azizoğlu (2020) in which the scope of critical listening skill is explained is taken as a basis. According to the results of the research, it has been determined that the activities and aspects of critical listening skills are not evenly distributed in terms of grades, and the variety of activities is limited.

Keywords:
Critical listening, listening, Turkish language course textbook.

Introduction

The subject of critical listening has been focused on since the 1940s only after the first literature researches on critical listening began with the USA planning the critical listening education during the Second World War (Brewster 1956, p. 10). Although the researches were centered on the years between 1940 and 1980, it would not be correct to define critical listening as a skill that emerged only because of the needs of that

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period. Critical listening is closely related to daily life just like the listening skill. As technology is essential in daily communication, one of the basic steps of the communication process is to fully comprehend the content of the messages transmitted through the devices we use. The individual's understanding of the message conveyed to them is important for the continuation of the communication process. Regardless of the source, the way to comprehend the transmitted message is to listen critically, that is, to understand the message first and then question and evaluate it.

Critical listening can be explained as criticizing the speech based on the objective evidence, evaluating the speech, and reaching the conclusion by comparing the information (Lundsteen, 1963, p. 18), especially evaluating the political and persuasive speeches (Sheldon, 1964, p. 5), arranging the information presented to them during listening and making connections by making classifications (Trace, 2013, p. 68).

Nowadays, being influenced by the media, people tend to use technological devices more. Therefore, it has become important to be able to listen critically since these devices contain much of the propaganda and persuasive speeches. When the literature is reviewed, it is seen that critical listening is regarded as one of the characteristics of individuals who can listen effectively and are good listeners. When the abilities of an individual that can effectively listen are examined, it can be seen that such an individual can also critically listen. An effective listener is the kind of individual that has a purpose in listening and can state critical answers (Adams, 1947, p. 14).

When the concept of critical listening ability is broadly examined, it is seen that researches conducted centered on various aspects. Critical listening is the ability to identify and draw conclusions (Laurent, 1963; Richards, 1977) from the subject (Laurent, 1963; Richards, 1977), main idea (Davis-Rice, 1982; Lundsteen, 1963), biased expressions in the narrative (Devine, 1961; Groom, 1970), subjective/objective statements (Akyol, 2006; Çarkıt, 2018; Early, 1946; Laurent, 1963;), propaganda statements (Doğan, 2017; Çarkıt, 2018; Richards, 1977), evaluate the narrative (Beery, 1946; Lundsteen, 1963), examine the coherence (Celepoğlu, 2012; Yalçın, 2006), and examine the evidence statements that support the narrative (Akyol, 2006; Davis-Rice, 1982). For this reason, it can be said that critical listening is a complex combination of abilities that are used to identify the subject of the text, identify the main idea of the text, determine whether the narration of the text is biased, identify the subjective/objective expressions in the narrative of the text, to draw conclusions from the text, to evaluate the subject of the text, evaluate the coherence of the text, evaluate the evidence expressions in the text, to identify the propaganda expressions in the text (Azizoğlu, 2020).

In the studies conducted on the teaching of the critical listening ability, which has an important place in the daily life of the individual (Azizoğlu, 2020; Çarkıt, 2018; Doğan, 2017), it has been determined that these skills of the students have improved in the pieces of training for critical listening. Results of the researches indicate that critical learning is teachable and improvable. For this reason, the ability of critical listening is included in the curriculum of Turkish language courses.

It is seen that the purpose and theme of critical listening are mentioned in the 2006 Turkish Curriculum. The fact that critical listening is defined as the ability to question is important. The curriculum focused on identifying the speaker's purpose in critical listening, evaluating the speaker's proficiency in the subject, evaluating the current and validity of the information presented, identifying the perspectives on the subject, identifying whether there are alternative solutions, and evaluating the scientificity of the solution proposals (MEB, 2006, p. 63).

Critical listening is included as a listening method/technique in the 2019 Turkish Curriculum. It is seen that critical thinking and evaluation skills were emphasized in the curriculum, as it was indicated that the purpose of the curriculum was *"to ensure that students are individuals who can research and interpret, access information, use and evaluate information, and carry out evaluations and questionings with a critical perspective by fully*

understanding what they read" (MEB, 2019c, p. 3). When the listening/watching acquisitions prepared differently for each grade level in the curriculum are examined, it is seen that critical listening is mentioned. In the curriculum, for the fifth and sixth grades, acquisitions are listed regarding identifying the subject and main idea of the content, the meaning of non-verbal expressions, evaluating the content of the text, and applying listening strategies. For the seventh grade, there are acquisitions regarding identifying the subject and main idea of what they listen to/watch, developing thought, evaluating the content and coherence of the text, identifying the meaning of non-verbal expressions, and applying listening strategies. At the eighth grade level, apart from the those of seventh grade, the acquisition of evaluating the media text students listen to/watch exists (MEB, 2019c).

It is seen that the curricula regarding Turkish language courses are based on critical listening and that acquisition of this ability was urged upon. Necessary importance is ought to be attached to Turkish textbooks prepared accordingly with these curricula. In studies conducted on the use of textbooks in courses (Özbay, 2003), it has been determined that textbooks are frequently used by teachers. Having practices and activities for critical listening in the textbooks will support the acquisition of this ability. As it was noticed that there are no studies in the literature evaluating Turkish language textbooks in terms of critical listening ability, the purpose of this research was decided to be the determination of the inclusion of critical listening ability in the Turkish language textbooks. Following questions were adressed regarding the research:

What is the rate of activities for critical listening skills in Turkish language course textbooks?

What is the distribution of activities for critical listening skills in terms of variety?

Which aspects of the critical listening skill are included in Turkish language course textbooks?

Method

Since Turkish language course textbooks were examined in terms of critical listening skills, descriptive research method was used in the research. Descriptive researches are used when defining a situation. The purpose of descriptive studies in the field of education may be to determine the achievements of various groups, to describe the behaviors of teachers, administrators, or counselors, to describe the attitudes of parents and the physical conditions of the school. Identification of the phenomenon is the starting point of all research efforts (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2014, p. 22).

Gathering of the Data

In the research, Turkish language course textbooks used at the secondary school level in Turkey in the 2019-2020 school year were examined. There are 2 textbooks for the 5th grade level (MEB and Anıttepe Publishing), 2 textbooks for the 6th grade level (MEB and Ekoyay Publishing), 3 textbooks for the 7th grade level (MEB, Dersdestek, Özgün Publishing), 2 textbooks for the 8th grade level (MEB 1, MEB 2). Since 8th graders used two Turkish language course textbooks published by MEB, the textbook first published in 2018 was logged as MEB(1), the textbook first published in 2019 was logged as MEB(2). There are 9 textbooks in total and all of these books were included in the research. Each textbook contains 8 units and 8 listening activities. Since the subject of critical listening was examined, listening activities were centered on and since there are 8 activities in each book, a total of 72 listening activities were examined.

The scope of critical listening was taken into account when identifying the activities for critical listening skills. Therefore, the classification in the research by Azizoğlu (2020) in which the scope of critical listening skill is explained is taken as a basis. According to the research results, critical listening is a concept that contains abilities such as identifying the subject of the text, identifying the main idea of the text, determining whether the narration of the text is biased, identifying the subjective/objective statements in the narrative of the text, drawing conclusions from the text, evaluating the subject of the text, evaluating the consistency of the text,

evaluating the evidence statements in the text, and identifying the propaganda expressions in the text. In addition to these aspects, the ability of "providing solutions to the problem in the text", which is within the scope of critical listening skill in the 2006 Turkish curriculum, was included in the research as another aspect of critical listening skill, since it is included in some activities in the books. Again, "activities for explaining the body language shown in the visuals" in some listening activities were included in the scope of critical listening abilities by taking the opinion of 2 Turkish language education experts.

Data Analysis

In the research, the critical listening inclusion rate in the listening activities of Turkish language education textbooks and the distribution of this ability in terms of activity varieties were examined. In addition, since critical listening includes different aspects, the inclusion of these aspects of this skill in Turkish textbooks was also identified.

While identifying the activities for critical listening ability, the listening activities in Turkish textbooks were evaluated by a researcher and a Turkish education expert in terms of covering critical listening skills. Four listening texts and activities from each textbook were examined and the compatibility between the evaluators was examined using the Miles Huberman (1994) reliability formula. The reliability coefficient was calculated for each textbook as given in Table 1.

Table 1. Reliability coefficients for Turkish textbooks

Textbook	Reliability coefficient
MEB Pub. 5th Grade	1,00
Anıttepe Pub. 5th Grade	1,00
MEB Pub. 6th Grade	0,97
Ekoyay Pub. 6th Grade	1,00
MEB Pub. 7th Grade	1,00
Dersdestek Pub. 7th Grade	0,97
Özgün Pub. 7th Grade	1,00
MEB(1) Pub. 8th Grade	1,00
MEB(2) Pub. 8th Grade	0,97

Reliability coefficients are between 0,97 and 1,00. Conflict of opinions between the researcher and the Turkish language education expert were examined. For this reason, the evaluation of the remaining course books was made by the researcher.

While calculating the total number of listening activities in Turkish textbooks, the number of activities that are independent of each other was calculated. The types of activities were named as question and answer form (open-ended questions), marking/choosing (choosing one of the presented expressions), story map (filling the story map for the text), classification (classification of the given options according to certain groups).

Results

The findings regarding the inclusion rates of listening abilities in secondary school level Turkish textbooks are as given in Table 2.

Table 2. Inclusion rates of critical listening activities in Turkish textbooks

Textbook	Number of the listening activities	Total listening activities	Efficiency rate of critical listening activities
MEB Pub. 5th Grade	8	84	9,5%
Anıttepe Pub. 5th Grade	11	120	9,1%

MEB Pub. 6th Grade	5	91	5,4%
Ekoyay Pub. 6th Grade	12	68	17,6%
MEB Pub. 7th Grade	15	80	18,7%
Dersdestek Pub. 7th Grade	16	85	18,8%
Özgün Pub. 7th Grade	7	76	9,2%
MEB(1) Pub. 8th Grade	10	72	13,8%
MEB(2) Pub. 8th Grade	13	73	17,8%

For the 5th grade level, MEB publications have a critical listening activity inclusion rate of 9,5%; Anıttepe Publications has a rate of 9,1%. For the 6th grade level, MEB publications have a critical listening activity inclusion rate of 5,4%; Ekoyay Publications has a rate of 17,6%.

For the 7th grade level, MEB publications have a critical listening activity inclusion rate of 18,7%; Dersdestek Publishing has a rate of 18,8%; Özgün Publishing has a rate of 9,2% For the 8th grade level, MEB(1) publications have a critical listening activity inclusion rate of 13,8%; MEB(2) publications have a rate of 17,8%.

Table 3. Distribution of critical listening activities in terms of varieties

Textbook	Question and answer form	Classification	Marking/ choosing	Story map	Total
MEB Pub. 5th Grade	6	1	1	0	8
Anıttepe Pub. 5th Grade	10	0	0	1	11
MEB Pub. 6th Grade	4	1	0	0	5
Ekoyay Pub. 6th Grade	11	0	1	0	12
MEB Pub. 7th Grade	15	0	0	0	15
Dersdestek Pub. 7th Grade	14	0	2	0	16
Özgün Pub. 7th Grade	7	0	0	0	7
MEB(1) Pub. 8th Grade	10	0	0	0	10
MEB(2) Pub. 8th Grade	13	0	0	0	13

In the 5th grade level, 6 of the 8 critical listening activities in Turkish textbooks of MEB publications are question and answer activities, 1 of them is classification activity, 1 of them is marking/choosing activity; 10 of the 11 critical listening activities in Anıttepe publishing are in question and answer form and 1 of them is a story map activity.

In the 6th grade level, 4 of the 5 critical listening activities in Turkish textbooks of MEB publications are question and answer activities, 1 of them is classification activity; 11 of the 12 critical listening activities in Ekoyay publishings textbook are question and answer activities and one of them is marking/choosing activity.

In the 7th grade level, all 15 of the critical listening activities in Turkish textbooks of MEB publications are question and answer activities; 14 of the 16 critical listening activities in Dersdestek Publications' textbook are in question and answer form and 2 of them are marking/choosing activities; all 7 of the critical listening activities in Özgün Publications' textbook are question and answer activities.

In the 8th grade level, all 10 critical listening activities in Turkish textbooks of MEB(1) publications and all 13 activities in MEB(2) publications are question and answer activities.

Table 4. Distribution of activities in terms of the aspects of critical listening skills

Aspect	MEB Pub. 5th grade	Anıttepe Pub. 5th grade	MEB Pub. 6th grade	Ekoyay Pub. 6th grade	MEB Pub. 7th grade	Dersdestek Pub. 7th grade	Özgün Pub. 7th grade	MEB(1) Pub. 8th grade	MEB(2) Pub. 8th grade
A	2	2	1	6	3	6	5	3	7

B	1	2	3	5	4	6	5	3	6
C	0	0	0	0	1	2	0	0	0
D	2	0	1	0	0	1	2	1	0
E	2	3	0	1	0	4	0	1	2
F	0	1	0	1	0	0	0	0	2
G	0	2	1	3	3	2	0	0	2
H	1	2	0	0	1	2	0	1	0
I	0	0	0	0	0	0	0	0	0
J	0	1	0	0	1	0	0	1	0
K	0	0	0	0	4	0	0	3	0

Aspects: "identifying the subject of the text" is expressed as A, "identifying the main idea of the text" is expressed as B, "identifying the propaganda statements of the text" is expressed as C, "identifying the subjective/objective statements in the narrative of the text" is expressed as D, "determining whether the narration of the text is biased" is expressed as E, "drawing conclusions from the text" is expressed as F, "evaluation of the coherence of the text" is expressed as G, "evaluation of the evidence statement in the text" is expressed as H, "evaluating the theme of the text" is expressed as I, "identifying the body language in the visuals" is expressed as J, and "offering solutions to the problems expressed in the text" is expressed as K.

As for 5th-grade Turkish language textbooks, MEB publishing had 5 aspects covered: identifying the subject of the text, identifying the main idea of the text, identifying subjective/objective statements in the narration of the text, determining whether the narration of the text is biased, evaluating the evidence statements of the text; and Anittepe publishing had 7 aspects covered: identifying the subject of the text, identifying the main idea of the text, determining whether the narration of the text is biased, drawing conclusions from the text, evaluation of the text coherence, evaluating the evidence statements of the text, identifying the body language in the visuals.

As for 6th-grade Turkish language textbooks, MEB publishing had 4 aspects covered: identifying the subject of the text, identifying the main idea of the text, identifying subjective/objective statements in the narration of the text, evaluating the text coherence; Ekoyay publishing had 5 aspects covered: identifying the subject of the text, identifying the main idea of the text, determining whether the narration of the text is biased, drawing conclusions from the text, evaluation of the text coherence.

As for 7th-grade Turkish language textbooks, MEB publishing had 7 aspects covered: identifying the subject of the text, identifying the main idea of the text, identifying the propaganda statements of the text, evaluating the text coherence, evaluating the evidence statements of the text, identifying the body language in the visuals, offering solutions to the problem given in the text; Dersdestek publishing had 7 aspects covered: identifying the subject of the text, identifying the main idea of the text, identifying the propaganda statements of the text, determining whether the narration of the text is biased, evaluating the text coherence, evaluating the evidence statements of the text; and Özgün publishing had 3 aspects covered: identifying the subject of the text, identifying the main idea of the text, identifying subjective/objective statements in the narration of the text.

As for 8th-grade Turkish language textbooks, MEB(1) publishing had 7 aspects covered: identifying the subject of the text, identifying the main idea of the text, determining whether the narration of the text is biased, identifying subjective/objective statements in the narration of the text, evaluating the evidence statements of the text, identifying the body language in the visuals, offering a solution to the problem given in the text; and MEB(2) publishing had 5 aspects covered: identifying the subject of the text, identifying the main idea of the text, determining whether the narration of the text is biased, drawing conclusions from the text, evaluation of the text coherence.

Conclusion

In the research, the listening activities of Turkish language education textbooks were examined in terms of critical listening. It is seen that the critical listening activities included in the textbooks with the rates of: 9,1% and 9,5% for the 5th graders; 5,4% and 17,6% for the 6th graders; 18,7%, 18,8%, and 9,2% for the 7th graders; and 13,8% and 17,8% for the 8th graders. When examined in terms of grade levels, it is seen that there is a significant difference between critical listening activity inclusion rates, especially at the 6th grade level. This difference in the textbooks will also negatively affect the level of students to acquire critical listening abilities. Since listening (Doğan, 2007; Karakuş Tayşi, 2014) critical listening is an abstract ability (Lundsteen, 1963), it is related to the development of the abstract thinking ability of the students. The importance of using activities and materials in language teaching has been explained in different studies (Arslan, 2009; Baki & Karakuş, 2012; Oberg & Daniels, 2013; O' Malley & Chamot, 1995; Theódórsdóttir, 2011; Son, 2008; York, 2016). For this reason, it is possible to say that as the grade level increases, there should be a planned increase in the number of activities for critical listening. However, as a result of the examination, it was determined that the number of activities differed from each other in terms of grade levels and there was no gradual increase.

It is noticed that the variety of the critical listening activities is limited. Activities such as question and answer forms, story maps, marking/choosing, classification were noticed to be abundant. The diversity of activities in terms of the teaching process supports students to learn more effectively (Arıcı ve Kır, 2017; Berne, 1995; Demir, 2013; Lingzhu, 2003; Madani & Kheirzadeh, 2022; Melanlıoğlu, 2019; Özer & Yilmaz, 2016; Winke, Gass & Sydorenko, 2010; Xu, 2010). Having diverse activities in the textbooks will support the education and motivation of the students.

Since Turkish textbooks are examined in terms of aspects of critical listening, it has been determined that the aspects of identifying the subject of the text and identifying the main idea of the text exist the most. While aspects of identifying the propaganda statements, drawing conclusions, identifying the body language were included slightly, the aspect of evaluating the theme of the text was not covered at all. Based on this result, it can be stated that there is not a balanced distribution of critical listening aspects in the textbooks activities. The fact that there are studies (Azizoğlu, 2020; Çarkıt, 2018; Devine, 1961; Doğan, 2017; Lundsteen, 1963) that indicate that critical listening is a teachable skill at the secondary school level supports the idea that teaching should be done by including all aspects of critical listening in textbooks.

Considering the research results, it would be very beneficial to reconsider the critical listening ability activities in Turkish language education textbooks and adjust the number of activities. It is important to diversify the activity types and to include all aspects of critical listening skills for the acquisition of this ability.

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Social Media Engagement, Fear of Missing Out and Problematic Internet Use in Secondary School Children

Research Article

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ABSTRACT

The rapid rise of social media platforms has resulted in widespread concern about how teenagers have engaged in destructive behavior. This study explored the relationship between secondary school students' levels of fear of missing out, levels of problematic internet use, and social media engagement. ' Six hundred ninety-five students, aged between 11 and 14 from 5th to 8th grade, attending ten different public schools in Turkey completed an online questionnaire. The questionnaire consists of three major sections: demographics questions, fear of missing out scale, and problematic internet use scale. The study was designed with the correlational research model. To examine the relationships between the groups, a Structural Equation Modeling Path Analysis was run. Our study observed a significant, positive, and moderate relationship between secondary school students' levels of fear of missing out and levels of problematic internet use. There was also a significant, positive, and weak relationship between sharing frequency on social media. Students' levels of fear of missing out score significantly and positively affected their levels of problematic internet use. Students' frequency of sharing on social media in a day significantly and positively affected their levels of fear of missing out score. The time students spent on social media in a day significantly and negatively affected their levels of problematic internet use score.

Keywords:
Fear of missing out (FoMO), Problematic Internet Use (PIU), Social Media Engagement, Secondary school students

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Introduction

In the last decade, the number of people using social media has exploded. There are currently 3.78 billion social media users globally, with 4.41 billion predicted by 2025 (Statista, 2021). One of the major driving forces behind the rise in active social media users is the high rate of smartphone penetration. While mobile phones have initially been solely capable of making calls and sending text messages, new features have attracted people of all ages, lowering the average age of mobile phone usage (Swar & Hameed, 2017). In Turkey, 73% of users say they use their phones too much, whereas, in Europe, 46% say they do (Deloitte, 2019). A few facts should be mentioned in order to fully comprehend the phenomenon of modern people's operating in cyberspace. Every minute, it is estimated that 500 hours of videos are uploaded to YouTube, nearly 300 trillion emails are sent, more than 4 million searches are conducted on Google, more than 300 million tweets are sent via Twitter, more than 78 million posts are published using the CMS Wordpress, and 54 million messages are sent via Whatsapp (Chaffey, 2020).

Teenagers' lives are becoming mediated increasingly. The lack of self-control over the use of digital media has a variety of detrimental implications in the psychological, biological, and social lives of those who are always online (Tomczyk, 2021). Nowadays, social networking is more about who we are than it is about what we do. Social networking can be thought of as a way of life (Nazarail & Kasim, 2021; Sheela & Murthy, 2021). Children born after 2000 have grown up in a world where technology is an inextricable aspect of their lives, making life without it unimaginable. This has been dubbed the "always-on" lifestyle, and being "on" has become the norm (Kuss and Griffiths, 2017). Much of the earlier studies focused on one specific social networking site (i.e., Facebook), but social media use now spans a variety of platforms, and teens are significantly more likely to use Snapchat and Instagram than Facebook (Griffiths & Kuss, 2017). Because millions of individuals use social media tools on a daily basis, there is a growing research interest in the psycho-social elements that drive high social media engagement. Studies on social media usage and abuse frequently take a confirmatory strategy, in which empirical studies focus on psychological risk factors that have already been shown to play a role in the development or maintenance of drug addictions (Griffiths & Kuss, 2017). Problematic social media use, particularly overuse, can cause symptoms similar to those seen in substance addictions (e.g., withdrawal, conflict, and loss of control; Blackwell et al., 2017; Bloemen & De Coninck, 2020; Chang et al., 2015; de Calheiros Velozo & Stauder, 2018; Durak, 2018; Elhai, Dvorak, Levine, & Hall, 2017; Kuss & Griffiths, 2017). In contrast, despite recent data supporting its significance in various adverse outcomes (Scott & Woods, 2018), fear of missing out (FoMO) (Przybylski, Murayama, DeHaan, & Gladwell, 2013) was first introduced to identify a probable particular pathway to high social media engagement.

Websites and online technologies that allow users to share information, opinions, and interests are referred to as social media. Engagement refers to various behaviors such as a Facebook "share" or an Instagram "like." It's any interaction a friend has with your social media material that indicates she is interested in what you're saying and perhaps wishes to help you out. Young students mostly use social media to share personal or social information with close friends and family members in their social networks (Alt, 2017). FoMO is an issue that has lately gained attraction among secondary school students due to increased social media use (D'Lima and Higgins, 2021). This syndrome has been defined as anxiety in which a person is obsessively worried about missing out on a chance for social connection, a pleasant experience, a profitable investment, or other enjoyable activities (Przybylski et al., 2013). Scholars have identified FoMO as a critical and emerging feature of social media's dark side (Oberst et al., 2017; Tandon, Kaur, Dhir, & Mäntymäki, 2020). Research suggests that individuals' experiences with FOMO can lead to more persistent and deliberate interactions with others in their online social groups (Dhir et al., 2021; Tandon et al., 2021), which can be a precursor to developing the tendency to engage in compulsive social media use (Beyens, Frison, & Eggermont, 2016).

Participating in social media is especially appealing to people who suffer from FOMO since it gives both social connection and activity. However, this has consequences.

FoMO appears to be a predictor of the usage of social media applications that allow users to connect with others in their networks, such as Instagram and Facebook (Lee, Lee, Moon, & Sung, 2015; Sheldon & Bryant, 2015). Instagram use, for example, has been linked to a desire to "keep up with or gain knowledge about what others (i.e., friends, family, and strangers) are doing" (Sheldon & Bryant, 2015). FoMO has also been linked to increased use of Facebook (Beyens, Frison, & Eggermont et al. 2016) and Instagram (Salim, Rahardjo, Tanaya, & Qurani, 2017). According to these findings, FoMO predicts the usage of at least these social networking sites, but possibly also other social media platforms. There is a distinction to be made between the "depth" and "breadth" of one's social media use, where the depth of use relates to factors such as frequency and duration of use, and the breadth of use refers to the number of social media platforms actively used. For teenagers, not only frequent use but also a wide range of social media platforms may help to alleviate anxiety about not knowing what others are thinking and doing because of the differences in relational affordances of different media (Bayer, Ellison, Schoenebeck, & Falk, 2016) mean that they may provide access to at least partially different networks and contents.

Healthy Internet use is defined as using the Internet for a specific purpose at the right time without causing cognitive or behavioral discomfort (Lin, Su & Potenza, 2018). Problematic Internet use (PIU)is described as the inability to maintain control over one's ongoing use of the Internet due to issues such as family and work obligations (Aygar et al., 2019). According to the Globalwebindex report, the daily time spent on social media is 2 hours and 25 minutes per person in the world. In Turkey, it is 2 hours 57 minutes. The place with the highest use of social media in the Philippines with 4 hours and 15 minutes. This data can only be shared with Instagram, Facebook, Twitter, etc., usage time of social channels. Because the Internet is universal, easily accessible, and contains stimuli that can appeal to a variety of tastes, social media and similar environments that allow for easy communication with other people while hiding one's identity and personal attributes carry a high risk of problematic use and dependence (Griffiths & Kuss, 2017). Secondary school children may be motivated to use the Internet on a regular basis because it has become a very reinforcing stimulus; it provides users with immediate and easy access to achieve satisfaction and empowerment over how they present themselves, regardless of their true identity or physical characteristics (Reyes et al., 2018). The widespread use of the Internet in everyday life has resulted in social media engagement. FoMO in social media will inevitably increase Internet usage time. However, both problematic Internet use and the FoMO in social media may have harmful consequences on mental health, particularly in young people, while there isn't enough research on the link between the two on secondary school children. Based on this gap, this study aims to determine the relationship between social media engagement, problematic Internet use, and FoMO among secondary school children.

As the number of social media tools used increases, the time spent on social media also increases. Hence, for the current study, we examined both the depth, frequency of social media use, and the breadth, the number of active social media platforms teenagers use and spend time with them. Secondary school-aged children are using social media heavily. Yet, research exploring the academic, social, and psychological factors related to social media use has primarily focused on high school or university students (Al-Furaih & Al-Awidi, 2021; D'Lima & Higgins, 2021). Social media engagement has been studied concerning social connectivity (Allen et al., 2014), mental health (Kelly, Zilanawala, Booker, & Sacker, 2018), sleep quality (Woods & Scott, 2016); peer influence (Woods & Scott, 2016), and family roles (Bloemen & De Coninck, 2020). There is a need for more research on similar social and psychological characteristics in social media use among secondary school children in Turkish populations, so the current study is being conducted. To the best of our knowledge, no

studies have looked into whether social media engagement (SME) as a mediator affects fear of missing out (FoMO) and problematic internet use (PIU).

Purpose of the Study

The aim of this study was to determine the relationship between secondary school students' levels of fear of missing out, levels of problematic internet use, and social media engagement. In this context, the following research questions were identified:

1. Is there a significant relationship between secondary school students' levels of fear of missing out, levels of problematic internet use, and social media engagement?
2. Is there a significant difference between secondary school students' levels of fear of missing out and levels of problematic internet use according to demographic variables?
3. Do secondary school students' levels of fear of missing out have a significant effect on their levels of problematic internet use?
4. Do secondary school students' social media engagement have a significant effect on their levels of fear of missing out and levels of problematic internet use?

Method

Study Design

In this study, the relationship between secondary school students' levels of fear of missing out, levels of problematic internet use, and social media engagement was examined. Therefore, the study was designed with the Correlational Research model, which seeks to answer the questions that the severity, direction, and effect of the relations between the variables can be calculated and to what extent these variables change with each other (Gorard, 2017:195).

Study Group

The study was conducted on 705 students in 10 different schools in Bursa city center in the 2018-2019 academic year. As a result of data organization, the number of participants was determined as 695. The descriptive statistics of the participants of the study are given in Table 1.

Table 1. Demographics of the participants

Variables	Variable Groups	f	%
Gender	Female	347	49.9
	Male	348	50.1
Grade	5th grade	200	28.8
	6th grade	346	49.8
	7th grade	133	19.1
	8th grade	16	2.3
Academic Achievement	59 and below	27	3.9
	60-69	70	10.1
	70-79	129	18.6
	80-89	187	26.9
	90 and above	282	40.6
Status of smartphone use	No	243	35.0
	Yes	452	65.0
Time spent with phone or tablet in a day	I never use	54	7.8
	1- 3 hours	391	56.3
	3-5 hours	159	22.9
	5-7 hours	50	7.2
	7 hours and more	41	5.9

Frequency of sharing on social media	I never share	321	46.2
	1-2 times	239	34.4
	3-4 times	77	11.1
	5-6 times	16	2.3
	7 times and more	42	6.0
Time spent on social media in a day	I never use	132	19.0
	1-3 hours	11	1.6
	3-5 hours	8	1.2
	5-7 hours	12	1.7
	7 hours and more	532	76.5
		695	**100**

Data Collection Tools

The questionnaire used in the study consisted of three parts. The first part inquired about sociodemographic characteristics, the second part included the Fear of Missing Out Scale, and the third part consisted of Problematic Internet Use Scale items.

Fear of Missing Out Scale: The scale prepared by Balta , Emirtekin, Kircaburun and Griffiths (2020) was conducted to determine secondary school students' levels of fear of missing out. The scale was prepared in a 5-point Likert type and consisted of 12 items. The overall score ranges from 12 to 60 points. High scores on the scale indicate that participants have high levels of fear of missing out. According to the CFA results ($\chi 2$ /df = 3.80, RMSEA=.08, SRMR = .02, CFI = .93, GFI = .93) the scale is valid and reliable.

Problematic Internet Use Scale: The scale prepared by Ceyhan, Ceyhan, and Gürcan (2007) was used to determine the levels of problematic internet use. The scale was prepared in a 5-point Likert type and consisted of 33 items. The overall score ranges from 33 to 165 points. High scores on the scale indicate that participants have high levels of problematic internet use. The internal reliability coefficient (0.93) of the scale was found to be quite reliable (Ceyhan and Ceyhan, 2009).

Both FoMO and PIU scales were applied to secondary school students at our study. Therefore, confirmatory factor analysis (CFA) was applied for the adaptation of the scales. In FoMO Scale; according to CFA results ($\chi 2$ /df = 3.90, RMSEA = .065 (CI 90% [.05, .07]), SRMR = .04, CFI = .94, GFI = .95), the scale was valid and reliable. In PIU Scale; according to CFA results ($\chi 2$ /df = 3.77, RMSEA = .063 (CI 90% [.06, .06]), SRMR = .09, CFI = .86, GFI = .85), the scale was valid and reliable. In addition, expert opinion was obtained from the Educational Psychology department and from two teachers working at secondary schools for the scales.

Data Analysis

While Microsoft Excel 2016 was used to arrange the data, SPSS 25.0 was utilized for missing data analysis, tests of normality, correlation, and computation of group differences, and Amos 23.0 was used for path analysis. Missing data were assigned to 36 missing data in the PIU scale because the values were appropriate, and eight missing data in the FoMO data were deleted since the data were not normally distributed. The tests of normality were performed for FoMO, PIU, and Social Media Engagement in determining the analysis method. It was concluded that the data were not normally distributed based on each group.

Table 2. Test of Normality

Data collection tool	Tests of normality for Correlation and Difference Between Groups (SPSS)			Multiple Tests of normality for Structural Equation Modeling Path Analysis (AMOS)	
	Kolmogorov-Smirnov (p)	Skewness value	Kurtosis value	Skewness value	Kurtosis value
FoMO	0	1.02	0.7	1.02	0.7
PIU	0	1.06	0.87	1.06	0.87
Frequency of sharing on social media	0	1.47	1.70	1.47	1.69
Time spent on social media in a day	0	0.82	-0.64	-1.41	-0.06

In the determination of the severity and direction of the relationship between FoMO, PIU, Social Media engagement, and academic achievement, Spearman Rank Correlation Analysis was preferred since the data were not normally distributed. In the determination of whether there was a significant difference between students' FoMO and PIU levels according to demographic data, the Mann-Whitney-U test was performed for the variables of gender and status of smartphone use. The Kruskal-Wallis test was performed for the variables of grade level, time spent with phone or tablet in a day, frequency of sharing on social media, and time spent on social media in a day.

The Structural Equation Modeling Path Analysis was preferred to determine the effect of FoMO on PIU and the effect of Social Media Engagement on FoMO and PIU since the variables were indicator variables, and the data were assumed to be normally distributed because the skewness and kurtosis values were between -2 and +2.

Validity and Reliability

Cronbach's Alpha reliability coefficient analysis was performed to determine the consistency between the results of the scales. According to these results, it was concluded that the data were highly reliable (Table 3).

Table 3. Validity Results

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	n
FoMO	0.831	0.834	12
PIU	0.931	0.933	33

Findings and Interpretation

The results obtained from the correlation analysis are presented in Table 4. While there was a significant, positive, and moderate relationship between secondary school students' levels of fear of missing out and levels of problematic internet use ($r = 0.6$; $p=0<0.05$), there was also a significant, positive, and weak relationship between the frequency of sharing on social media ($r = 0.4$; $p=0<0.05$), and there was a significant, negative and weak relationship between their academic achievement ($r = -0.17$; $p=0<0.05$). Students' levels of problematic internet use and media engagement increased as their fear of missing out levels increased. On the other hand, students' academic achievement decreased as their levels of fear of missing out increased. There was no significant relationship between students' FoMO levels and the time they spent on social media in a day ($r = 0.03$; $p=0.5>0.05$).

While there was a significant, positive, and moderate relationship between students' levels of problematic internet use and the frequency of sharing on social media (r = 0.27; p=0<0.05), there was also a significant, negative and weak relationship between academic achievement (r = -0.18; p=0<0.05). When the frequency of sharing on social media increased, the levels of problematic internet use increased, and academic achievement decreased. There was a significant, negative, and weak relationship between students' frequency of sharing on social media and academic achievement (r = -0.16; p=0<0.05).

Table 4. Correlation Analysis Results

		FoMO	PIU	Frequency of sharing on social media	Time spent on social media in a day	Academic Achievement
FoMO	r	1	0.6**	0.4**	0.03	-0.17**
	p		0	0	0.5	0
PIU	r	0.6**	1	0.27**	-0.03	-0.18**
	p	0		0	0.4**	0
Frequency of sharing on social media	r	0.4**	0.27	1	-0.02	-0.16
	p	0	0		0.59	0
Time spent on social media in a day	r	0.03	-0.03	-0.02	1	0.06
	p	0.5	0.4	0.59		0.11
Academic Achievement	r	-0.17**	-0.18**	-0.16**	0.06	1
	p	0	0	0	0.11	

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

The results of the analysis on whether there was a difference between the FoMO and PIU levels of secondary school students according to the gender variable are presented in Table 5. There was no significant difference between the FoMO levels of the students in terms of gender [U=58546.50; p=0.49>0.05]. However, there is a significant difference between students' PIU levels in terms of gender [U=52711.50; p=0<0.05]. Male students' PIU scores were higher than female students.

Table 5. FoMO and PIU levels of students according to the gender variable

	Gender	n	Mean Rank	Rank Sum	U	p
FoMO	Female	347	353.28	122587.50	58546.50	0.49
	Male	348	342.74	119272.50		
PIU	Female	347	325.91	113089.50	52711.50	0*
	Male	348	370.03	128770.50		

*Correlation is significant at the 0.05 level (2-tailed)

There was a significant difference between FoMO and PIU levels of secondary school students according to the status of the smartphone use variable (Table 6). In terms of the smartphone usage status variable, there is a significant difference between the students' FoMO levels [U=43902; p=0<0.05] and PIU levels [U=45492.50; p=0<0.05].

Table 6. FoMO and PIU levels of students according to the status of smartphone use variable

	Status of smartphone use	n	Mean Rank	Rank Sum	U	p
FoMO	No	243	302.67	73548.00	43902	0*
	Yes	452	372.37	168312.00		
PIU	No	243	309.21	75138.50	45492.50	0*
	Yes	452	368.85	166721.50		

*Correlation is significant at the 0.05 level (2-tailed)

There was a significant difference between FoMO and PIU levels of secondary school students according to the grade level variable (Table 7). The results show that there is a significant difference between FoMO levels of secondary school students according to grade level variable [$X^2_{(3)}$: 15.38; p=0<0.05] and PIU levels [$X^2_{(3)}$: 20.79; p=0<0.05]. According to the Mann-Whitney U test results made for multiple comparisons, there is a significant difference between the FoMO levels of the 5th and 6th-grade students and the 6th and 7th-grade students. When we look at the problematic internet use, there is a significant difference between the PIU levels of the students studying in the 5th and 6th grades; 5th and 8th-grade students, and the 6th and 7th-grade students.

Table 7. FoMO and PIU levels of secondary school students according to the grade level variable

	Groups	n	Mean Rank	sd	X^2	p
FoMO	5th grade	200	310.52	3	15.38	0*
	6th grade	346	376.60			
	7th grade	133	328.30			
	8th grade	16	361.84			
PIU	5th grade	200	300.05	3	20.79	0*
	6th grade	346	377.61			
	7th grade	133	336.00			
	8th grade	16	406.91			

*Significant at the 0.05 level (2-tailed)

There was a significant difference between FoMO levels [$X^2_{(4)}$: 56.801; p=0<0.05] and PIU levels [$X^2_{(4)}$: 119.332; p=0<0.05] of secondary school students according to the variable of the time spent with phone or tablet in a day (Table 8). In terms of the variable of time spent with a phone or tablet in a day, there is a significant difference between the FoMO levels of students who never use and use it for 1-3 hours; never use and 3-5 hours; never use and use for 5-7 hours; never use and use 7 or more hours. There is also a significant difference between using 1-3 hours and 3-5 hours; using 1-3 hours and 5-7 hours; using 1-3 hours and 7 or more hours. In terms of PIU levels, there is a significant difference between all paired groups, except for the students who use a phone or tablet for 5-7 hours and 7 or more hours a day.

Table 8. FoMO and PIU levels of secondary school students according to the variable of the time spent with phone or tablet in a day

	Groups	n	Mean Rank	sd	X2	p
FoMO	I never use	54	242.58	4	56.801	0*
	1- 3 hours	391	316.92			
	3-5 hours	159	413.53			
	5-7 hours	50	442.52			
	7 hours and more	41	413.82			
PIU	I never use	54	226.58	4	119.332	0*
	1- 3 hours	391	300.80			
	3-5 hours	159	409.92			
	5-7 hours	50	508.41			
	7 hours and more	41	522.30			

*Significant at the 0.05 level (2-tailed)

To examine the relationships between the groups, a path analysis was run. The following model was obtained from performing the two modification steps suggested by the program and repeating the path analysis (Figure 1).

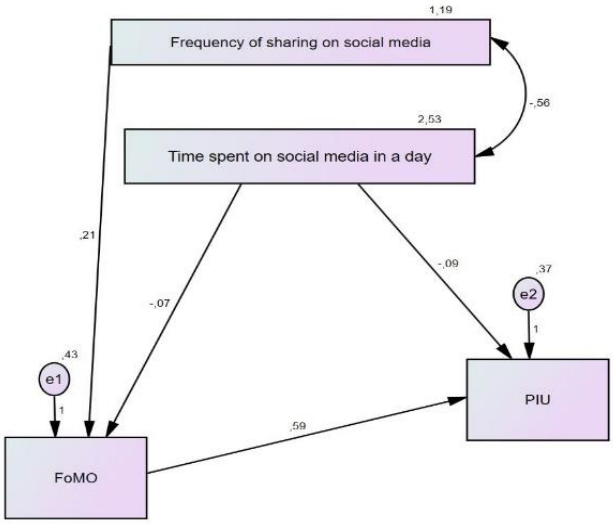

Figure 1. Path Analysis

Table 9. Structural Equation Modeling Path Analysis results

Structural Relations	Non-standard regression coefficients	Standardized regression coefficients	Critical Ratio	R^2	p
FoMO <--- frequency of sharing on social media in a day	0.315	0.207	8.569	.157	***
FoMO <--- time spent on social media in a day	-0.159	-0.072	-4.306		***
PIU <--- FoMO	0.543	0.587	17.525	.379	***
PIU <--- time spent on social media in a day	-0.182	-0.089	-5.863		***

The results of the Structural Equation Modeling Path Analysis are presented in Table 9. Students' levels of fear of missing out significantly and positively affected their levels of problematic internet use ($\beta_{\text{Social media12} \rightarrow \text{fomo\_mean}}$= 0.587; p=0<0.05). Students' frequency of sharing on social media in a day significantly and positively affected their levels of fear of missing out ($\beta_{\text{Social media12} \rightarrow \text{fomo\_mean}}$= 0,207; p=0<0.05). The time students spent on social media in a day significantly and negatively affected their levels of fear of missing out ($\beta_{\text{Social media13} \rightarrow \text{fomo\_mean}}$= -0.072; p=0<0.05). The time students spent on social media in a day significantly and negatively affected their levels of problematic internet use ($\beta_{\text{Social media13} \rightarrow \text{fomo\_mean}}$= -0.072; p=0<0.05). All goodness of fit values measured by structural equation path analysis were within the acceptance limits (Table 10). Two endogenous variables were tested in the path model for FoMO. FoMO levels were determined by students' frequency of sharing on social media in a day and frequency of sharing on social media resulting in an R^2 of 0,16. Also PIU levels were determined students' frequency of sharing on social media in a day and frequency of sharing on social media resulting in an R^2 of 0,38.

Table 10. Path analysis goodness of fit values

	Goodness of Fit Indices								
	χ^2	df	χ^2/df	CFI	TLI	GFI	NFI	RMSEA	SRMR
Model*	0.111	1	0.111	1.00	1.010	1.00	0.167	0	0.0028
Criterion **	$0 \leq \chi^2 \leq 2$		$0 \leq \chi^2/df \leq 2$	0.97<CFI <1		0.95<GFI <1	0.95<NFI <1	0≤RMSEA≤0.05	0≤SRMR≤0.05

*Model = Hypothesized model

** Standard Goodness of Fit Criteria

Conclusions and Future Recommendations

This study explored the links between fear of missing out, social media engagement, and problematic Internet use in response to the present predominance of social media/Internet use among secondary school children. According to the findings of this study, participants use social media extensively. Simultaneously, they are likely to struggle with maintaining control over their Internet usage in diverse contexts, resulting in some PIU. The rising usage of social networking sites has boosted involvement among young people and the need to maintain a tight grip on their online presence and publish frequent updates about their personal lives. Our study observed a significant, positive, and moderate relationship between secondary school students' levels of fear of missing out and levels of problematic internet use, and there was also a significant, positive, and weak relationship between the frequency of sharing on social media and a significant, negative and weak relationship between their academic achievement. Similar results were observed in previous research (Aygar et al., 2019; Reyes et al., 2018; Stead & Bibby, 2017).

Our findings align with earlier research that has found that FoMO is a strong predictor of social media engagement. As previously stated, psychological needs fulfillment has been identified as the major component in the relationship between FoMO and social media consumption by prior investigations (Reyes et al., 2018; Aygar et al., 2019; Balta et al., 2020). Our results also show that there was a significant, positive, and weak relationship between FoMO levels and social media engagement. Higher FoMO was linked to more social media engagement in previous research (Przybylski et al., 2013; Stead & Bibby, 2017). Our third research question results show that FoMO and PIU are positively associated. This is a significant finding, demonstrating that FoMO plays a role in unhealthy, compulsive behavior and is a component that increases social media use.

Previous research has found mixed results regarding the relationship between gender and FoMO. Some studies have reported that male students show higher degrees of FoMO behavior than females (Aygar et al., 2019; Ercan & Tekin, 2019; Jilisha, Venkatachalam, Menon, & Olickal, 2019). Other studies stated that females show more addicted beviours than males (Yildirim, Sumuer, Adnan, & Yildirim, 2016; Kanmani, Bhavani & Maragatham, 2017; Prasad et al., 2017; Büyükçolpan, 2019; Eren et al., 2020). Some others have reposted that FoMO levels do not differ by gender (Chotpitayasunondh & Douglas, 2016; Gokler, Aydin, Unal, & Metintas, 2016). In our study, there was no significant difference between the FoMO levels of the students in terms of gender. However, there is a significant difference between students' PIU levels in terms of gender, as male students show more PIU behavior than female students. It has been reported that gender differences may be changed by the purpose of Internet use as well as Internet dependency (Tomczyk, 2021). According to one study, male students use Internet primarily for online gaming, whereas female students utilize it for social connection (Lee, Ko, & Chou, 2015). It may be the case for our study group. Future research may be required to gain more information on the relationship between PIU and the purpose of social media/Internet use.

The current study also discovered that PIU is linked to and substantially predicted by FoMO. FoMO mediates the use of Internet-communicative applications and coexists with excessive Internet usage, according to prior studies (Wegmann et al., 2017). Although various studies (Oberst et al., 2017; Reyes et al., 2018; Aygar et al., 2019) have attempted to study the relationship between FoMO and PIU, none have offered any other explanations than Ryan and Deci's (2000) self-determination theory. Our results show that there was a significant, positive, and moderate relationship between students' levels of PIU and the frequency of sharing on social media. Future research may also investigate possible reasons for the relationship between FoMO, PIU, and social media engagement.Future research may also examine the differences between the various social media sites and what protective characteristics, such as personality traits, can mitigate the influence of FoMO on PIU and social media engagement. One of the study's limitations is that it uses a cross-sectional approach, making it impossible to explain cause-and-effect relationships. Additionally, the study's generalizability may be limited because the sample consists of secondary school students of the same age group recruited only from public schools.

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Duties and Responsibilities of Local Governments in The Provision of Sports Services and Education Services within The Legal Framework in Turkey

Research Article

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ABSTRACT

Our world is going through a great process of change and development in every field. This rapid process has deeply affected the states and management systems as in every field, and the service areas and obligations of the states to the citizens have increased. The vast majority of states have moved away from centralization and delegated most of their duties to local governments in order to make services more effective and efficient. It is aimed to examine the duties and responsibilities of local governments in the provision of sports services and education services within the legal bases of existing laws in Turkey. Document analysis, one of the qualitative research methods, was used in the research. In the document review, all laws related to local governments were scanned. Regarding local administrations: Law on Special Provincial Administration No. 5302, Law on Metropolitan Municipalities 5216, Law on Municipalities 5393, as well as Local Administrations (due to its binding nature) in the light of legislation, regulations and within the aforementioned articles of Article 29 of the 5018 Public Financial Management and Control Law, it has become clear that local governments can provide sports services and education services and that they can provide all kinds of materials and in-kind aid to amateur sports clubs. Moreover, it can be said that within the framework of the Law No. 5355 on Local Administrations, the provision of sports services to the villages along with other services has been paved the way by giving the authority to establish service unions.

Keywords:
Turkey, Sports, Sports Services, Local Administration Laws, Educatıon

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Introduction

The world we live in today is going through a huge change and development process. This rapid process has had a profound impact on states and administrative systems, as in every field. In addition to providing education, health and security services, states have become obligated to provide services in many other areas, this has pushed the states to seek new ways of administration. When we look at the countries in the world, it can be said that almost all of them adopt a supportive, encouraging and controlling structure in sports.

Nevertheless, it is seen that the majority of the European Union member countries leave the sports management to local governments in order to provide sports services, develop sports and popularize it among the masses (Aslan, 2005; İnci, 2011; Kurt & Onağ, 2019). Because local governments are very effective and efficient in identifying and providing all kinds of services needed and demanded by citizens in a balanced and efficient way, as they are the closest administrative units to the public (Keleş, 1995). When the issue is considered from the perspective of Turkey, it is seen that the centralized management approach is dominant in sports services, as in many other fields. This situation prevents the spread and development of sports in Turkey, and the society's adequate use of its opportunities and benefits (Zeray, 2019).

Regarding the management of sports in Turkey, due to the indecision experienced at the point of centralization and localization and the differences in practices, there are problems in the provision of sports services, effectiveness, and efficiency (Zeray, 2019). Due to reasons such as the lack of planning of sports-related institutions, the unsuitability of school programs for sports activities, the insufficient importance given to both school sports and amateur sports, economic problems experienced in local governments, lack of coordination between the Ministry of Sports and National Education, it is seen that sports services in Turkey cannot achieve the desired goals (Yıldız, 2018). When the literature related to the current situation is examined, it is seen that there are almost no studies that directly present the laws which they belong to the provision of sports services and the duties and responsibilities of local government and other management organizations in this regard. From this point of view, in this study, it is aimed to examine sports services within the framework of legal bases related to local governments. From this point of view, in this study, it is aimed to examine sports services within the framework of legal bases related to local governments.

Metod

In the research, document analysis, one of the qualitative research methods, was used. Document review is a technique involving the use of pre-existing or emerging materials (Scott and Morrison, 2005). In addition, the main purpose of document review; It is the analysis of written materials containing information about the case or cases that are aimed to be investigated. Document analysis is used as a stand-alone research method, especially when direct interviews and observations are not possible. This method includes the analysis of written and oral materials containing information about the topics planned to be investigated (Yıldırım & Şimşek, 2016).

In this study, the 1982 Constitution of the Republic of Turkey, the Special Provincial Administration Law No. 5302, the Metropolitan Municipality Law No. 5216, the Municipality Law No. 5393, the Local Administrative Unions Law No. 5355, the Public- Financial Management and Control Law No. 5018, the Associations Law No. 5253, the Village Law No. 442. has been studied.

Findings

Legal Obligations of Local Authorities Regarding Sports and Education

Local governments are the administrations established to meet the local and common needs of the people living in the same region (Ulusoy & Akdemir, 2012; Atalay et al, 2016). In the Turkish administrative

system, these are special provincial administrations, municipalities, villages, and the unions and organizations they have formed among themselves (Gül et al., 2014).

They are local government units established to meet the common needs of people living within the borders of any province. It is a unit headed by the governor of province and have the provincial assembly. In fact, this unit, which has always existed in the historical process, has taken its current form with the Law No. 5302 of 2005. The special provincial administration consists of the general secretariat, financial affairs, health, agriculture, public works, human resources and legal affairs units and they area subject to all kinds of audits of the state (Güler, 2018).

Although the history of municipal administrations dates to the eighteenth century, the first regulation in the history of the Republic of Turkey was made with the Law No. 1580 of 1930. Later, with the Law No. 5393 of 2005, the understanding of municipality was tried to be reshaped. In line with this law, it is obligatory to establish a municipality in the city and district centers, and it is defined as the administrations with some financial and administrative privileges, which are established to meet the local and common needs of the people living in a certain region, with a population of more than five thousand, and whose decision-making bodies are elected by this people. (Eryılmaz, 2012; Sayan, 2013). The administrative structure of the municipality consists of the mayor and the municipal council. It can be said that there are two types of municipalities as municipality and metropolitan municipality with the Law No. 5393 of July 3, 2005 and Law No. 5216 of July 10, 2004 in our country. Currently, there are 51 municipalities, 30 metropolitan municipalities and 402 district municipalities in our country (Sayan, 2013; Gözler & Kaplan, 2018).

Villages are the smallest and most comprehensive unit of the Local Governments. Although it has always existed in the historical process, the administrative structure of the village administrations in our country was shaped by the Law No. 442 of March 18, 1924. In line with this law, dispersed, collective settlements with a population of more than 150, less than 2000, with movable or immovable property, with common places such as schools, mosques, pastures, gardens, fields are considered as villages. While the number of villages in Turkey was 34,395, the number of villages decreased to 18,296 because of the Law No. 6360 of 12 November 2012 which is transformed the villages into neighborhoods in the metropolitan municipalities. The governing bodies of the villages are the headman, the village association, and the village council of elders (Gözler & Kaplan, 2018).

Constitutions can be described as written texts that bind both the state and the citizens, in which states explain and undertake the services to be provided to their citizens, together with their justifications. Although three constitutional amendments were made in the recent history of the Republic of Turkey, in 1924, 1961 and 1982, when we look at the issue in terms of sports, it is seen that only the 1982 constitution, which is in force contains provisions on this issue (T.C. 1982 Constitution, 1982). Herein, Article 2 of our Constitution, in the characteristics of the Republic, states the state structure of the Republic of Turkey as a social state defined as: The Republic of Turkey is a democratic, secular, and social state of law, in the peace of the society, in the understanding of national solidarity and justice, respectful of human rights, loyal to Atatürk nationalism, based on the basic principles stated at the beginning (Uçar, 2014). In Article 5, where the aims and duties of the state are specified, it is stated that… *The main goals and duties of the state are to protect the independence and integrity of the Turkish nation, the indivisibility of the country, the Republic and democracy. Ensure the welfare, peace and happiness of individuals and society; Try to remove the political, economic, and social obstacles that limit the fundamental rights and freedoms of the person in a way that is incompatible with the social state of law and the principles of justice, and to prepare the necessary conditions for the development of the material and spiritual existence of the person.* When the subject is considered in terms of service to society, education and social responsibility, by entering the Constitution from these points, the state has declared to all segments of the society that it will work to ensure the happiness, welfare, and health of its citizens without discrimination and that it has taken it upon

itself as a duty. Services to be provided to Sports and Youth in connection with these articles and in the same direction are defined in Articles 58 and 59 of our constitution. Article 58 of our Constitution, which includes the protection of youth, it is stated that: *State takes measures to ensure their growth and development against views that aim to destroy the indivisible integrity of the state with its territory and nation in line with Atatürk's principles and reforms and in the light of the positive knowledge of the youth to whom our independence and our Republic are entrusted. The state takes the necessary measures to protect the youth from addiction to alcohol, drugs, criminality, gambling and similar bad habits and ignorance.* Nevertheless, Again, in Article 59, which includes the development of sports, it is stated that: *The state takes measures to improve the physical and mental health of Turkish citizens of all ages and encourages the spread of sports to the masses. The state protects the successful athlete.* Mentioning these articles in the Social and Economic Rights and Duties section of our Constitution is proof that the State accepts these services as the fundamental rights of its citizens. Considering the issue in the light of these provisions, it is seen that the state attaches great importance to Sports in terms of the Education and Health of the society and that it undertakes the task of providing these services to the society and imposes important duties on both central and local governments. (Doğar,1994; Uçar,2014).

Nevertheless, based on these articles, the state fulfills some of its duties through sports investments made by local governments and other public institutions and the assistance of these organizations to sports clubs to develop sports and protect young people from the dangers they will encounter (Genç, 2017). Sports clubs also play a very important role in the formation of sports-related culture in the society and the delivery of sports to all segments of the society. Sports clubs are associations that act within the framework of the law of associations within our legal system. However, the strict rules of donations to associations affect sports clubs negatively. (Doğu, Kesim & Sivrikaya, 2002). Unfortunately, sports clubs in our country are not self-sufficient in every aspect. Therefore, the expectations of clubs from local governments and public institutions are increasing.

a) Duties and Responsibilities of Special Provincial Administrations in the Presentation of Sports and Education Services

Special Provincial Administrations continue their activities in our country in line with the Law No. 5302 of 2005. While other administrations have duties and responsibilities regarding sports and sports services, special provincial administrations have also been given responsibilities with this law. The job description of these administrations is stated in the law as,

Article 6- Provided that it is of a local common nature; Youth and sports health, agriculture, industry, and commerce; preparation of the environmental plan of the province. Public works and resettlement, protection of soil, prevention of erosion, culture, art, tourism, social services and aids, microcredit to the poor. Kindergartens and orphanages; in charge and authorized to provide services related to the supply of land, construction, maintenance and repair of the buildings and meeting the other needs of primary and secondary education institutions within the borders of the province… With later additions (Additional paragraph: 3/7/2005-5393/85 Art. Amended second paragraph: 24/7/2008-5793/42 Art.). *Ministries and other central government agencies. Investments related to services such as construction, maintenance and repair works, state, and provincial roads, drinking water, irrigation water, sewerage, energy transmission line, health, education, culture, tourism, environment, public works, housing, youth and sports. Ministries and other central government organizations can realize other investments by transferring the appropriations allocated for these services in their own budgets to special provincial administrations… new arrangements have been made.* Considering the international dimension of sports and relations, with the aim of disseminating sports to the masses and providing the necessary services, foreign relations are regulated in Article 62 as follows: … *Depending on the decision of the provincial council, the special provincial administration may become a founding member or member of international organizations and organizations operating in matters related to its field of duty. The special provincial administration may carry out joint activity and service projects with these establishments*

and organizations. Article 64, which regulates the relations of special provincial administrations with other organizations, allows joint projects to be carried out with associations in areas related to their duties, in line with the public interest and in line with the positive opinions of the provincial councils. Considering that sports clubs are also associations, it can be said that there is an opportunity for clubs to benefit from this article. The following statements, stated in the regulation made in Article 65, will create positive social results for the purpose of encouraging those who will work voluntarily in the field of sports services: … *Special provincial administrations, implements programs for the participation of volunteers in order to ensure solidarity and participation in the province and to increase efficiency, savings and productivity in services in the provision of health, education, sports, environment, traffic and cultural services, as well as services for the elderly, women and children, the disabled, the poor and the needy…*

b) Duties and Responsibilities of Metropolitan Municipalities in the Presentation of Sports and Education Services

Metropolitan Municipalities, act within the framework of the Law No. 5216 of 2004. In the third part, article 7, paragraph m, the duties and responsibilities of the metropolitan municipality are explained as follows: …*To build, have, operate or have the operation of social facilities, regional parks, zoos, animal shelters, libraries, museums, sports, recreation, entertainment and similar places that serve the integrity of the metropolitan city and to provide financial aid materials and necessary support to amateur sports clubs when necessary, to organize sports competitions between amateur teams, to award athletes, technical managers, trainers and students, who have excelled in national and international competitions or won degrees, by the decision of the city council…* It has been stated in this article that they are in charge of sports and sports services. Nevertheless, their duty is given in paragraph d of Article 7 as: … *To use the powers given to municipalities in the Slum Law No. 775 from the services specified in the first paragraph. To build parking lots, sports, recreation and entertainment places and parks, to provide social and cultural services for the elderly, disabled, women, youth and children. Opening vocational training and skill courses, construction, maintenance and repair of sanctuaries, health, education, cultural facilities, and buildings, and preserving cultural and natural assets and historical texture. To provide services for the development of places and functions that are important for the history of the city…* Specialized commissions, which were prepared with the aim of increasing the efficiency and quality of the services to be offered to the public within the borders of the metropolitan municipality, and the sports commission in Article 15 were put into practice as: …*The metropolitan municipal council may establish specialized commissions consisting of at least five and at most nine persons to be elected from among its members. Specialized commissions are formed by dividing the number of members of each political party group and independent members in the metropolitan municipal council to the total number of council members. It is obligatory to establish a zoning and public works commission, environment and health commission, plan and budget commission, education, culture, youth and sports commission and transportation commission…* The metropolitan municipal council may establish specialized commissions consisting of at least five and at most nine persons to be elected from among its members. Within the framework of the same law, the expenses of the metropolitan municipality were pointed out in article 24, paragraph O, by stating that they could be as follows: … *Expenses for sports, social, cultural, and scientific activities…* In Article 17, the limits of the president's duties related to sports were drawn with the following statements, and it was tried to be stated that the main duty of the president was not the clubs but the activities that ensure the participation of large masses of people in sports (Çoban ve Devecioğlu, 2006): … *During the continuation of their duties, the mayors of metropolitan and district mayors cannot take part in the management and inspection bodies of political parties, cannot be the president of professional sports clubs and they cannot be in the management…* Nevertheless, article 27 of the same law focused on the service relations and coordination of municipalities with the following statements: …*The metropolitan municipality, within the framework of the services listed in Article 7, within the framework of its financial and technical possibilities, taking into account the population and service areas, may carry out one or more of the duties of the district municipalities jointly or by the metropolitan municipality in person, based on the decision of the metropolitan*

municipality council, provided that the cost is borne by them and that they make a request. The metropolitan municipality can develop and invest in joint projects with district municipalities. The metropolitan municipality may provide financial and in-kind assistance to the district municipalities upon the proposal of the metropolitan mayor and the decision of the council, for the financing of the projects included in the investment program of the relevant municipality, provided that it does not exceed 10% of the finalized budget revenue and appropriations are allocated in the budget. When we look at this article in terms of sports and sports services, it can be said that it offers great opportunities to district municipalities that do not have sufficient economic power (Koçberber, 2005).

c) Duties and Responsibilities of Municipalities in the Presentation of Sports and Education Services

The concept of sports, which is closely related to social life, is also included in the Municipal Law No. 5393 of 2005. It has been tried to direct the sports services of the municipalities on the condition of being local and partner and the duties and responsibilities of the municipalities have been tried to be drawn as follows: Article 14 … *Performs or makes services available about Urban infrastructure such as zoning, water and sewerage, transportation, geographical and urban information systems, environment and environmental health, cleaning and solid waste, police, fire department, emergency aid, rescue and ambulance, urban traffic, burial and cemeteries, afforestation, park and green areas, housing, culture and art, tourism and promotion, youth and sports, social service and assistance, marriage, vocational and skill training, economy and trade development…*

… (Amended second sentence: 12/11/2012-6360/17 Art.) When necessary, provides sports materials to young people in order to encourage sports, provides in-kind and cash aid to amateur sports clubs and provides the necessary support, organizes all kinds of amateur sports events, may awards to students, athletes, technical managers and coaches who show outstanding success or receive degrees in domestic and international competitions, by the decision of the city council. He can do food banking (Ateş, 2011).

(Amended: 12/7/2013- 6495/100 Art.) The cash aid they will make to encourage sports cannot exceed seven per thousand for metropolitan municipalities and twelve per thousand for other municipalities of the amount accrued for their municipalities from the general budget tax revenues of the previous year.

In the first part of the same law, in paragraph p, where the duties of the Municipal Assembly are explained, the following provision is made, aiming at domestic and foreign associations, and paving the way for providing support to sports and sports services: … *Cooperation with municipalities and local administration unions in the country and abroad with the permission of the Ministry of Interior, deciding to establish sister city relations, to carry out activities and projects in areas such as culture, art and sports in order to develop economic and social relations, to construct, build, lease or allocate land, buildings and similar facilities within this framework.* By adding the following statement in Article 37, it is aimed to prevent the improper use of municipal facilities for the sake of political profit and to reduce the pressure on the municipality: *The mayor cannot preside over and manage professional sports clubs during her/his term of office.* It was emphasized that the main purpose is sport for all, encouraging the collective participation of the masses. In article 74 it is stated that: *Depending on the decision of the municipal council, the municipality may become a founding member or a member of international organizations and organizations operating in matters related to its field of duty. The municipality may carry out joint activity and service projects or establish a sister city relationship with this establishment, organization, and foreign local administrations.* When this article is considered in terms of sports and sports services, it is inevitable that international relations and thus support are paved, and that this will have positive reflections.

The relations between municipalities and other institutions are important in terms of the support to be received or given for the services provided. Herein, in article 75: *The municipality, in accordance with the agreement to be made upon the decision of the municipal council, in matters falling within its scope of duties and responsibilities:*

a) It may undertake the construction, maintenance, repair, and transportation works of local administrations and other public institutions and organizations with or without charge, or it may realize joint service projects with these institutions and may transfer the necessary resources for this purpose.

c) It may carry out joint service projects with professional organizations in the nature of public institutions, associations working for the public benefit, associations and foundations for the disabled, foundations granted tax exemption by the Council of Ministers, and professional chambers within the scope of the Law No. 507 on Craftsmen and Small Craftsmen. In line with their statements, it seems possible to give the necessary support to sports and sports services (Municipal Law, 2005).

Nevertheless, in the 26th article of the law, which states the duties and responsibilities of the Youth and Sports Directorates, the following statements regarding sports are included (Zengin & Öztaş, 2008): "*It is essential that the municipalities take the opinions and proposals of the provincial or district advisory board and the physical training and sports directorate while preparing their city plans. It is obligatory to establish sports facilities in mass housing, organized industrial zones, small industrial sites, educational institutions, and factory projects.*"

In this context, the Public Health Law No. 1593 (Article 168) tried to give direction to the municipalities on sports and sports services as: *"Municipalities of each city and town are obliged to establish one or more gardens and sports squares, in the size necessary for the population of that city and town, for young children to get fresh air."* Within the framework of Law No. 3289, it is stated that municipalities and special provincial administrations transfer 1% of their total revenues to the budgets of youth and sports provincial directorates and that this income is spent for sports fields and facilities, sports services, and activities of the region. In this way, it is aimed to create resources for local sports and sports services. However, it can be said that these rates are insufficient today and their applicability is a matter of discussion (Tamer, 2008).

d) Village Administrations and Sports Services

In Turkey, it is essential to manage the villages within the framework of the Law No. 442. However, there are no sports-related articles within this law. The absence of sports-related articles does not mean that villages will be deprived of these social services. Because the Local Administration Unions Law No. 5355, offers a solution to the confusion on this issue. This law paved the way for partnerships in local administrations. Local Administrative Unions are organizations with public legal personality, established with the proposal of the Ministry of Internal Affairs and with the permission of the President, within the framework of the Local Administrative Unions Law No. 5355, pursuant to Article 127 of our Constitution. The Law No. 5355 of 2005 makes the following definition: *"Public legal entity that more than one local administration has established among themselves to perform some of the services they are responsible for carrying out together"* Nevertheless same law made following provision: *Local administrations (special provincial administrations, municipalities and villages) may establish unions among themselves (consisting only of villages, municipalities or special provincial administrations) to carry out one or more of the duties assigned to them, or jointly with other local administrations (municipality/village, municipality/ special administration, village/special administration, municipality/village/special administration*). In other words, according to the law, local administrations consisting of special provincial administrations, municipalities and villages can establish a union among themselves to carry out the services they are tasked with, including sports services. When the following statement of article 18 of the law numbered 5355 is examined: *Except for the marketing of agricultural products in districts, to assist in the execution of road, water, sewerage and similar infrastructure facilities and other services belonging to the villages, to carry out, have them built and to ensure rural development, a service delivery union may be established with the participation of all villages, bearing the name of that district.* It can be seen that, with the participation of all villages, the establishment of a service delivery union to the villages named after that district has been paved for the provision of services concerning the villages, including sports services. Accordingly, the law: *Ministries and other central administration organizations and special provincial administrations, can realize the construction,*

maintenance and repair works, divided road, electrification, village road, drinking water, irrigation water and sewerage investments related to services for the village by transferring the appropriations allocated for these services in their own budget to the service delivery unions. The transfer process is made with the approval of the relevant minister in central, administrative institutions, and the governor in special provincial administrations, and these appropriations cannot be used for purposes other than allocation. Village service associations can also allocate funds from their own budgets to these investments within the budgetary possibilities. Investments to be made with the appropriations to be transferred by the ministries and other central administration organizations and special provincial administrations can be made without being subject to the service and duty area limitations of the union. By saying that, it can be emphasized that aims to provide all kinds of services, including sports, to their citizens in villages, either through central administrations or local administrations or through the partnerships they will establish between them (T.R. Ministry of Interior, 2021).

Conclusion

Within the borders of the Republic of Turkey, in the light of the above-mentioned Law on Special Provincial Administration No. 5302, the Law on Metropolitan Municipalities 5216, the Law on Municipalities 5393, legislation and regulations. Local governments;

It can provide sports and sports services, support all kinds of educational activities in line with Articles 6, 62, 65 of the Special Provincial Administration Law, 7, 15 of the Metropolitan Municipality Law, 14,26,75 of the Municipality Law, they can provide all kinds of materials and in-kind aid to amateur sports clubs.

However, it can be deduced that local administrations (due to its obligatory nature) can provide financial aid to amateur sports clubs in accordance with the following provision of Article 29 of the Public Financial Management and Control Law No. 5018 and in accordance with the regulations prepared on this issue: *Provided that it is foreseen in the budgets of the public administrations within the scope of the general government, aid can be given to associations, foundations, unions, institutions, organizations, funds and similar organizations by considering the public interest.* It can be said that within the framework of the Local Administrations Law No. 5355, by giving the authority to establish service unions, the provision of sports services and educational services to the villages along with other services has been paved the way.

Suggestions

- ✓ The subject of sports and education should not be confined only to the laws, but the central administrations should regularly check what the local administrations are doing about sports and education on an annual basis, provide feedback and develop the necessary policies.
- ✓ In order to increase the efficiency of sports and education services, awareness-raising activities should be carried out by the experts in the local administrations, the results should be evaluated, and action plans should be prepared.
- ✓ Importance should be given to the Presentation of Sports Services by considering the geographical conditions.
- ✓ Regarding Sports Services, the principle of "Sports for all" should be adopted and it should be ensured that all segments of the society benefit from these services free of charge and whenever they want.
- ✓ In order to make the necessary investments in Sports and Education, private-public cooperation projects can be paved and investors can be exempted from tax.
- ✓ It should not be forgotten that sport is an educational tool. Sports and educational support should be provided as much as possible by local governments, especially to schools that do not have sports facilities or are insufficient. In addition, educational activities open to everyone should be organized in order to develop sports culture

- ✓ It should be accepted that the issue is not to enact laws, it should not be forgotten that their implementation is essential. For this purpose, arrangements should be implemented to improve coordination between public or private institutions working in rural areas.

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Metaphorical Perceptions of Classroom Teachers regarding the Concept of Science

Research Article

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ABSTRACT

This study was carried out in order to reveal the perceptions of classroom teachers regarding the concept of "Science" through metaphors. The study was performed in line with phenomenonology research pattern, one of the qualitative research patterns. The data of the study was obtained from the 100 classroom teachers in the 2020-2021 school year by asking them to complete the statements starting with "Science is like..…….. Because it is……". The collected data were analyzed and interpreted with the content analysis technique. Based on the findings, the teachers generated 52 valid metaphors for the concept of "Science". These generated metaphors were then categorized by considering their common features and likened aspects. As a result of this process, 5 categories were obtained for the concept of "Science". Metaphors were developed the most by the teachers in the category of "Science as Continuity/Infinity" (39). This was followed by the categories of "Science as Illumination" (21), "Science as Abstraction" (18), "Science as Being" (13), and "Science as Necessity" (9). The most developed metaphor was light (11). Teachers have emphasized that science enlightens our future. And,it was eventually found that all the metaphors developed were positive.

Keywords:
metaphor, science, teacher, classroom teacher, perception.

Introduction

In this day and age, scientific developments have come to impact our lives. It is anticipated that this impact will continue to increase in the coming years. Scientific developments accelerate our pace of life and make our lives more comfortable. In a fairly extensive fields, from space research to health studies and from the virtual world developments all the way to the robotic technology, new products or inventions are frequently encountered. Even though various problems and questions emerge as a result of these developments, the scientific world should be closely followed in order to keep up with them. Scientific literacy

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has become all the more important today, and the need for well-equipped individuals in this specific field has increased. As a result, new steps have started to be taken in order to develop educational practices at all levels in the field of science (Kösem, 2017).

In the 2013-2014 school year, the Ministry of National Education (MoNE) changed the name of the "science and technology course" into just "science". This change particularly emphasized the importance of the word 'science'. With the new program, it was aimed that students would associate the scientific knowledge with real life and acquired permanent learning through their activities (MEB, 2013). In the new program published in the 2017-2018 school year, on the other hand, in addition to scientific process skills and life skills, engineering and design skills were added to the specific objectives of the science course. In this way, the science course was unified together with mathematics, technology and engineering.

In the program, the importance of science is emphasized by also adding to it the aim of enabling students to see the problems with an interdisciplinary viewpoint and to make inventions by using the knowledge and skills they already have (MEB, 2018). In order to reach the objectives of the program, 'The teacher should assume the role of a guide sharing with his/her students, the value and the importance of natural sciences and the responsibility and excitement of reaching scientific knowledge, while, at the same time, directing the research process in the class. The teacher encourages students to develop a desire and habit of research and a scientific way of thinking and leads them to adopt the universal ethical values and scientific ethical principles along with the national and cultural values.' Students, in turn, question and research, actively interacting and cooperating with their peers (MEB, 2018, p.11). The teacher's attitude towards science will greatly affect the quality of the cooperation.

Attitudes, thoughts and concepts are at the abstract level. Metaphors help interpret the abstract concepts, that is, reveal the meaning ascribed to the concepts (Seyhan, 2017). Metaphors are not only a figure of speech decorating the discourse, but they are also the ways people perceive, think of and view the World. One can express one's and others' feelings and opinions by means of metaphors (Girmen, 2007). Differences in viewpoints and perceptions lead to the emergence of many different metaphors in a particular subject (Kozan and Şahin Zeteroğlu, 2019).

Purpose

The aim of this study is to reveal how the primary school teachers perceive the concept of science. With this aim, the questions below have been sought to be answered:

1. By means of which metaphors do teachers explain their perception of science?

2. On what grounds do teachers justify their metaphors?

Importance

The emphasis the teachers place on science is very important for the training of students valuing science. Metaphors are really helpful in revealing the attitudes of teachers, who guide the future of our society, towards science, which is of vital importance today. Metaphors are also very useful tools in the field of research. In many studies about science, science has been tried to be evaluated by means of metaphors (Aktamış and Dönmez, 2016; Ayvacı, Atik and Ürey, 2016; Bıyıklı, Başbay and Başbay, 2014; Güler and Akman, 2006; Kara and Akarsu, 2013; Kaya, Afacan, Polat and Urtekin, 2013; Keser, 2012; Korkmaz and Kavak, 2010; Kurtdede Fidan and Konak, 2016; Şenel and Aslan, 2014; Toğrol, 2000; Turgut, Öztürk and Eş, 2017). When the studies carried out so far are examined no studies about the primary school teachers can be found. A good primary school teacher has a great effect on the quality of the education the child receives in a process so important for his/her future. A study evaluating how teachers with so critical a role approach science would offer an insight into the current situation for teacher training institutions and researchers.

Method

In the study, the Phenomenonology Research Pattern, which is one of the Qualitative Research Patterns, was used. Phenomenonology focuses on situations of which there is awareness but into which there is not a detailed insight. Offering examples, studies and experiences that will help us understand a phenomenon better, the Phenomenonology Research Pattern could make substantial contribution to both the scientific literature and practice (Yıldırım and Şimşek, 2006). Ethics committee approval of the study was obtained with the decision of Bursa Uludağ University Research and Publication Ethics Committees dated February 26, 2021 and numbered 2021-02.

The Study Group

Table 1. Teachers' gender and experience distribution according to school types

		Private		Public	
Variable		f	%	f	%
Gender	Female	39	78	39	78
	Male	11	22	11	22
Total		50	100	50	100
	1-5	19	38	33	66
	6-15	17	34	11	22
Experience	16-25	2	4	4	8
	26 and more	12	24	2	4
Total		100	100	100	100

As is seen in Table 1 78% of participants are female and 22% are male. 52% of teachers have 1-5 years, 28% 6-15 years, 6% 16-25 years and 14% years of occupational experience.

Data Collection Tool

In order to discover what perceptions primary school teachers have about the concept of science they were asked to complete a form in which there is the phrase 'Science is like ....., because .....'. Teachers were asked to write only one metaphor and to explain why they chose that metaphor. The phrase after the word 'like' in the semi-structured forms would determine the subject of the metaphor whereas the one after the word 'because' would show us why that metaphor was used (Saban, 2008).

Data Analysis

Data obtained at the study were analyzed with the content analysis method. The purpose of this method is to reach the concepts and interconceptional relations by means of metaphors. Data are summarized through the Descriptive Analysis Method and analyzed deeply through Content Analysis. Concepts and interconceptional relations overlooked in the Descriptive Analysis Method can be detected by means of the Content Analysis Method (Yıldırım and Şimşek, 2006). Within this context, metaphors produced by primary school teachers were analyzed in five steps as in the related literature (Aydın, 2010; Bektaş and Karadağ, 2013; Kalyoncu, 2012; Saban, 2008). These steps are: Nomenclature, Elimination, Categorizing, Ensuring Validity and Reliability and Calculating Frequencies and Interpreting the Data.

In accordance with these steps, data obtained were examined one-by-one. Primary school teachers working at public schools were coded as SST1, SST2, SST3, whereas those working in private schools were coded as PST1, PST2, PST3. Then, the metaphors they produced were listed, metaphors stated by more than one participant were united and then they all were categorized. For validity and reliability, a domain expert, independently of the researcher, assigned the metaphors to one of the conceptual categories previously determined. The assignments of the expert and the researcher were compared and the points on which there are consensus and disagreement were determined. Using Miles and Huberman's (1994) reliability formula (Reliability = consensus/ consensus + disagreement X 100), the agreement percentage was calculated as 87,2%.

The research analysis is considered to be reliable when the agreement of the reliability calculations is above 0.70 (Miles and Huberman, 1994; Yıldırım and Şimşek, 2006).

100 primary school teachers, 50 working in public and 50 in private schools in the 2020-2021 educational year, participated in this study. Teachers in the study group are selected on a voluntary basis among those working at schools in the stated period using purposive sampling method.

Findings

In this section, the metaphors created by the 100 participant classroom teachers regarding the concept of science, the categories of metaphors, the content of the categories, and examples of teachers' explanations for metaphors were given.

Table 2. Metaphors Formed by the Classroom Teachers Regarding the Concept of Science

Metaphor	*f*	Metaphor	*f*
1. light	11	2. The Sun	8
3. infinity	6	4. life	6
5 children	4	6. water	4
7. space	4	8. tree	3
9. brain	2	10. living thing	2
11. the world	2	12. the sky	2
13. dream	2	14. medicine	2
15. science	2	16. breath	2
17. ocean	2	18. river	2
19. quest	1	20. love	1
21. point of view	1	22. to obtaining information	1
23. the gateway to the unknown	1	24. to know	1
25. magic	1	26. functioning iron	1
27. change	1	28. sea voyage	1
29. the universe	1	30. lantern	1
31. fact	1	32. swirl	1
33. rainbow	1	34. dough	1
35. treasure	1	36. shining iron	1
37. black hole	1	38. book	1
39. cosmos	1	40. cabbage	1
41. curiosity	1	42. curious person	1
43. pomegranate	1	44. freedom	1
45. doubt	1	46. airplane	1
47. skyline	1	48. rain	1
49. creativity	1	50. to live	1
51. cooking	1	52. innovation	1
		Total	100

As seen in Table 2, 100 classroom teachers developed a total of 52 metaphors. The most frequently developed metaphor by the classroom teachers was "light (11)". While this was followed the metaphors the Sun (8), infinity (6), life (6) metaphors respectively, the metaphors of quest, love, point of view, to obtain information, the gateway to the unknown, to know, magic, functioning iron, change, sea voyage, universe, lantern, truth, swirl, rainbow, dough, treasure, shining iron, black hole, book, cosmos, cabbage, curiosity, curious person, pomegranate, freedom, doubt, airplane, skyline, rain, creativity, to live, cooking, innovation were verbalized only once.

Table 3. Categories of Metaphors Developed by the Teachers

Categories	*f*	%
Science as Continuity/Infinity	39	39
Science as Illumination	21	21
Science as Abstraction	18	18
Science as Entity	13	13

Science as a Necessity	9	9
Total	**100**	

As seen in Table 3, the metaphors verbalized were evaluated in 5 categories among themselves. These categories were identified as Science in the form of "Continuity/Infinity, Illumination, Abstraction, Entity and Necessity".

Table 4. Metaphors Developed for the Science Category as Continuity/Infinity

Metaphor	*f*	**Metaphor**	*f*
1. Life	6	2. Infinity	6
3. Children	4	4. Space	4
5. Tree	3	6. River	2
7. Living thing	2	8. The Sky	2
9. Ocean	2	10. Sea Voyage	1
11. Universe	1	12. Swirl	1
13. Black hole	1	14. Cosmos	1
15. Cabbage	1	16. The Horizon Line	1
17. Rain	1		
Total		39	

As seen in Table 4, 6 of the metaphors collected under the category of Science as Continuity/Infinity are life, 6 are infinity, 4 are children, 4 are space, 3 are trees, 2 are rivers, 2 are living thing, 2 are the sky and 2 are ocean metaphors. The metaphors of sea voyage, universe, swirl, black hole, cosmos, cabbage, skyline, rain were developed once. The opinions of the teachers on this subject are as follows:

SST 13: (State School Teacher)13: "I think science is like life. It is because science, like life, is in constant development and motion."

SST 17: I think science is like infinity. It is because the more you research, the more it multiplies, it is renewed and it progresses.

PST 31: (Private School Teacher)31: "I think science is like a child. It is because it constantly grows up and develops; while its absence leaves people hopeless, its good and correct development is good for everyone."

PST 43: "I think science is like space. It is because it is infinite and has many unknowns."

SST 8: "I think science is like a tree. It is because it keeps getting longer."

SST 34: "I think science is like a stream. It is because as it flows, it expands, multiplies and reaches the oceans."

SST 4: "I think science is like the sky. It is because as we explore it, we find new things and there is no limit."

SST 19: "I think science is like a living thing. It is because it is constantly growing and developing."

SST 27: "I think science is like the sky. It is because it is in infinite like the sky where the questioning does not end."

Table 5. Metaphors Developed for the Category of Science as Illumination

	Metaphor	*f*		**Metaphor**	*f*
1.	Light	11	2.	The Sun	8
3.	Lantern	1	4.	Rainbow	1
Total				21	

As can be seen in Table 5, 11 of the metaphors collected under the category of Science as Illumination are light and 8 are the Sun metaphors. Lantern and rainbow metaphors were verbalized once. The opinions of the teachers on this subject are as follows:

SST 18: I think science is like light. It is because it illuminates the future.

SST 23: I think science is like the Sun. It is because it illuminates its surroundings.

SST 2: I think science is like a lantern. It is because it enables us to be enlightened; it lights a fire from darkness into lightness.

PST 25: I think science is like the sky. It is because it adds universal values to the human life, generates light and illuminates our world.

Table 6. Metaphors Developed for the Category of Science as Abstraction

Metaphor	*f*	**Metaphor**	*f*
1. Dream	2	2. Science	2
3. Quest	1	4. Love	1
5. Point of view	1	6. Obtaining Information	1
7. To know	1	8. Magic	1
9. Change	1	10. Truth	1
11. Curiosity	1	12. Freedom	1
13. Doubt	1	14. Creativity	1
15. Living	1	16. Innovation	1
Total		18	

As seen in Table 6, 2 of the metaphors collected under the category of Science as Abstraction are dream and 2 are science metaphors. The metaphors of quest, love, point of view, obtaining knowledge, knowing, magic, change, truth, curiosity, freedom, doubt, creativity, living, innovation were verbalized once. The opinions of the teachers on this subject are as follows:

SST 9: I think science is like a dream. It is because it may or may not come true.

SST 48: I think science is like knowledge. It is because without knowledge there is no science.

PST 39: I think science is like love. It is because it is difficult to understand, but necessary and fun.

SST 45: I think science is like a point of view. It is because it harbors multidimensional and different views and thoughts. We can develop ideas by thinking differently and take a better path on the path of science.

SST 6: I think science is like magic. Because a sufficiently advanced technology is on a par with magic.

Table 7. Metaphors Developed for the Category of Science as an Entity

Metaphor	*f*	**Metaphor**	*f*
1. Brain	2	2. World	2
3. Gateway to the unknown	1	4. Functioning Iron	1
5. Dough	1	6. Treasure	1
7. Functioning Iron	1	8. Book	1
9. Curious Human	1	10. Pomegranate	1
11. Airplane	1		
Total		13	

As seen in Table 7, 2 of the metaphors collected under the category of Science as Entity are brain and 2 are the world metaphors. The metaphors of the gateway to the unknown, functioning iron, dough, treasure, shining iron, book, curious person, pomegranate, airplane were verbalized once. The opinions of the teachers on this subject are as follows:

SST 37: "I think science is like the winding roads of the human brain. It is because there are countless corridors, side roads and uncertain paths that have not yet been entered in the universe."

PST 44: "I think science is like the world. It is because it is the very world we live in."

SST 25: "I think science is like shining iron. It is because it shines as it operates."

SST 26:" I think science is like a dough. It is because it is shaped by the work of scientists."

SST 3: "I think science is like a curious person. It is because the learning and researching process of man has continued with desires such as better life and superiority. Thus, science has progressed through different processes."

SST 41: "I think science is like a pomegranate. It is because even though it looks simple from external perspective, it contains thousands of parts inside and its taste attracts you as you go further inside."

Table 8. Metaphors Developed for the Category of Science as a Necessity

Metaphor	*f*	Metaphor	*f*
1. Water	4	2. Medicine	2
3. Breath	2	4. Cooking	1
Total		9	

As seen in Table 8, 4 of the metaphors collected under the category of Science as a Necessity are water, 2 are medicine, and 2 are breath metaphors. The metaphor of cooking was verbalized once. The opinions of the teachers on this subject are as follows:

PST 12: I think science is like water. It is because its absence is the end of humanity.

PST 14: I think science is like medicine. It is because nations without medicine die even in the slightest disease.

SST 20: I think science is like breath. It is because we cannot live without science, just as we cannot live when we cannot breathe.

Discussion and Conclusion

In this study, which aimed to identify the perspectives of classroom teachers on the concept of science, metaphors were used to reveal the views of teachers. Based on the data obtained, the teachers developed 52 different metaphors for the concept of science and the metaphors were grouped under five categories.

Metaphors were developed the most by the teachers in the category of Science as Continuity/Infinity (39). This was followed by the categories of Science as Illumination (21), Science as Abstraction (18), Science as Being (13), and Science as Necessity (9). The fact that the metaphors developed in the study could be divided into five categories showed that teachers were able to look at science from different perspectives. The metaphors in statements correspond to the effective and artistic expression of the accumulation of knowledge in the human mind (Kozan & Şahin Zeteroğlu, 2019).

The category in which the highest number of metaphors was developed was that of Science as Continuity/Infinity. In this category, life (6), infinity (6), child (4), space (4), tree (3) were the frequently repeated metaphors. Even though metaphors changed in terms of words, it was emphasized that science needed continuity and could last forever as an explanation for each metaphor specified in this category. The reason for the frequent development of these expressions is interpreted as the fact that development of science especially in this day and age is very fast; the fact that new information becomes available on a daily basis; and the fact that it is thought that this will never end. In the studies conducted by Şenel and Aslan (2014), the participant teachers also used the metaphors expressing infinity for science the most.

The second category in which science metaphors were used the most was the category of Science as Illumination. The metaphors of Light (11) and Sun (8) were frequently developed by the teachers in this category. In the explanations of these metaphors, it was emphasized that science illuminated our future and shed light on the future. The reason for this is that every scientific knowledge that emerges thanks to science

reveals an unknown, and today this reality is interpreted as undeniable. In the studies of Özgün, Gürkan, and Kahraman (2018), the category they called Illumination-Guiding took the second place.

Even though the variety of metaphors was high in the category of Science as Abstraction, it ended up in the third place due to the frequency of development of metaphors. In this category, teachers developed a total of 16 metaphors, mainly dream (2) and science (2). The invisible, mental dimensions of science were emphasized.

In terms of the frequency of metaphor development, the category of Science as Entity is in the fourth place. In this category, a total of 11 different metaphors were developed by the teachers, the most common being the brain (2) and the world (2). Since science is likened to an entity in terms of form by the teachers, they were put together in this category. In the study of Şenel and Aslan (2014), the category titled Science as a Definitive Structure, which had similar content to this category, was in the 7th place among the 9 categories.

The category in which the least number of metaphors was developed was the category of Science as a Necessity. In this category, teachers developed four different metaphors in total. The most frequently repeated metaphor was water (f = 4). It was emphasized that science was a necessity and that one could not be without it. It was also included as the last category in the study of Kösem (2017). It was thought that within each developed metaphor, the benefit of science was emphasized in other ways, and there was no need to emphasize the benefit directly.

All of the metaphors developed by teachers for the concept of science are clearly positive. The fact that the explanations of the metaphors, which were not fully understood from the concepts as positive or negative, were actually positive, made this judgment certain. Considering that teachers transfer every scientific knowledge that emerges in the light of science to their students based on their academic level, the positive attitudes towards science will reflect positively on their students as well. This study was limited to the classroom teachers working in a certain number of private and state schools. A more detailed study can be carried out by expanding the sample group and adding some more variables.

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Introducing Prospective Mathematics Teachers to the Dual Modelling Cycle

Research Article

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ABSTRACT

The aim of this study is to examine the working of prospective mathematics teachers on a modeling problem for the real-life use of a formula taught in the analytical geometry course, within the framework of the dual modelling cycle (DMCF), and to compare their success in the questions given as theories and relations in real-life contexts. A case study was performed with six prospective mathematics teachers in Turkey. The data consisted of the solution papers of two activities, toilet paper tubes, the voice records, and classroom observations. In the dual modelling cycle framework (DMCF), participants resolved the results obtained from the working mathematically stages of the second activity by transferring them to the initial activity. Utilising the dual modelling cycle, prospective teachers could use similar and simpler activities to solve real life problems which they previously found difficult to solve. Participants were more successful in solving theoretical questions than the modelling activities. The dual modelling activities carried out in this study implies that prospective teachers can apply one of the theoretical equations they learned in field courses to real life.

Keywords:
Dual modelling cycle framework (DMCF), Helix curve, Mathematical modelling, Modelling cycles, Prospective mathematics teachers

Introduction

Learning mathematics is demanding for students because it requires achievement of skills concerning complexity and abstractness (Singer, 2007). Therefore, when students encounter difficulties in learning mathematics, they may also have some difficulties in other computational subjects or lessons (Laurens, Batlolona, Batlolona & Leasa, 2017). However, nowadays, students are expected not only to calculate, but also

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to solve problems, to see the relationships between mathematics, daily life and other courses, and to share their mathematical ideas. These expectations indicate that teachers may now consider new methods of teaching mathematics to show the links between real life and mathematics. To achieve this aim, mathematical modelling helps learners to establish connections between mathematics and real life because mathematical modelling involves open-ended real- world problems (Ortiz & Dos Santos, 2011; Stohlmann & Albarracín, 2016) and enables students to build a bridge between mathematics and the world around them (Henn, 2007). The aims of modelling are to facilitate the learning of necessary skills to use mathematics outside the classroom and to facilitate the development of school-related mathematical experiences for solving meaningful tasks in real life (Palm, 2007).

Even though the purpose of mathematical modelling is to enable learners to solve real life problems, various studies have shown that its utilization can be quite difficult for students (Blum, 2011; Jankvist & Niss, 2019). In mathematical modelling processes, the translation of understanding of a problem situation into a mathematical model constitutes a key step (Verschaffel, Greer & De Corte, 2000). In addition, difficulties are often encountered in the mathematising step, where the extra-mathematical situations are mathematically expressed (Stillman, Brown & Galbraith, 2010). To sort this problem out, teachers need to be competent in modelling. Teachers can employ interventions to encourage students to adopt strategies facilitating the construction of situation models through their engagement in modelling activities (Leiß, Schukajlow, Blum, Messner & Pekrun, 2010). Besides, it is notably significant for the teachers to have an idea about how to notice, describe and support progress in students' modelling competency (Blomhøj & Kjeldsen, 2006). However, it is known that teachers have less experience with the notions of the mathematical modelling cycle in mathematics classes (Frejd, 2012). Thus, teachers need to develop modelling knowledge (Shahbari & Tabach, 2016) and gain more experience of modelling. For mathematical modelling to be integrated with mathematics lessons in schools, it is very important for prospective teachers to participate in first-hand modelling experience before using mathematical modelling in their own teaching (Anhalt & Cortez, 2016; Stohlman, Maiorca & Olson, 2015; Widjaja, 2013). To reduce the barriers related to the integration of modelling examples in classrooms, prospective teachers' modelling-based mathematics understanding should be developed (Anhalt & Cortez, 2016; Kaiser & Maaß, 2007). Another way to overcome the problems faced due to the difficulty of modelling tasks is to guide towards simpler modelling tasks that will help develop a solution to the original problem (Lamb, Matsuzaki, Saeki & Kawakami, 2017). This process is described by dual modelling cycle framework (DMCF). With this study, it is aimed to enable prospective teachers to realize the applicability of the helix curve equation they learned in Analytical Geometry lessons on a real-life problem. For this purpose, DMCF was used in the modelling process, which can help prospective teachers with no previous experience with mathematical modelling to complete the modelling process with a simpler problem, and this process in DMCF was examined.

Mathematical Modelling

To better understand mathematical modelling, it is useful to first explain what the terms model, modelling, mathematical model, and mathematical modelling, which are very much confused with each other, mean. Models are defined as a representation of structure in a given system, where the system consists of a collection of related objects, and the structure identifies the relationships between them (Hestenes, 2010). Modelling, on the other hand, is the process of arranging, coordinating, systematizing and organizing problem situations in the mind in the process of interpreting events and problems, finding a pattern, using and creating different schemes and models in the mind (Lesh & Doerr, 2003). The relationship between model and modelling is likened to the relationship between product and process, respectively (Sriraman, 2005). On the other hand, models in mathematics education are distinct from other types of models primarily in that they focus on structural features of systems that define them (Lesh & Harel, 2003). Mathematical models are the

whole of structures such as equations, functions, graphs, and mathematical thinking skills that exist in the mind or are created to express real-life mathematically (Kertil, 2008). The fact that there are many options and decisions about mathematical model establishing makes it clear that mathematical model establishing is indeed a process, and this process is called mathematical modelling (Niss & Blum, 2020). Mathematical modelling is an iterative process that involves open-ended, real world, practical situations that students make sense of with mathematics using assumptions, approximations, and different representations (Stohlmann et al., 2016). Contrary to traditional problems, mathematical modelling problems are considered complex real-world situations that have multiple approaches and solutions, leveraging mathematical and contextual knowledge (Czocher, Melhuish & Kandasamy, 2020; Galbraith & Stillman, 2006). Hence, mathematical modelling is important to simplify the complex nature of real-life problems (Bukova Güzel, 2016). In the modelling process, students can see that the topics studied in mathematics are connected, interpret data in mathematical expressions, express mathematical properties of a contextual situation, modify original situations, and generalize (Garfunkel & Montgomery, 2016; Singer, 2007). Also modelling tasks require creativity and often connect a variety of content and practice standards within a single lesson, making it possible for students to experience the interconnectedness of mathematics concepts (Anhalt, Cortez & Bennett, 2018).

Mathematical modelling competency denotes the ability to perform the processes involving construction and investigation of mathematical models (Niss, Blum & Galbraith, 2007). This competency focuses on mathematics to deal with extra-mathematical questions, contexts, and situations (Niss & Højgaard, 2019). Extra-mathematical domains, i.e., areas outside of mathematics itself, can be other academic disciplines; they can be vocations or other areas of practice; they can belong to societal and social spheres; or they can be part of everyday life with families and friends (Niss & Blum, 2020). Therefore, the understanding of modelling competencies is closely related to this modelling process (Maaß, 2006), because the modeler should perform each stage of the cycle to follow this process. That is, modelling competencies include the steps of the modelling cycle and the transitions between these steps (Blomhøj & Jensen, 2003; Blum & Leiß, 2007).

Modelling Cycles

As the modelling cycles are examined, there exist different modelling cycles in the literature. For instance, according to the study performed by Blum and Leiß (2007), modelers act in a cycle of steps that require them to reach both the real and the mathematical world. In this cycle, the real problem is understood and simplified, the mathematical model is created with the help of mathematising, the mathematical models are solved, the mathematical results are revealed and finally, mathematical results are interpreted and validated in relation to the situation model (Figure 1). Blum and Ferri (2009) explained these cycles as follows: In the first stage, the problem situation has to be comprehended so that a situation model can be constructed. The terms situation model– i.e., a mental image of the fundamental characteristics of the situation and its essential elements - is not always recognisable stages in the modelling process (Niss & Blum, 2020; Schaap, Vos & Goedhart, 2011). Then, the situation has to be simplified, structured and made more precise, leading to a real model of the situation. In the mathematising stage, the real model is transformed into a mathematical model which consists of certain equations. As part of a mathematising reality modelling approach, alternative representations can be proposed and explored (Schaap et al., 2011).

Working with different representations facilitates reflection on, and evaluation of, alternative solutions with respect to the problem context. In the working mathematically phase, models are solved, and mathematical results are revealed. In the interpretation phase, the mathematical results are interpreted in the context of a real-life situation. A validation of these results may show that it is necessary to go around the loop a second time.

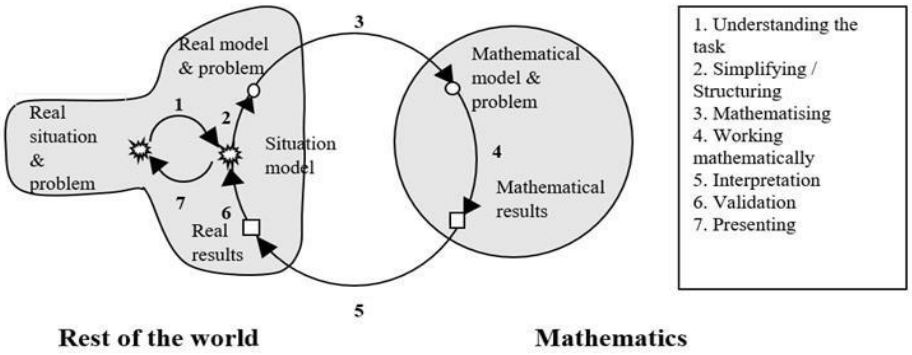


Figure 1. Modelling cycle [Blum & Leiß, 2007]

Dual Modelling Cycle

Mathematical modelling involves complex problems related to real life. However, according to some studies, the comprehension processes at the beginning of the modelling process influence mathematical modelling performances (Voyer, 2010). If modelling continues successfully, this initial modelling cycle is sufficient (Lamb et al., 2017). But mathematical modelling initiatives are not always successful, therefore, it is important for teachers to gain insight into actual mathematical modelling progress (Matsuzaki, 2011). In the plan preparation step for the solution, which is the second step of the problem-solving model, Polya (1945) suggested that similar or related problems should initially be solved in case a problem could not be solved. This situation can help solving complex modelling problems. In other words, if there is no way to find a solution for the modelers in a complex modelling activity, modelling activity can be completed with the help of similar but simpler modelling activities. For this purpose, Saeki and Matsuzaki (2013) have reformed the framework for a DMCF reconceptualising the modelling cycle suggested by Blum and Leiß (2007) in Figure 2 (Kawakami, Saeki & Matsuzaki, 2015).

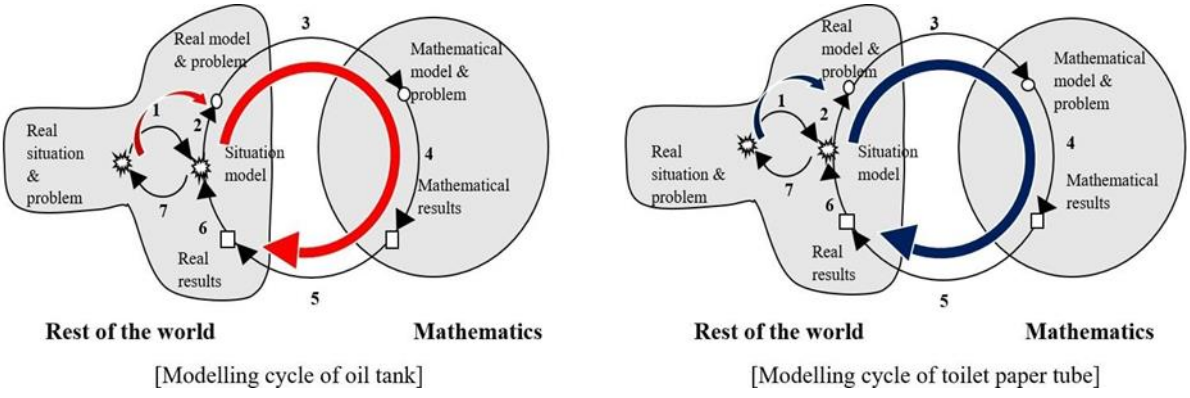


Figure 2. Double modelling cycle diagram [Saeki & Matsuzaki, 2013]

Saeki and Matsuzaki (2013) addressed the three types of modelling cycle (single, double and dual) from the perspective of dual modelling cycle. Saeki and Matsuzaki (2013) explained these cycles as follows:

- In the single modelling cycle, a second modelling cycle is not required for a modeler to solve the initial modelling activity given, the modelling activity can be completed by the first modelling cycle.

- The second cycle is the double modelling cycle. When the solution of the initial activity cannot be estimated (Matsuzaki, 2007; Matsuzaki, 2011), the modelling process may not continue. In this case, another modelling activity, which is similar and simpler to the initial modelling activity is presented and is completed with the help of the cycle in Figure 2. The initial modelling activity is the Oil Tank Task (OTT) and another modelling Toilet Paper Tube Task (TPTT) task is in a second modelling cycle in this double modelling cycle in

this study. Each of these modelling cycles are separate cycles, even if they are successful or unsuccessful. Switching between both modelling cycles is not implemented.

- The last cycle is the dual modelling cycle. In this cycle, as shown in Figure 3, there is a switching between two modelling cycles. This means that progress can be made in the first modelling cycle based on the results or limitations obtained from the second modelling cycle (return to the first modelling cycle from the second modelling cycle). According to Saeki and Matsuzaki (2013) switching between two modelling cycles is deliberate in DMCF and these properties are different from the double modelling cycle. In this cycle, based on the results of the working mathematically stage of the modelling cycle of Blum and Leiß (2007), it is attempted to re-respond to the initial given activity (Matsuzaki & Saeki, 2013).

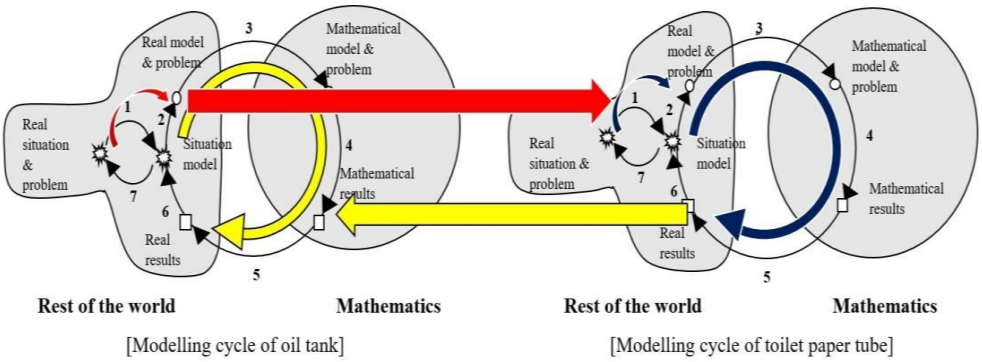


Figure 3. Dual modelling cycle diagram [Saeki & Matsuzaki, 2013]

By solving the second similar task using a second modelling cycle, the modellers are able to apply the results to the location on the modelling cycle for the first task where they were tackling, thus forming linked dual modelling cycles (Stillman, Brown, Galbraith & Ng, 2016). To explain these cycles, Matsuzaki and Saeki (2013) investigated the cycle types in the DMCF with the help of OTT and TPTT. Their study has shown that using the dual modelling cycle is useful in facilitating teaching when a first modelling task is able to be related to a similar modelling task in order to solve the initial task through feedback from the solution of the second. In their study with undergraduate students in Japan, they gave the OTT as the initial activity in the first cycle of the DMCF and they asked students to complete the modelling activity only based on the oil tank. In their work, they considered the toilet paper tube as a model similar to the spiral handle of the oil tank in the second modelling cycle of DMCF. They stated that although it is impossible to open the oil tank along the spiral banister, the toilet paper tube can easily be cut along the spiral slit on it. In the calculation of the arc length of the spiral in the toilet paper tube, the modelling cycle in Figure 2 (right side) is used. According to them, in the third type of the dual modelling cycle (Figure 3), the results of the second modelling cycle can be used in the first modelling cycle. That is, the mathematical process used to calculate the spiral in the toilet paper tube can also be used for OTT.

Review of Literature

The number of studies on DMCF is very limited. Apart from the study of Matsuzaki and Saeki (2013), Kawakami, Saeki and Matsuzaki (2012) conducted research with 5th grade students. In their study, modelers progressed the first modelling cycle of the initial modelling task by results obtained from the second modelling cycle. Further studies performed by Kawakami et al. (2015) with 5th graders aimed to examine how students who could not solve an initial task by themselves shared and refined models through DMCF- based teaching, and to derive suggestions for DMCF- based teaching. They found that unsuccessful modelers were able to change their own models and classmates' ones and progress their dual modelling cycle by sharing different models. Saeki, Matsuzaki, Kawakami and Lamb (2015) compared how Japanese and Australian teachers utilised opportunities to promote students' (Japan's 5th Grade, Australian 6th Grade) switching between

mathematical modelling cycles based on the DMCF. They determined that the ways in which teachers assisted students did not only depend on the level of differences in student ability, but also affected by the differences between countries. Lamb et al. (2017) examined how Grade 6 students worked with two modelling activities using a DMCF in a primary school in Australia. In this context, a similar but simpler modelling activity was presented in the second cycle to assist students who could not find a solution to the initial modelling activity (Lamb et al., 2017). In their study, the students did not find a solution for the first task, but were fully engaged in the second task. All students enjoyed this stage, where they were able to find solutions for Task 1, even though they were cognitively difficult. As the last example, Hıdıroğlu (2018) suggested applying the Galileo-Galileo-Pisa Tower activity at the 11th-grade level in Turkey, taking into account the HTTM (History / Theory / Technology / Modeling) learning environment. With this activity, he brought explanations about the expectations, needs and progress of the learning process In this activity of Hıdıroğlu (2018), during the learning process, the students made discussions about the solution and reached the ideal solution, and then continued the process with the design and solution of a current modelling problem. In this process, the dual modelling process proposed by Saeki and Matsuzaki (2013) was revealed.

In general, it was observed in the literature on mathematical modelling that prospective teachers who had no prior modelling experience had difficulties in teaching mathematical modelling included in the curriculum (Soon & Cheng, 2013). Therefore, one approach to ensure that teachers using mathematical modelling in the classroom acquire knowledge and expertise on the subject is to experience it before they graduate (Anhalt & Cortez, 2016; Gastón, & Lawrence, 2015; Ng, 2013; Sevinc & Lesh, 2018; Tuna, Biber & Yurt, 2013; Villarreal, Esteley & Smith, 2018). When we look at the studies on DMCF, it is seen that there are few studies with 5th, 6th and 11th-grade students, and there is no study with teachers and prospective teachers who will train them. The purpose of prioritising prospective teachers in this study is to ensure that they acquire this skill and awareness so that they can successfully fulfill their DMCF tasks when they become teachers in the future. In this regard, Anhalt et al. (2018) concluded that in the modelling process many of the prospective teachers' frustrations were related to finding an entry point for the task, and to overcome this situation, the process should be started with a real model that is simple enough to be mathematized. Therefore, when prospective teachers encounter difficult and complex modelling tasks, it is important that they encounter these tasks before starting the task in order to gain the ability to solve these problems with similar, simple, and accessible models with the help of a simpler task.

Research Questions

Generally, prospective mathematics teachers have been trying to find the length of a curve, which was given the parametric equation theoretically within the scope of Analytical Geometry courses, by calculating the integral. In this study it is targeted to reveal whether prospective mathematics teachers can transform the problem into a suitable parameter when they encounter real life problems that are not given the parametric equation by using DMCF. Therefore, the aim of this study is to investigate prospective mathematics teachers' solutions in the DMCF, as well as to compare their achievements in the questions given in the forms of theories and relationships between real life contexts. Thus, it is aimed to help prospective teachers to better understand mathematical concepts and to improve their problem-solving skills by using these concepts with DMCF. For this purpose, the studies of the prospective mathematics teachers in the modelling activities given in the context of real life in the DMCF were analysed. Then their success in a question about finding arc length of spiral structure that was given as theoretical form, not related to the real life, was examined. Therefore, our two research questions are:

1) What are the prospective mathematics teachers' solution approaches in the DMCF?

2) What is the level of achievement of prospective mathematics teachers in the theoretical parametric helical curve question?

Methodology

Research Design

In this study, the case study design, a method of qualitative research, was utilised to examine the changes in the competencies of prospective mathematics teachers between the DMCF and the activities including theoretical knowledge. Case study is an in-depth study of a limited system. So, it is essential to focus on a specific event in case studies to describe a rich and intense way of exploring the phenomenon and to increase the reader's experience by revealing new meanings (Merriam, 2009/2015).

Participants

This research was carried out with six prospective mathematics teachers who took the course of Analytical Geometry-II in the 3rd Grade program of elementary mathematics education department in Turkey. They participated regularly in all phases of the study. In this study, the criterion sampling method which is a method of purposeful sampling methods was used. Individuals, objects, or situations with certain criteria are studied in the criterion sampling method (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz & Demirel, 2012). Care was taken to ensure that these participants, who took the Analytical Geometry-II course, were successful in all the courses they had taken before and learned the spiral structure and helix curve in Analytical Geometry-II course. The prospective mathematics teachers who participated in the study worked as three people in two groups. Group names are left to the participants' choice and are presented as such. The names of the group members were coded as A, B, C, D, E, F and their personal information was not given. While three members of the Detectives Group were female, one prospective teacher in the Stars Group was female (F) and the others were male. The participants were expressed as A1, A2, A3... in the conversation. The reason for numbering people is to reveal which person has which discourse in the findings. In Table 1, the groups and prospective teachers in these groups are given.

Table 1. Groups of participants and people in these groups

Groups	Prospective mathematics teachers
Detectives	A, B, C
Stars	D, E, F

Data Collection Tools

To determine the competencies of the prospective mathematics teachers in the DMCF, the OTT (Appendix 1) and TPTT (Appendix 2) were rearranged which were developed by Matsuzaki and Saeki (2013). A question was prepared to determine the skills in finding solution of arc length of a parametric helix curve given in the theoretical form by researchers (Appendix 3). Matsuzaki and Saeki (2013) had added the height and starting angle of the spiral banister to the OTT they designed. Although the OTT and TPTT tasks included in this study are similar to the tasks developed by Matsuzaki and Saeki (2013), an attempt was made to present a broader perspective on the solution path. The difference here is essentially that the equation of the curve can be calculated. Besides, in this research, the information that the spiral banister of oil tank has only a screw step, i.e. the spiral banister should have been completed to a point has the same vertical alignment, and the information that the initial height of the banister and the length of distance between the banister and the oil tank has neglected was added by the researchers. In this study, the information of a slit of toilet paper tube with one complete rotation was added to the TPTT. Additionally, the parallelogram shape which is suitable for the opened toilet paper tube with one complete rotation was rearranged (Appendix 2). These changes, which were made to establish the relationships between OTT, TTP and the helical curve question, were arranged with the opinions of experts in the field of analytical geometry and mathematical modelling, as well as researchers. The data consist of the solution papers of the OTT and TPTT of the prospective mathematics

teachers, the actual using toilet paper tubes, the voice records, the solution papers of the theoretical question and classroom observation.

Data Collection Process

The data of the study were collected from the prospective mathematics teachers in the third grade in elementary mathematics education department during five Analytical Geometry-II courses, each of which took 45 minutes. In this course, curves in 3-dimensional space, non-algebraic standard curve samples, parameterization, arc-lengths, parametric surfaces and rotational surfaces, linear surfaces, and quadratic (cluster, ellipsoid, single and biplane hyperboloid, paraboloid levels) and hyperplanes were studied. In addition, examples of all these structures were given. Before starting the study, firstly, an exam was conducted to make sure that prospective teachers obtain skills and knowledge about parametric equation of the helix curve. In this exam, it was seen that all the prospective teachers were successful and then this study began. Firstly, researchers presented the OTT to prospective mathematics teachers.

Prospective teachers could solve this OTT both by using the equations they studied in the Analytical Geometry course and by simplifying a concrete model by cutting and measuring on the model by using their geometric knowledge. The aim here is to enable prospective teachers to realize the relationship of an equation given in the Analytical Geometry course with a real-life problem. After a course time to solve the OTT, in the second course they were asked the question of "Is there any similar thing to a spiral banister of the oil tank?" Participants were given 5 minutes and no response was received. The second activity about the toilet paper tube was presented to the participants. In this activity, they were asked whether they had ever opened a tube of toilet paper or not and how the tube of toilet paper formed when it was opened along the spiral slit. They were given approximately 20 minutes to complete this activity and asked them to mark one of the options for this event. After the participants completed this activity individually, they were given the real toilet paper tubes which has only one complete rotation. Participants were asked the question as to the length of the spiral slit of this toilet paper tube. They opened the toilet paper tubes with their groups and tried to calculate the length of the toilet paper tubes' slit. Then, they were asked to establish a relationship between the oil tank and toilet paper tubes during the third course. At the end of the activities, the groups shared their solutions on the board. Participants discussed the results obtained from the groups and the correct calculation of the length of the spiral banister of the oil tank was completed on the board. The solutions of the participants in the DMCF were recorded by voice recording devices. After two weeks, participants were asked to find the arc length of the helix curve given with a parametric form and they worked individually on it. The aim of this question is to compare the success of prospective teachers in calculating arc length of a parametric helix curve and in solving modelling activities associated with daily life. In the last course, after data were collected, the researchers solved the OTT with the parametric equation of the helix curve as a theoretical solution (Appendix 4).

In this study, the prospective teachers were given a modelling task that was difficult at first, then simple and then difficult again, not directly from simple to difficult. The aim here is to give prospective teachers a difficult problem at the beginning and then simplify it so that the solution can be noticed on a simpler situation. Prospective teachers had already learned the length of the curve in the Analytical Geometry course. It was only tried to make them know where they could use it more concretely. In this process, the researchers conducted all the activities together during the course and avoided giving direction to the participants during this process.

Data Analyses

Prospective teachers' competencies of DMCF were examined as the first modelling cycle, the second modelling cycle, and finally as a dual modelling cycle. For the analysis of the prospective mathematics

teachers` solving approaches of modelling processes, the DMCF which proposed by Blum and Leiß (2007) and reformed by Saeki and Matsuzaki (2013) was used. During the analysis of the first and second modelling processes, the mathematical modelling processes were classified into six stages; understanding the problem, simplifying, mathematising, working mathematically, interpreting and validating, as suggested by Blum and Leiß (2007). In the first modelling cycle, prospective teachers tried to find the length of a banister in the form of a spiral curve with one complete rotation around an oil tank. The aim of the first modelling cycle was to investigate the competencies of prospective teachers who took a real-life oil tank into account, that is, who did not think about a similar and simpler model. In the second modelling cycle, first introduced the TPTT, which is similar to however much easier than the OTT. Based on the results of the TPTT, the participants attempted to re-respond to the initial OTT in the dual cycle. To determinate prospective mathematics teachers' competencies in the DMCF, the ability of the prospective teachers resolving the results obtained from the working mathematically stages of the second activity by transferring them to the initial activity was analysed. As a result of this review, the analysis of the competencies of the participants in the modelling process and the analysis of their achievements in the problem with theoretical knowledge took their final form. Descriptive analysis was utilised to compare the success of participants' modelling activities and the theoretical question. The answers of prospective teachers about the theoretical question were determined as completely correct, partially correct (has some errors or shortcomings) and not correct (completely wrong or incomplete).

Triangulation and expert review strategies were used to ensure the validity and reliability of the research. Different data sources (solution papers and voice recordings) were used to control the accuracy of the findings obtained from the study, and the plausibility of the findings was checked by reviewing the raw data by expert colleagues in the field of mathematical modelling and Analytic Geometry. Additionaly, the solution papers of the prospective teachers and the voice recordings for the solution were examined independently by the researchers and the modelling competencies of the participants were tried to be revealed within the framework of DMCF. After examining the solutions of the prospective teachers, the analyzes of the researchers were compared and the percentage of agreement between the two researchers was over 80% (Miles & Huberman, 1994). In order to ensure the validity of the research, the data were also tried to be presented in detail and direct quotations from the prospective teachers regarding the results obtained were included.

Results

Competencies in the First Modelling Cycle

Prospective teachers had difficulties in understanding the problem in the OTT task considered for the first modelling cycle. Both groups understood the problem differently from each other. Even if Detectives group initially thought that they could reach the solution with the help of the hypotenuse, they could not decide whether the unfolded shape of the oil tank was a triangle, a rectangle, or a parallelogram. To understand the problem, Stars group rolled a rectangular paper (D1 and D2) and considered the banister as a straight line. Below are the first reactions of the participants in the groups when they encounter this problem.

Table 2. Understanding the task stage in the first modelling process

Detectives Group	Stars Group
A1: We can find the solution using the hypotenuse of the right triangle. *B1: Look, it is round, you are trying to have a triangle on a round surface. But it is not actually a triangle, it is round. We'll find the arc-length according to angle.* *A2: We'll think of it as an arc. When we take it as an arc and complete is as a circle, we can find the solution. Since the spiral banister draws a full circle, it also passes behind the oil tank and there are 2 arc lengths here.*	*D1: Let's roll and draw the paper for this problem. Let's draw a slit on it and open the paper. What happened?* *E1: It came out like plain paper. I mean, having a cylinder didn't change anything.* *D2: We found that there was a straight line on the stairs paper. We can use the Pythagorean relation, but this isn't the underside of the banister, but what? (Bottom of the tank). So, I don't think the Pythagorean relation is needed.*

As seen above, both groups could not understand the problem. In the first activity, the participants were apprehension as the simple solution ways were not clearly evident. The Detectives group participants' conversations show that they did not understand the OTT because they thought of the spiral banister of the oil tank as an arc of the circumference. Even though they one of them occasionally stated that they should use hypotenuse, they could not decide whether the unfolded shape of the oil tank was a triangle, rectangle, or parallelogram. Since the spiral banister made one complete circle, participants thought that it also ran through the back of the oil tank. Conversations of the participants of the Stars Group also show that they did not understand the OTT. To understand the problem, they rolled a rectangular paper (D1 and D2) and considered the banister as a straight line. But they could not understand what this straight line represents on the cylinder.

Participants could not simplify the problem in the first modelling cycle in which OTT was applied. Below are the simplification efforts of the participants in the groups:

Table 3. Simplifying stage in the first modelling process

Detectives Group	Stars Group
A3: This cylinder is what if we complete this arc into the circle like this, divide it into four and find the length of this arc from here.	*D3: For this purpose, if we draw the parallels of the base and heights of the banister, the sum of their bases gives us the diameter and the heights give us the height of the tank.*

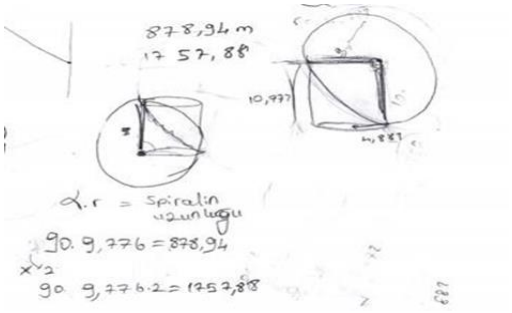


Figure 4. Solution of the Detectives Group in the first cycle

Here in Figure 4, the shapes that Detectives Group members came up with were incorrect because they failed to understand the problem, therefore, they failed to simplify the problem. However, The Stars Group could not visualise it on a shape and did not mention which flat edge the rectangle was on. Therefore, they could not simplify the problem. When the explanations in D3 are examined, it is seen that the prospective teachers in the Stars Group thought that the height will not be used first, then the Pythagorean rule is not necessary, however the base and diameter need to be summed up. Because they think that the bottom of the tank is equal to the diameter. There is also a misconception here. Because when a cylindrical object is opened, the base edge is equal to its circumference, not the diameter of the cylinder.

Table 4. Mathematising and stage in the first modelling cycle

Detectives Group	Stars Group
A4: How can we calculate the length of the arc that subtends that central angle? *B2: The arc-length is α.x.r* *A5: The arc-length is 877,94 m. then if there are two arcs, we should multiply it by 2."*	*D4: If we sum both diameter of the tank (Sum of the bottoms of the tank) and height, we'll find the length of the banister. For the second, the diameter = 9,7666 m height = 10,772 m totals would be 20,538 m."*

Since Detectives Groups' members could not understand the problem, they made mistakes in its mathematising and could not develop a correct mathematical model. The solution processes show that participants had numerous misconceptions (multiplying by 2 to calculate the distance the spiral takes when

making one complete circle) and made errors in calculation (using diameter instead of bottom circumference to make calculations). On the other hand, as the Stars Group stated in D4, it is seen that they also made mistakes in mathematising. Therefore, the solution obtained from the working mathematically gives incorrect results. Moreover, both groups did not demonstrate an approach for the interpretation and validation of the solution.

Competencies in the Second Modelling Cycle

In the second activity, participants of both groups individual solutions were examined. It was determined that only members of A and E had previously cut a toilet paper tube open spirally from top to bottom. Participants A in the Detectives Group and F in the Stars Group thought unfolded shape of a toilet paper tube as a parallelogram, the participants B and C in the Detectives Group thought of it a toilet paper tube as Curve-1 and a triangle, respectively. Participants D and E in the Stars Group thought of it as a rectangle.

Then, participants were distributed real toilet paper tubes and they cut the real toilet paper tube along the spiral slit as a group (Figure 5).

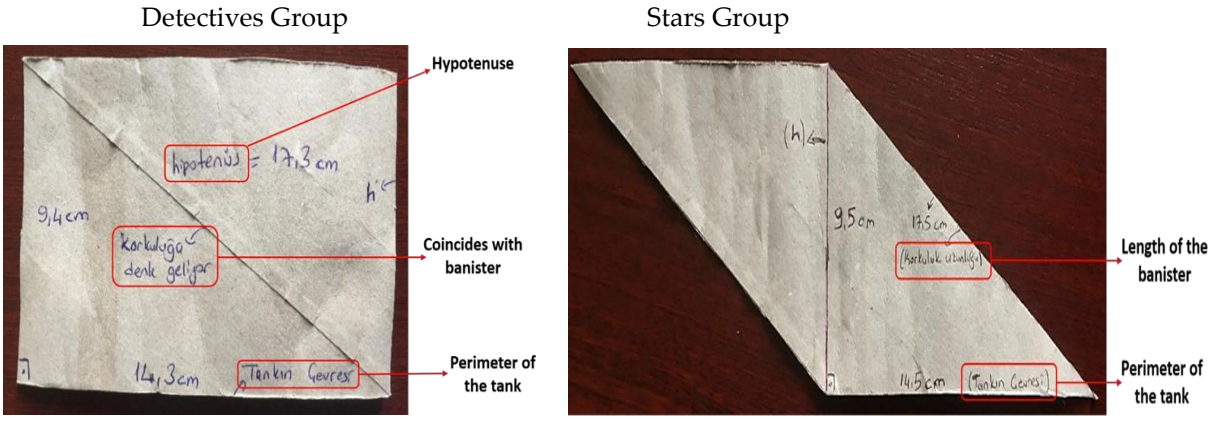


Figure 5. An Opened toilet paper tube by Detectives group in the second cycle

While Detectives Group participants were instructed to cut the toilet paper tube along the slit, they actually cut it from bottom to top, with the resulting shape a rectangle as seen in Figure 5. Detectives Group participants produced a rectangle and showed that the diagonal line was spiral. When Stars Group cut the real toilet paper tube along the spiral slit, they obtained a parallelogram whose diagonal is perpendicular to the base as seen Figure 5.

According to the second modelling cycle solutions, both groups of participants made a transition from the modelling cycle of the oil tank to the cycle of the TPTT by writing the height of the tank, the circumference of the bottom, and the slit length on the toilet paper tube and thinking that the oil tank was similar to a toilet paper tube (Figure 5). Both groups understood the problem, opened the toilet paper tube, and made extra mathematical operations on it to simplify the problem, they mathematised the situation considering that the spiral was diagonal. Because in this case, members of both groups stated that the diagonal length is hypotenuse, and they can find it with Pythagorean relation. However, both groups failed to work mathematically, interpret, and validate the solution.

Competencies in the Dual Modelling Cycle

In the dual modelling cycle, the relationship established between the oil tank and toilet paper tube was examined. The members of groups conversations and solution papers are presented below.

Table 5. Conversations and solution papers of groups in dual modelling cycle

Detectives Group	Stars Group
A6: I think we should scale the toilet paper tube to our actual cylinder. *C1: The unit is given as cm here but in the oil tank as given m. You should scale it accordingly.* *B3: Now here is a triangle on the toilet paper roll, right? When we open the oil tank, a triangle will appear, right? Since they both are right triangles, the angles must be the same, so, we can scale them or we can apply Pythagoras relation, right? We can use the similarity of triangle now.* *A7: How are we going to measure that bottom?* *C2: Isn't that the diameter?* *B4: Do you think it is $2\pi r$? Yes, so, when we calculate the bottom circumference of the cylinder, we get the length of the bottom leg.* *A8: The base length of the cylinder;* $2 * 3{,}14 * 4{,}883 = 29{,}298$ *m* *B5: The height was 10,772 and base length was found to be 29,298. Let's see if we are going to get the same result as we got before. When we apply Pythagoras, we find that it is about 31 meters. I think the second one is the right answer.*	*D5: When you open a tube of toilet paper like this, it's like a cross, which means we really got the starting points, and when you opened it, it was a straight paper.* *E2: There will be a combination of short edge and long edge. It's a diagonal. Diameter of height and diameter…* *D6: We will apply Pythagoras relation.* *E3: Banister will be hypotenuse, intersection of height and diameter… After the teacher gave us this, we thought that we would think over the toilet paper tube. We looked at the start and end point coincide. When we open the toilet paper tube, we find the perimeter that has given us its height with its diameter. When we opened it, we thought our previous idea was wrong because it gave us the diameter, here we found the circumference of the circle given the diameter.* *F1: We previously added the short side and the long side lengths. Now, we did it right here.*

Detectives Group participants cut the toilet paper tube into a rectangular shape, taking the diagonal length as the length of the spiral banister. They tried to calculate the hypotenuse to find the diagonal of the rectangle they created. They then tried to scale the triangle that they obtained from the toilet paper tube to the one in the painting that they drew to represent the oil tank. Based on this, they tried to establish similarity between the two right triangles. On the other hand, the Stars Group found a parallelogram when they cut a roll of toilet paper with a slit. Now they have decided to use it for OTT as well, based on the parallelogram they created. As the ensemble group E3 mentions, when they opened the toilet paper tube, they stated that the spiral is the hypotenuse of the short edge and the long edge. The solution paper of the Stars Group in the dual modelling process is given in Figure 6.

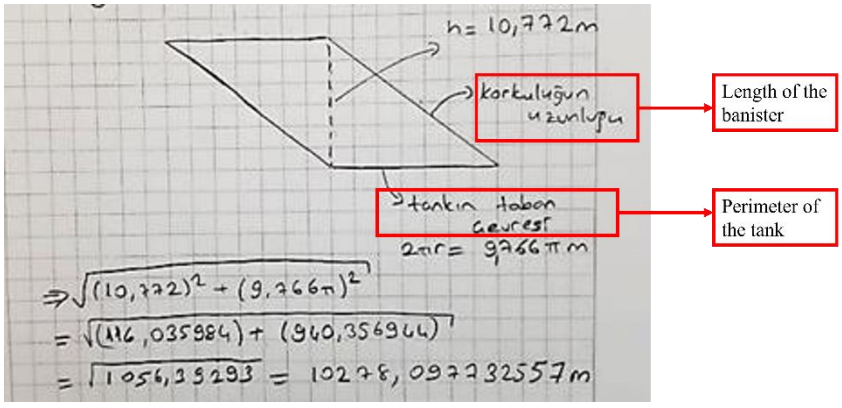


Figure 6. Solution of the Stars Group in the dual cycle

However, even if they make an operational error in the last process in Figure 6 (comma and square root), it can be said that they completed this step of the dual modelling cycle. As a result, the conversations and solution papers of the participants of both groups show that they were able to transfer the results of TPTT to the OTT (B3 and E3). In this process, they had also the opportunity to validate their solutions in the OTT and they adopted a different approach and saw that they obtained different results (B5), revealed their

mistakes in their initial solutions (E3 and F1). But both groups failed to interpret the results to solve the real-life problem in the task.

Analysing of the Participants' Success in Theoretical Parametric Helical Curve Question

In this section, achievement of the participants in the theoretical parametric helical curve question was examined as tabulated in Table 6.

Table 6. Achievement of the participants in theoretical parametric helical curve question

Solving the Parametric Helical Curve	Participants	f
Completely Correct	A, B	2
Partially Correct	D, E, F	3
Not Correct at All	C	1

Two participants were able to solve the helical curve equation correctly, while three of them solved it partially correct mainly because they made errors in calculation or did not perform integral calculations when calculating the curve length. Participants 'achievement in the DMCF show that the Stars Group, that adopted an inappropriate approach, was partially successful in the solution of the parametric helical curve while most of the Detectives Group participants were completely successful.

Below is the solution by participant B, who solved the question completely correct in Fig 7:

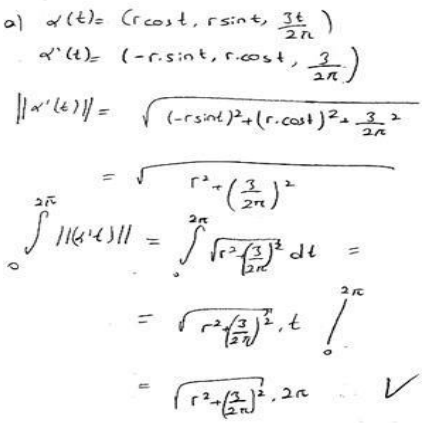


Figure 7. Solutions obtained from participant B

The participant B determined the parameters correctly and did a definite integral between 0 and 2π, thinking that one completely rotation occurred between them, and solved this question completely correct.

In Figure 8, the solution by participant D, who solved the question partially correct is as follow:

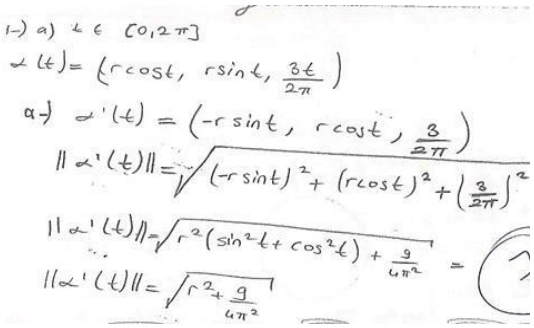


Figure 8. Solutions obtained from participant D

As can be seen in Figure 8, participant D arrived at a solution without using a definite integral. Participant D found the parametric equation and the speed of the spiral helical curve correctly but could not

find its arc length. What is noteworthy here is that participants choose easy ways to solve real life problems, rather than using their theoretical knowledge. This means that although participants had learned the parametric equation of the helical curve, none used it to solve a real-life problem. After the data were collected, the researchers solved the OTT using the parametric equation of the helical curve at the end of the process. Participants stated us that they could not realised the relationship of helical curve with real life and its applicability to the activities before the researchers showed it.

Discussion

In this study, the solution approaches of prospective mathematics teachers in the DMCF and their success in the questions given in a theoretical form were examined. Before starting the study, the tasks questionnaire was conducted about parametric equation of the helix curve, and it was seen that all the prospective teachers were successful. But the participants had major difficulty of understanding the problem in the OTT in the first modelling cycle. In the DMCF, teachers can try method changes to facilitate the switch between modelling cycles (Saeki et al., 2015). In the studies of Saeki and Matsuzaki (2013) and Matsuzaki and Saeki (2013), it seems confusing that the oil tank rises a certain amount of height above the ground level and at an angle. Therefore, in our study, the information of a slit of oil tank and toilet paper tube which has one complete rotation was added to the activities. Thus, the calculation of the spiral banister length is facilitated.

However, the groups were insufficient in the interpretation and validation steps in the first cycle. They were mistaken on the calculation of the arc length of the circle, or they drew an inaccurate rectangle to solve the OTT. This shows that the participants had some misconceptions about circle. One group showed the spiral banister of the oil tank on a rectangle and stated that it could be calculated using the shortest distance. Their solution is similar to that of a prospective teacher in the study of Matsuzaki and Saeki (2013).

The participants' solutions of the TPTT in the second modelling cycle were examined. The prospective teachers switched from the oil tank modelling cycle to the toilet paper tube cycle by writing some variables for the oil tank on the toilet paper tube. One group considered scaling the unfolded shapes of the toilet paper tube and oil tank, thinking that there were similarities between the two triangles. In parallel with this result, Matsuzaki and Saeki (2013) reported that some participants attempted to work on the scaled shape of the oil tank in the first cycle.

In the DMCF, groups used the results of the TPTT and successfully solved the OTT, which they had initially failed. The prospective teachers tried to find the spiral banister length of the oil tank by using the results obtained from the rectangular and parallelogram models produced by using the toilet paper tubes as Lamb et al. (2017) reported. In the dual modelling cycle, the prospective teachers resolved the results obtained from the working mathematically stages of the second activity by transferring them to the initial activity. Furthermore, in a single modelling cycle, modellers mostly may have problems validating or interpreting their solutions. In dual modelling process, prospective teachers not only tried to solve the initial task again but also found the opportunity to validate their initial solutions. But unfortunately, in this study, it was found that both groups were unable to interpret the results to solve the real-life problem in the task. As Bukova Güzel (2011) stated, students should be more encouraged to simplify and mathematise a modelling problem and to use different representations in their interpretation.

In the DMCF, both groups attempted to calculate the length of the spiral banister of the oil tank using the hypotenuse. However, none used the parametrical equation of the helical curve that they learned in the Analytical Geometry-II course to calculate the length of the spiral banister of the oil tank. This shows that prospective teachers failed to apply the theoretical knowledge which they learned in field courses to real life situations. To show participants the relationship between helical curve and real life after the DMCF, they were first asked to calculate the length of the parametrical helical curve, the relevance of which to real life is not

relevant. The participants were more successful in solving this question than the modelling activities. It can be said that they had learned how to carry out certain procedures without necessarily thinking about what those procedures represent. Consequently, the prospective teachers faced some difficulties of applying the theoretical knowledge to real life. So no matter the prospective teachers had the skills to solve the parametric equation of the curve before and after the modelling applications, they could not solve a problem given in daily life about helix curve. One of the reasons for prospective teachers such failure is their lack of experience. In some studies, it has been determined that their experiences and prior knowledge about modelling affect the modelling process and classroom practices (Herget & Torres-Skoumal, 2007; Kawakami et al., 2015; Lamb et al., 2017; Stillman, 2000).

Conclusion and Recommendations

In the Analytical Geometry course curves and surface theory are explained, without going into too much detail, as in the differential geometry course. This course is limited to recognizing surfaces, reaching their equations, and finding their parametric expressions, and the place of using mathematical concepts in daily life is not given much place in this course. In this study, it was found that, when prospective teachers encountered a real-life problem, they did not even realize that they had the necessary knowledge to solve the problem, and they did not have the courage to solve the problem. As in Ng's (2013) study, they were apprehensive as there was no obvious direct application of mathematical algorithms and no simple solutions guided by the use of formulas. It should be known that, teaching students how to use mathematics to solve real-life problems enables them to look at problems from different perspectives and make necessary decisions in the learning process (Bukova Güzel, 2011). Therefore, at the end of this study, prospective teachers gained valuable experiential information using DMCF on how to use a curve equation they learned in Analytical Geometry courses in real life. With the help of DMCF, prospective teachers had the opportunity to use similar and simpler activities to solve real life problems that they had difficulty solving before.

In the DMCF, prospective teachers did not only focus on tasks, but also developed a brighter understanding of mathematics (Lamb et al., 2017). In this study, it can be said that the second activity selected in the DMCF made easier the initial activity. Because in the dual modelling cycle, the mathematising step in the first cycle is facilitated by the second activity and continues from the working mathematically step. Since, results of the second activity in the DMCF are applied to the initial activity, much attention should be paid when selecting the second activity. Lamb et al. (2017) stated that the second activity is crucial because it is specifically designed to improve students 'understanding to solve the first activity.

With the applications of DMCF, prospective teachers had the opportunity to open minds of their students with several simple models that are accessible to their future students about real life problems. In this study, it was seen that prospective teachers had basic skills to solve real life problems, however, they did not have any experience, courage, and awareness of using these skills. In modelling tasks that may seem difficult at first, starting with a real model that is simple enough for students to mathematize first reduces their frustration level (Anhalt et al., 2018). Hence, DMCF should be included in the curricula of all grades to teach students how to solve real-life problems (Matsuzaki & Saeki, 2013). In addition, the course content should be equipped with real life examples and to make connections between real life and analytical geometry subjects, prospective teachers should be provided with computer-aided or 3-dimensional geometric applications to visualise the learned equations. Sometimes, like in the study of Kawakami et al. (2012), not all students may not to be need of transition of cycles to solve the initial modelling task in DMCF. In such cases, these researchers offered that modelling instruction should be designed and implemented in accordance with the diversity of modellers.

Limitation and Future Studies

The limitations of this study are that the study took only one semester, only one equation was studied, and only the six prospective teachers modelling processes were examined. In addition, participants encountered the modelling activity for the first time. Therefore, to generalise these results, in future studies, the dual modelling processes of more prospective teachers including the real-life relationship of more equations given theoretically can be examined. In this study, participants confused some concepts in the first cycle of the dual modelling. Thus, it would be useful to investigate the possible conceptual confusions in mathematical modelling processes in further studies.

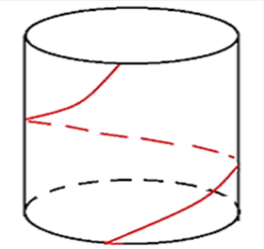
Acknowledgments

We would like to thank the prospective teachers who participated in this study.

Appendixes

Appendix 1- Oil Tank Task

A spiral-shaped banister needs to be attached around a large cylindrical oil tank from bottom to top. It is, however, impossible to calculate the length of the banister directly for security reasons. We cannot, therefore, measure its length directly using a tape measure. We have learned from relevant persons that the diameter and height of the oil tank are 9,766 m and 10,772 m, respectively. We have also been informed that the spiral banister of the oil tank should make one completely rotation and should not have an initial height and the length between the banister and oil tank should be neglected. Based on this data, we decided to calculate the length of the spiral banister of the tank. However, we need your help on this.



1. What method should we use to solve this problem?
2. Calculate the length of the spiral banister of the oil tank and write a letter to share that information with us, please.

Appendix 2- Toilet Paper Tube Task

(T1) Have you ever opened a toilet paper tube which has a spiral curve one completely rotation around it? (Yes or No)

(T2) What kind of shape do you think will form when the toilet paper tube opens along the full rotating spiral around it is opened along its slit? Please select from the following shapes and write also about the reason for this selection.

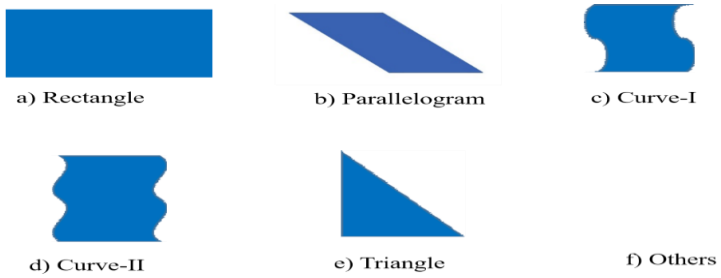


Figure 9. The shape of toilet paper opened along the spiral slit

Solution of the Toilet Paper Tube Task

When looking to the edge lengths here, it is seen that the diagonal is perpendicular to the base edges and spiral length can be found with Pythagoras. The shape of the toilet paper tube with spiral and its opening along the spiral slit is as follows:

Figure 10. The shape of the toilet paper tube with spiral and its opening along the spiral slit

Appendix 3 -Helical Curve Question Given the Parametric Equation

Calculate the arc length of the parametric curve $\alpha(t) = (rcost, rsint, \frac{3t}{2})$ where, $t\epsilon[0,2\pi]$ and $r\epsilon\mathbb{R}$ constant.

Appendix 4- Solution of Oil Tank Task by Parametric Equation of Helical Curve

Firstly, the parametric equation of helix curve α is $\alpha(t) = \left(r.cost, r.sint, \frac{h}{2\pi}t\right)$ for $t \in [0,2\pi]$ and $r \in \mathbb{R}$ constant. The derivative of α is obtained as $\alpha'(t) = \left(-r.sint, r.cost, \frac{h}{2\pi}\right)$. Then the speed of the helix curve is calculated as $\|\alpha'(t)\| = \sqrt{r^2.sin^2t + r^2.cos^2t + \frac{h^2}{4\pi^2}} = \sqrt{r^2 + \frac{h^2}{4\pi^2}}$. So, the arc length of the curve α is obtained as follows:

$$\ell(\alpha) = \int_0^{2\pi} \|\alpha'(t)\|dt = \int_0^{2\pi} \sqrt{r^2 + \frac{h^2}{4\pi^2}}dt = \sqrt{r^2 + \frac{h^2}{4\pi^2}}\ t|_0^{2\pi} = 2\pi\sqrt{r^2 + \frac{h^2}{4\pi^2}} \qquad (1)$$

When the data on OTT is substituted to the formula (1) then

$\ell(\alpha) = 2\pi\sqrt{\frac{4{,}883^2.4\pi^2+10{,}772^2}{4\pi^2}} = \sqrt{4{,}883^2.4\pi^2 + 10{,}772^2} = \sqrt{1056{,}392} = 32{,}502$ m is obtained where $\pi = 3{,}14$ is considered.

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Development of an Eligible Scale for Physical Education and Sports Course: A Validity and Reliability Study

Research Article

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ABSTRACT

This study aims to develop a scale directed to describe eligible perceptions of physical education teachers on physical education and sports course. Data of the research were collected from two different groups of physical education teachers in the provinces of Malatya and Adıyaman. Exploratory and confirmatory factor analyses were applied with various samples within the scope of validity studies. Concerning the reliability studies, Cronbach Alpha internal consistency coefficients, item-total correlation coefficients and test-retest correlation coefficients were calculated. Following the exploratory factor analysis performed over the data obtained, it was determined that the scale had a 4-factor structure composed of 16 items. The validity of this structure was also confirmed with the goodness of fit values calculated via the confirmatory factor analysis. The Cronbach-Alpha internal consistency coefficient of the scale was found .91 for the first sub-dimension of "preparation", and it was .89 for the second sub-dimension of "learning-teaching process", .90 for the third sub-dimension of "acquisition", .87 for the fourth sub-dimension of "measurement and evaluation" and it was found as .93 for the whole scale. After the validity and reliability analyzes performed, we can say that the current version of the scale can be used to describe the eligible perception of physical education teachers regarding physical education and sports course

Keywords:
Eligible, Physical Education, Sports, Teacher

Introduction

Educators taking an important role in raising future generations expect to reach their goals in parallel with the increase in the quality of the task they perform and they carry out intensive studies in this regard. A modern understanding of education is anticipated in education and training activities. For this reason, various

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courses are taught in schools. These courses contribute to the emotional and social development of individuals together with their physical development. Physical education and sports courses also contribute to the development of individuals. Physical education and sports course makes a great contribution to the development of individuals. It is highly important for physical education teachers to fulfill their duties and responsibilities so that physical education and sports courses can make greater contributions (Ünlü and Aydos, 2010).

According to UNICEF (2000), eligible education consists of following values:

- Healthy and well-nourished learners being ready to participate and learn and supported by their families and communities,

-Content reflected in the relevant curricula and materials, especially for the acquisition of basic skills in the fields of literacy, mathematics and life skills, and knowledge in such areas as gender, health and nutrition,

-Processes where trained teachers use student-centered teaching approaches in well-managed classrooms and schools and ingenious assessment to facilitate learning and reduce disparities,

- Outcomes covering knowledge, skills and attitudes and linked to national targets for education and positive inclusion in society.

Physical education and sports course develops movement skills and behaviors of the individual together with personality and communication skills by allowing physical activity, competence and skill acquisition in a teaching environment that focuses on mastery (Iowa, 2019).

According to Mackendrick (1996), physical education class is often taught by teachers with little or no preparation for physical education methods. In addition, budget cuts can negatively affect the time and resources required to teach a high-quality physical education program (Mackendrick, 1996).

From an international perspective, an eligible physical education course is defined as a planned, progressive and inclusive learning experience that forms a part of the curriculum in primary and secondary education. Eligible physical education course has become a widely used term. We must consider it within the context of interrelated strategies in order to adopt the formulation and development of an inclusive and egalitarian curriculum that provides relevant experiences and engage youth in physical activity conceptually, socially and culturally. In order to promote an active and healthy lifestyle throughout the whole life, eligible physical education curriculum should be based on the vision that acquired knowledge, skills and understanding facilitate the acquisition of physical literacy and should be part of a well-structured eligible physical education program from childhood to high school level (UNESCO, 2015).

An eligible physical education course should provide learning opportunities, appropriate teaching methods, meaningful and compelling content, and evaluation of the student and the program. Moreover, an eligible physical education improves mental alertness, academic performance, readiness and enthusiasm for learning among young people.

Eligible physical education programs help all students to develop positive attitudes for physical activity in order to adopt;

- Health related sports,

- Physical fitness,

- Cognitive understanding,

-Healthy and physically active lifestyles (NASPE, 2019).

According to NASPE (2004), the features of an eligible physical education course are as follows:

1. Learning Opportunity:

- Total teaching duration of 150 minutes/week (primary school) and 225 minutes/week (secondary and high school).

- Qualified physical education professional who provides an appropriate program for development.

- Adequate equipment and facilities.

2. Meaningful Curriculum:

- Developing children's various motor skills

- Sports education and assessment to help children understand, improve and/or maintain their physical health.

- Developing cognitive concepts related to motor skills and fitness.

- Opportunities to develop collaborative skills.

- Encouragement of physical activities.

3. Appropriate Instruction:

- Total participation of students.

- High-level practice opportunities for activities in the classroom.

- Well-designed courses for easier learning.

- No physical activity for punishment.

- Using regular assessment to monitor and reinforce student learning.

In the study of Masurier and Corbin (2006), they state the reasons to apply eligible physical education in addition to the general benefits of physical education such as disease prevention and lifelong fitness:

- Eligible physical education can help to fight obesity.

- Eligible physical education can help to develop lifelong physical fitness.

- Eligible physical education provides unique activities.

- Eligible physical education teaches self-management and motor skills.

- Eligible physical education can help the education of all children.

Looking at the literature, two scales were found similar to the subject of eligible physical education course. In the study of Ho (2017) et al. titled "Eligible physical education learning perception of professionals in the selected Asian cities", the eligible perception of physical education and eligible learning of physical education of physical education specialists were investigated. In the study, a 24-item "Eligible Physical Education Learning" scale composed of three sub-dimensions (Cognitive Growth, Competence in Sports, Learning in Health and Habit in Exercises, -General Competence) was developed.

In the study of Ho et al. (2018) performed to analyze the factors perceived by physical education specialists in Latin American countries as important in developing eligible physical education, a 17-item and three-factor scale ("Developing Supporting Elements for Eligible Physical Education at School", "Curriculum Arrangement of Physical Activities" and "The Core Value of Eligible Physical Education") named "eligible physical education and school sports program" was developed.

The above-mentioned two scales have been failed to be adapted since current measurement tools tend to be influenced by a particular culture in the environment in which they were built, and they may create unique problems as a result of revealing elements related to different cultures (Poortinga, 1989). Instead, the purpose of this study is to develop "eligible physical education course scale" in order to be used in measuring eligible perception of physical education course in line with the explanations mentioned above.

Method

Research Model

A descriptive survey model was used in this study to develop the scale of eligible physical education and sports course.

Study Group

It is important for the sample group to represent the population. There are criteria for determining the sample group in the literature in relation to the number of items applied. There are opinions that the number of samples should be at least five times (Bryman and Cramer, 2001), 10 times (Nunually, 1978), 15 times (Gorush, 1983) the number of items (Delice and Ergene, 2015). The research group consists of physical education teachers reached randomly on a voluntary basis. In the research, 250 forms for exploratory factor analysis (EFA) and 263 forms for confirmatory factor analysis (CFA) filled by physical education teachers working in secondary schools in provinces of Malatya and Adıyaman in the 2019-2020 academic year were analyzed. For the test-retest application, 53 physical education teachers working in secondary schools in Malatya province were reached. While developing the scales, it is sufficient for the sample size to be 5 or 10 times the number of items (Bryman and Cramer, 2001; Tavşancıl, 2005; Wolf et al., 2013).

The distribution of gender and age variables of physical education teachers involved in the scale development study is given in Table 1.

Table 1. Gender and age distributions of physical education teachers

Variables		EFA		CFA		Test-retest	
		f	%	f	%	f	%
Gender	Male	175	70.0	166	63.1	34	64.2
	Female	75	30.0	97	36.9	19	35.8
Age	22-26	30	12.0	26	9.9	8	15.1
	27-30	97	38.8	97	36.9	10	18.9
	31-35	71	28.4	89	33.8	17	32.1
	36 and over	52	20.8	51	19.4	18	34.0
	Total	250	100.0	263	100.0	53	100.0

Scale Development Steps

Data Collection Tool

A 32-item question pool was created following the literature review in order to develop the scale of eligible physical education and sports course. Content validity is an assessment of how well the test items represent the construct and subject area of interest (Crocker & Algina, 1986). Thus, efforts have been made to ensure that the items cover all aspects of eligible physical education and sports course. It was sent to 5 experts from the field of education science and assessment and evaluation in order to evaluate grammar and to make the scale understandable in terms of content. 16 items not deemed appropriate by specialists were excluded from the scale as a result of the evaluation of whether the items in the question pool are suitable for the scale to be created. The scale questionnaire transferred to 16 items after taking the specialist opinion was applied to 250 physical education teachers for EFA. At this step, total correlation of items was checked and ensured to be

no less than .20. It was determined that the scale had 16 items and four factors following the EFA. The first sub-dimension is preparation", the second sub-dimension is "learning-teaching process", the third sub-dimension is "acquisition", and the fourth sub-dimension is "measurement and evaluation". Each sub-dimension is composed of four items. It is a 5-point Likert type scale and all items are scored positively as "strongly disagree (1)" and "strongly agree (5)". The lowest score that can be obtained from the scale is 16 and the highest score is 80. The high level of total score obtained from the scale shows that the eligible perception of physical education and sports course is also high.

Data Analysis

Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were performed to test the construct validity of the eligible physical education and sports course scale. EFA aims at discovering the factor structure based on the relations among variables. In CFA which examines model-data fit, the hypotheses about the relationship between the variables are tested (Kline, 1994; Tabachnick and Fidell, 2001).

The suitability of factor analysis was checked with Kaiser-Meyer-Olkin (KMO) and Bartlett Sphericity Tests in EFA. Kaiser-Meyer-Olkin (KMO) and Bartlett's sphericity test is an index used to measure the degree of intercorrelation between items and the appropriateness of factor analysis. A measure that calculates a value greater than .50 for the entire matrix or a single variable will indicate the eligibility of acceptance (Field, 2000).

To test the model, $\chi 2/sd$, GFI, CFI, AGFI, NFI, IFI and RMSEA values were checked. The Cronbach alpha value was examined for the reliability of the scale.

Findings

Exploratory Factor Analysis

First of all, the results of Kaiser-Meyer-Olkin (KMO) and Bartlett sphericity tests were examined and shown in Table 2 in the EFA analysis of the scale.

Table 2. KMO and Bartlett Test Results

KMO		**.91**
	Chi-Square	2953.773
Bartlett sphericity test	df	273
	p	.000

p<.000

It is observed in Table 1 that KMO value of the draft physical education course scale was found to be .91, and the Bartlett sphericity test result was found to be 2953.773 (p=.000). These results reveal that the data are suitable for factor analysis (Çokluk, Şekercioğlu & Büyüköztürk, 2012).

Afterwards, Varimax vertical axis rotation was performed (Kalaycı, 2010). Total variance explained was found to be 76.91% with a four-dimensional structure. In the factor analysis, if there is an item with an item load value less than .3 and a difference of less than .1 between the item load values given to the other factors by the items, those ones are removed (Büyüköztürk, 2016; Stevens, 2002).

It is stated in the literature that weights such as .30 or .40 can be considered as the lower cut-off point when creating factor loads (Coombs and Schroeder, 1988). In the factor analysis applied in this study, it was taken as a criterion for any item to have a value of at least .40 in order to create an acceptable weight for a factor. Meanwhile, it was adopted as a criterion that the load of an item in more than one factor in one of the factors would be at least .10 higher than the other one (Büyüköztürk, 2016; Tavşancıl, 2005).

According to Tavşancıl (2005), the higher the variance rates obtained as a result of factor analysis are, the stronger the factor structure of the scale becomes. EFA results are indicated in Table 3.

Table 3. Exploratory factor analysis results

Item	Dimensions and Factor Loads				Factor Common Variance
	Preparation	Learning-Teaching Process	Acquisition	Measurement Evaluation	
20	.817				.856
23	.808				.828
10	.800				.817
12	.777				.706
24		.840			.832
16		.824			.784
13		.793			.746
5		.772			.671
25			.849		.781
27			.794		.855
31			.789		.756
4			.723		.762
15				.839	.777
26				.824	.799
18				.713	.636
19				.713	.700
Eigenvalue	8.161	1.576	1.319	1.251	
Variance Explained	51.00	9.85	8.24	7.81	76.91

It has been determined in Table 2 that total variance explained is 76.91%. Factor loads were found to change between .71 and .84. The Cronbach-Alpha value of the "preparation" sub-dimension was found as .91, it was .89 for the "learning-teaching process" sub-dimension, .90 for the third sub-dimension of "acquisition", .87 for the fourth sub-dimension of "measurement and evaluation" and it was found as .93 for the whole scale. Reliability coefficients between .80 and 1.00 are considered to be highly reliable (Kalaycı, 2010). In this regard, we can say that sub-dimensions are highly reliable.

If many factors emerge as a result of the factor analysis, the number of factors can be reduced according to the slope test. Accordingly, factors up to the first sudden change that occur in the slope of the graph curve are adopted (Kline, 1994). The scree plot of the adapted scale is indicated in Figure 1.

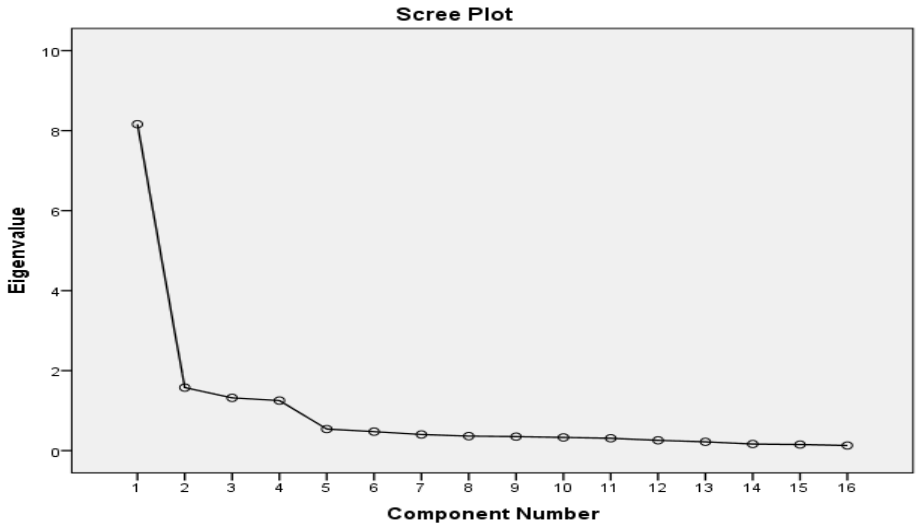

Figure 1. Scree Plot

Looking at the scree plot indicated in Figure 1, it is observed that the scale has a four-factor structure.

Confirmatory Factor Analysis

CFA was performed to test the results obtained from EFA. In Table 4, you can see the goodness of fit values obtained after the analysis of the structure of the scale, which consists of four sub-dimensions and a total of 16 items, by using the statistical package program (AMOS).

Table 4. CFA Goodness of Fit Values

Goodness of Fit Values	Perfect[a]	Acceptable	Four-factor model
p	p >0.05[b]	< 0.05[b]	0.000 (K)
X^2/sd	≤ 2	2-5	159.764/98=1.630 (M)
RMSEA	≤ 0.05	≤ 0.08	0.049 (M)
RMR	≤ 0.05	≤ 0.08	0.021 (M)
SRMR	≤ 0.05	≤ 0.08	0.036 (M)
GFI	≥ 0.95	≥ 0.90	0.92 (K)
AGFI	≥ 0.95	≥ 0.90	0.90 (K)
CFI	≥ 0.95	≥ 0.90	0.98 (M)
NFI	≥ 0.95	≥ 0.90	0.95 (M)
IFI	≥ 0.95	≥ 0.90	0.98 (M)

[a:] Source: Çokluk, Şekercioğlu and Büyüköztürk, 2012; Şimşek, 2007;

[b] (p) 0.05 was taken as level of significance.

Looking at Table 4, the values of χ^2/sd (1.63), GFI (.92), CFI (.92), AGFI (.90), NFI (.98), IFI (.98), RMSEA (.049) were obtained following the CFA analysis. It is observed that the calculated goodness of fit values remains between acceptable and perfect limits, and the eligible scale of physical education course is compatible with the predicted theoretical structure (Brown, 2006; Hooper, Coughlan and Mullen, 2008; Kline, 2016; MacCallum, Browne, and Sugawara, 1996).

These results prove that the model has a four-factor structure. These values obtained from the confirmatory factor analysis have indicated that model-data fitness is acceptable for the scale. The path diagram belonging to the confirmed model is shown in Figure 2. It can be established in general that data obtained following the exploratory and confirmatory factor analyses present proofs that confirm construct validity of the eligible scale of physical education course.

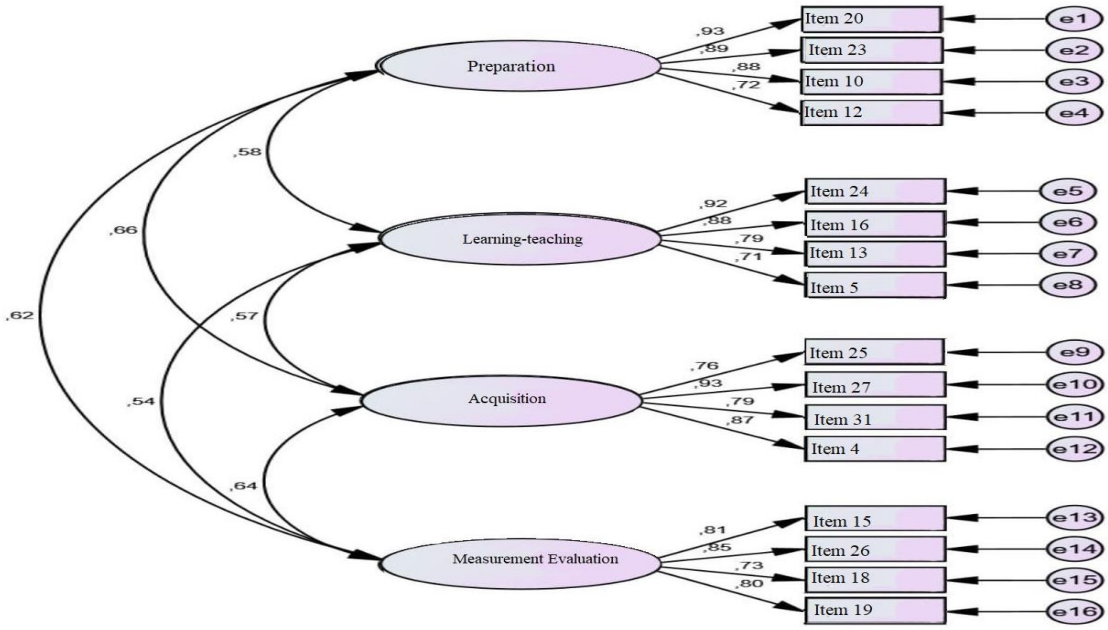

Figure 2. CFA path diagram (standardized values)

Findings Related to the Reliability of the Scale

Internal consistency analyzes were performed for the evaluation of the scale. Cronbach's alpha coefficient was used to determine the internal consistency. Internal consistency analyzes were conducted to explain the entire scale and each factor separately. Looking at factor loads, the Cronbach-Alpha coefficient was found .89 for the first factor, .90 for the second factor, .87 for the third factor and .93 for the fourth factor. The Cronbach-Alpha coefficient was calculated as .91 for the whole scale.

The internal consistency value for the whole scale shows that the reliability of the scale is sufficient. In order to ascertain the consistency of the scale over time, after the analyzes performed with data obtained from the scales applied to 53 physical education teachers with two weeks apart, test-retest reliability (Pearson correlation) coefficient was calculated as ".901" for the preparation sub-dimension of eligible scale of physical education course, ".866" for the learning-teaching process sub-dimension, ".852" for the acquisition sub-dimension and ".882" for the measurement and evaluation sub-dimension. In general, it is stated that a reliability coefficient of ".70" and above is sufficient to accept that a psychological test is reliable (Büyüköztürk, 2012). Depending on the findings acquired in this regard, we can say that the scale is reliable.

Discussion and Conclusion

This study aims to develop a scale directed to determining eligible perception of physical education teachers regarding physical education course. The developed 16-item scale was applied to three participant groups consisting of 250 physical education teachers for exploratory factor analysis, 263 for confirmatory factor analysis, and 53 teachers for consistency over time. As a result of the exploratory factor analysis, the scale was found to consist of four factors. The contents of the items in the factors were examined while naming the determined factors and the first factor was called "preparation", the second one "learning-teaching process", the third factor "acquisition" and the fourth factor was called "measurement and evaluation". As a result of confirmatory factor analysis, it was determined that the model-data fit of the scale was acceptable. Cronbach Alpha internal consistency coefficient and test-retest correlation values of the scale have showed that it is reliable. Thus, as a result of the validity and reliability analyzes of the scale, we can say that it is a valid and reliable scale that can be used to measure the quality of physical education courses based on the perceptions of physical education teachers. There is no item to be reverse scored in the scale. There are 4 sub-dimensions and 4 items in each sub-dimension in the scale. A score between 4 and 20 can be obtained on the scale. The high scores of the sub-dimensions and the total score of the scale indicate that the course is perceived as eligible. It can be said that this scale can be used to determine the perceptions of physical education teachers about teaching eligible physical education and sports courses. It is recommended to repeat the validity and reliability of the scale on different sample groups.

Eligible Scale of Physical Education and Sports (ESPES)

Item No.	Items	Strongly Disagree	Disagree	Partially Agree	Agree	Strongly Agree
1	The teacher plans the learning-teaching process.					
2	The teacher ensures the active participation of the student in the course.					
3	Teacher teaches students movement skills.					
4	Individual differences are taken into account in measurement and evaluation.					
5	The teacher takes the necessary measures for the safety of the student during the course.					
6	The teacher gives feedback and corrections to the student after her/his behavior.					
7	The student recognizes the sports branches suitable for her/him.					
8	Measurement and evaluation occur with the active participation of the teacher and the student.					
9	The teacher prepares the course materials before the course time.					
10	The teacher is aware of being a role model.					
11	Students are encouraged to adopt sports as a lifestyle.					
12	According to the evaluation results, students are provided with feedback.					
13	The teacher attaches importance to the cooperation of the school and family.					
14	The teacher does not allow undisciplined attitudes and behaviors.					
15	Teacher introduces cultural values to students.					
16	It is based on multi-dimensional measurement and evaluation.					

1st Sub-dimension is Preparation: 1st, 5th, 9th and 13th items

2nd Sub-dimension is Learning-teaching process: 2nd, 6th, 10th and 14th items

3rd Sub-dimension is Acquisition: 3rd, 7th, 11th and 15th items

4th Sub-dimension is Measurement and Evaluation: 4th, 8th, 12th and 16th items

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Factors Affecting the Course Choices of Students Who Took the Elective Course of Music Culture

Research Article

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ABSTRACT

In this study; it is aimed to investigate the factors affecting the course choices of the students who took the music culture course. The research was designed as a case study. The data were analyzed in accordance with the qualitative content analysis method. It has been understood that students who made their choices by taking the name of the course into account are not interested in the course content, they see the course as an entertainment and an easy course to pass. Purposes of the course selection match up with the structure of the course for the students who chose the course by taking the course content into consideration. The results are discussed in terms of the aims of including elective courses in higher education programs and the reasons for the weighted preference shown by the students in the selection of these courses. It is recommended that the student advisors at the university guide students in accessing the content of the course, accessing the information about the credit of the course and the course hours, and accessing the information of the lecturer of the course. Within this framework, it is thought that a course selection orientation meeting to be held before the course selection would be beneficial.

Keywords:
Elective course, music culture, students' course choices.

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Introduction

It can be said that it comes short of the requirements of the age if university students are well-equipped only in their own fields during their undergraduate education. In today's university education, which is generally concentrated on the goals of professional development and economic efficiency, focus is on the raising versatile individuals with academic, personal and social aspects (Özgüven, 1989). In the developing and changing world, the most emphasized issue for countries is education systems because today, new sectors and new searches expect individuals coming out of the education system to be both versatile and more qualified (Kaya & Üstün, 2013). In his book "Learning Futures", Facer (2011), by mentioning that such changes are foreseen, discusses how we can build the future of education in the context of social and technological change desired by all of us. New developments on the understanding of education constantly affect education programs; the programs are developed with an understanding that takes the pace from the students by placing more and more importance to the interests and needs of the students (Demir, 1996).

These developments and changes have been moved to a different point in the name of higher education with the Bologna process, which started with the signatures of the ministers responsible for education of 29 European countries in 1999 and in which Turkey got involved in 2001. The purpose of the Bologna process was stated on the official website of the European Union for the first time as "The Bologna Process seeks to bring more coherence to higher education systems across Europe". Among the steps taken to ensure this consistency, the utmost effort is made on the implementation of the European Credit Transfer System (ECTS) and the Course Information Package (Kısa, Uysal & Üstün, 2020).

As a bringing of the new credit system, elective courses have been given place in undergraduate programs in many Bologna countries (Adelman, 2009). Universities, which are in the scope of restructuring and quality process in education, renew their course plans, learning outcomes and teaching methods in formal education. In this scope, elective courses can also be given by distance education, too, as an alternative teaching method to students studying in formal education (İnal, Altınışık, Solak & Yıldız, 2012).

Education at universities is usually specifically designed for a particular profession. However, individuals in developed countries should no longer only acquire professional knowledge; they should also be intellectually equipped for their future. In this context, elective courses at universities offer development opportunities for individuals in various ways (Doğan, 2020; Jain & Jain, 2018). Elective courses in higher education level programs aim to develop students' cognitive, social and emotional capacities in line with their abilities and interests. In addition, elective courses help students to gain more knowledge in their areas of interest as well as improving their skills in different areas (Demir & Ok, 1996). Thanks to the elective courses, students can better discover and develop their own characteristics by having detailed and comprehensive information about the special areas they are interested in. Besides, they may also have the opportunity to use the acquisitions of the elective courses they have taken in a complementary or supportive way in their own fields. The courses called general culture in Turkey and explained abroad with concepts such as general education, liberal education and core curriculum (Sağdıç, 2020) are offered to the selection of students in this sense. In this context, music-related courses are also included within the scope of elective courses in Turkish Higher Education undergraduate programs. Among the elective music courses at Balıkesir University, the music culture course is one of the elective courses that students frequently choose.

The music culture course aims to evaluate music genres without prejudice, to develop a level of appreciation, and to appreciate the music genres as a cultural element by creating opinions as to place of music in the life and development of individual and society, importance of music as a means of communication, foundations of music culture, living musical genres in and outside of Turkey, artistic creation, art work and art environments. In the music culture course; while examining the periodic features of national and international music history, examples from the works of significant artists and composers of the relevant

period are given and the music of the countries in question are discussed by pointing out the similar and different aspects among them.

In this context, in the research; it is aimed to reveal the factors affecting students' choices of music culture course, which is a general culture course, and thus to understand students' choice behaviors regarding the music culture course.

Method

This study was found ethically appropriate by the Social and Human Sciences Ethics Committee of Balıkesir University with the letter dated 24.02.2021 and numbered 52899066/302.08.01/13390.

Research Model

This study is designed as a case study, which is one of the qualitative research methods. "A case study, in common parlance, documents a particular situation or event in detail in a specific socio-political context" (Simons, 2014, p. 455). When case studies deal with a single unit of analysis such as an individual, an institution, a program, they are shaped as a holistic single-case design. (Yıldırım & Şimşek, 2016). "Case study is a main method. Within it, different sub-methods are used: interviews, observations, document and record analysis, work samples, and so on" (Gillham, 2000, p. 13).

Data Collection Process

Semi-structured interview technique was used as data collection tool in the study. "A semi-structured interview combines predefined questions like those used in structured interviews with the open-ended exploration of an unstructured interview" (Wilson, 2013, p. 24). Data collection process of the study has been initiated in the spring semester of the 2017-2018 academic year, which is the common semester in which the music culture course is presented for selection in the departments of science teaching, architecture, and molecular biology and genetics. The students to choose courses from the elective course pool in that semester are a total of 180 students, 50 in science teaching, 80 in architecture, 50 in molecular biology and genetics. In the same semester, a total of 46 students, including 20 science teaching, 12 architecture, 14 molecular biology and genetics, chose the course of music culture. After determining the academic year and semester in which the study will be initiated, a semi-structured interview form draft was drawn up and presented to the expert opinion by taking into account the domestic and foreign literature regarding the elective courses, the purpose of the research, the scope of the research and the basic issues about which the opinions will be taken. Afterwards, taking the academic calendar into account, preparations were made to clarify the interview questions by making use of the time between the students' making their course selections and the start of the courses.

For the preparation before the interview, pre-pilot interviews were conducted with a total of three students, one student from each department, feedbacks were evaluated and the necessary refinements were made in the form. Right after that, a pilot interview was conducted with three different students, and the data obtained from the interviews were written down and their content has been analyzed (Gillham, 2005). It is recommended that the interviewees in the pre-pilot and pilot stages have similar characteristics to the research group, but are not included in the research group (Gillham, 2005). However, in this study, there were no students who took the music culture course, except for the students to conduct the interview. For this reason, six students used in the pre-pilot and pilot stages were not included in the final interview.

As a result of the literature and pilot studies related to this research, it has been decided to make interviews with a semi-structured interview form with a total of 9 questions, including four open-ended questions to understand the main factors affecting students' choice of music culture course, and five closed-ended questions to learn about students' ages, genders, departments, grades and the semesters they study.

Data Analysis

Coding

Coding is to determine the various aspects of data and to mark or label them in small pieces (Creswell, 2013; Miles & Huberman, 1994; Riffe, Lacy & Figo, 2005). Both in vivo and descriptive codes were used in the coding process. In vivo codes are codes derived directly from the participant's statement. In vivo codes tend to be behaviors or processes that explain how the participants' problem was solved or handled. If the researcher, thereafter, invents better terms for labeling the codes, s/he is free to change them (Strauss, 1987). Descriptive codes contribute to the categorization process by simply summarizing the data (Saldana, 2011). In the coding stage, the codes were produced from sometimes a few words, sometimes a sentence, and sometimes a few sentences of the students in accordance with the purpose of the research (Miles & Huberman, 1994; Saldana, 2021). A deductive approach has been adopted in the research. In accordance with the research purpose, the theme of this study has been determined as *the factors affecting the choice of the music culture course*. The four categories in which the codes will take place are related to the four questions directed to the students. Categories can be derived inductively and deductively and are again guided by research questions, and information about the phenomenon under investigation brought to study by content analysts. Categories can be defined based on the research question and/or underlying theories and structures. (Klenke, 2016).

Two graduate students were trained as coders in order to conduct the inter-coder reliability test. A written dictionary has been developed, which defines the categories and presents examples in order for the coders to use on the axis of the steps mentioned in the data collection section (Sunwolf, 2011) As a result of the Cohen's Kappa inter-coder reliability test performed through the Nvivo program, the general consistency level in all codes has been 0.87. After all the steps, 33 valid codes affecting students' choice of music culture course were formed.

Findings

Factors Affecting the Students' Choice of Music Culture Course

In addition to 4 open-ended questions created by following certain steps in order to understand the reasons for students' choice, there are 5 closed-ended questions from which students' demographic information is obtained. This information is shown in the table below.

Table 1. Students' demographic information

Gender	**f**	**%**
Female	86	61.87
Male	53	38.13
TOTAL	139	100.00
Age	**f**	**%**
17-20	50	35.97
21-24	89	64.03
TOTAL	139	100.00
Department of Education	**f**	**%**
Science teacher	63	45.32
Architecture	51	36.69
Molecular Biology and Genetics	25	17.99
TOTAL	139	100.00
Year/Semester of Education	**f**	**%**
2017-2018 Spring	40	28.78
2018-2019 Fall	21	15.10
2018-2019 Spring	24	17.27

2019-2020 Fall	37	26.62
2019-2020 Spring	17	12.23
TOTAL	139	100.00
Grade	**f**	**%**
1st Grade	48	34.53
2nd Grade	4	2.88
3rd Grade	4	2.88
4th Grade	83	59.71
TOTAL	139	100.00

As seen on table 1 the students who chose the music culture course are predominantly comprised of female students. The students who chose the course are mainly students between the ages of 21-24. As it is understood that the course is open to the selection for the 1st and 4th grades in the departments, it is seen that a small number of 2nd and 3rd grade students also retook the course due to failure before. 2017-2018 spring semester is the peak semester in which all three departments chose the music culture as an elective course.

The coding and hierarchy charts regarding the codes, sub-categories, categories and theme found by qualitative content analysis of the data obtained after the interviews made with the students through 4 open-ended questions is created using the Nvivo program and shown below. The findings reached through the answers to the open-ended questions by considering the coding chart and the hierarchy chart are presented and interpreted after figure 1 and figure 2.

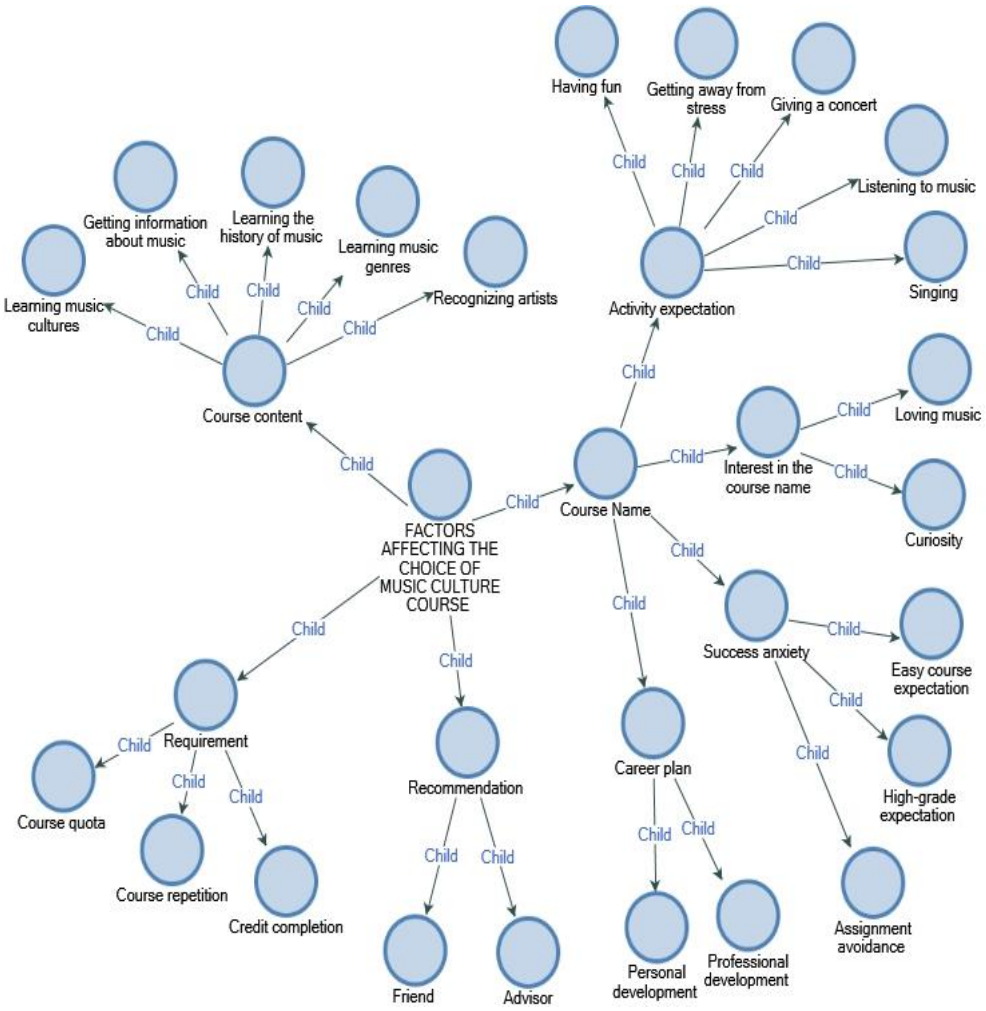

Figure 1. Coding chart

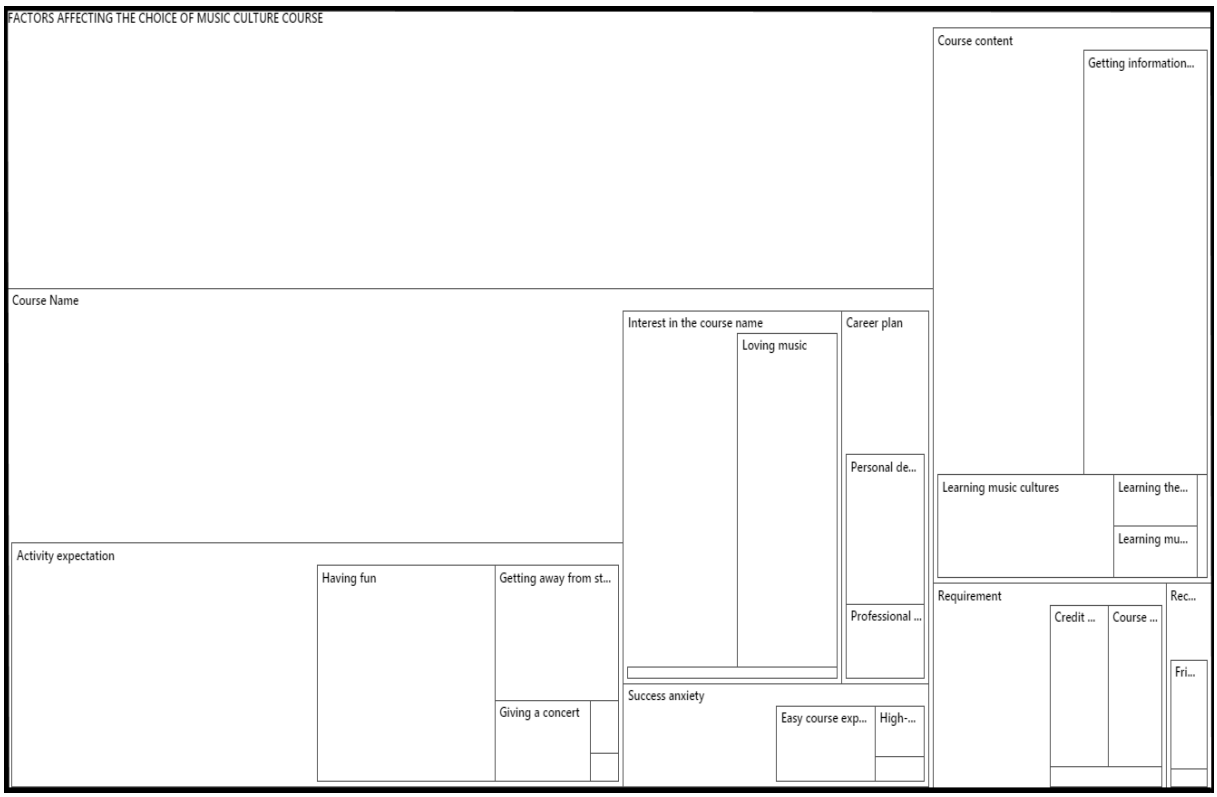

Figure 2. Hierarchy chart

Findings From the Question of How Did the Name of the Course Affect Your Choice While Choosing the Music Culture Course?

The most intensively coded category under the theme of *factors affecting the choice of music culture course* is the *course name* category. In this category, there are codes belonging to the choices students made by being influenced by the name of the course. All codes are included in the sub-categories of *activity expectation, interest in the course name, success anxiety* and *career plan* in order of coding intensity. The activity expectation sub-category includes the codes of *having fun, getting away from stress, giving a concert, singing and listening to music*. It can be seen as a possible finding that students influenced by the name of the course when choosing the course make their course choice with the expectation of being able to sing and listen to music since the name of the course has the word music. However, it is an interesting finding that most of the students chose the course with motivations such as having fun, getting away from stress and giving a concert without even seeing the full name of the course whereas it is a theoretical course in terms of teaching, is a part of their education life and they will be evaluated with a grade at the end. It is noteworthy that although there are communities in the relevant city and university where students can participate in various activities in arts, sports, literature and many other fields, students approach their course choices in formal education, too, from this perspective. Examples of student statements with regard to creation of this category's codes are as follows:

I got disappointed when I looked at other elective courses while making my course choices. Until seeing the music culture course. I thought I was going to have a lot of fun since it is a music course. I love to sing. It would be great to give a concert at the end of the course!

The courses are very intensive in my department. Moreover, the content of our courses is quite heavy […] I get very tired during the day and I think this course will relax and rest me. I hope to listen to plenty of music.

In the sub-category of the interest in course name, there are codes of *loving music* and *curiosity*. In this subcategory, students' choice is mostly influenced by their love of music. Here again, the word music in the course name interests the students. A remarkable finding is that the name of the course arouses curiosity in

students and this curiosity affects their choices. This situation indicates that the students do not have a direct idea about the content of the course.

I love music. When I saw it among the elective courses, I chose it without hesitation […] I wonder what stuff will be done because it is a music course.

In the subcategory of success anxiety, there are *easy course expectation*, *high-grade expectation* and *assignment avoidance* codes. In this subcategory, it is understood that students consider this course as an easy one, they think that they can complete the course with a high grade and they expect not to be assigned any homework. From this situation, it is understood that the students compared the courses based on their names while making comparison with the other elective courses and found the name of the music culture course more attractive within these expectations. It is also a remarkable finding that students consider their pre-university music course experiences in their choice.

Music courses were always easy in my pre-university education. It was very pleasant. I have never had any grades anxiety.

In my department, education is almost entirely based on assignments. Doing assignments all the time […] therefore I wanted to choose a course that I thought I would not do assignments.

There are *personal development* and *professional development* codes in the sub-category of career plan. It is understood that the situation guiding students' choice in this sub-category is that music culture course will contribute to their professional life. It is surprising that these codes appear in relation to the course name. It should be for this reason that these codes are the ones having the least coding references in the main category of the course name. References to course content are noticed in student statements regarding the professional development statements – albeit not in the statements regarding the personal development. In the section where the relationships between codes will be explained, the only link – not very strong – between the course name and the course content categories is between the codes of professional development and learning the history of music.

[…] I also aim to relate what I will learn in this course with my profession.

I think that the music culture course will contribute significantly to my general culture. Having comprehensive knowledge of the history of music will positively affect my accumulation and development in business life.

Findings From the Question of How Did the Content of the Course Affect Your Choice While Choosing the Music Culture Course?

There are cases where the course content affected choices, which has the second place in terms of coding intensity. In this category, there are codes for *getting information about music, learning music cultures, learning music genres, learning the history of music and recognizing artists*, respectively. It is understood that in codings of this category, student choices are guided by the expectation of obtaining information correspondent with the course content. In the student statements in this category, the efforts of the students to get information about the course content are remarkable.

It has attracted my attention a lot that we will learn about music cultures and history of music in this course. I am very interested in the cultural values and history of humanity. I also love music. The two will be good together.

It affected me positively […] It is very exciting to get to know different music cultures in the world, to experience different types of music, to familiarize with the artists who gained a place in the music cultures of the societies, and thus to be able to talk about music in a friendly environment.

Findings From the Question of Did You Have Any Requirement While Choosing the Music Culture Course?

In the requirement category, students stated their reason of requirement to choose the course. It has been determined that students expressed their requirements with the codes of *credit completion*, *course quota* and *course repetition*. Students stating the requirement to complete a credit in course selection do see elective courses as a course that must be taken to complete the program. Besides, the cases where there is no other alternative in the course selection of the students are explained with the course quota code. In this coding statements, the students chose the music culture course because it was the only course with a suitable quota. In the course repetition coding, all of the students who failed an elective course took the music culture course as a replacement of a different course they failed in the previous semesters.

[…] I actually had a little German language education before. But because the quota was full, I had to choose this course.

Yes. I had to take it or I cannot complete my university education.

Last year I failed another elective course. I chose music culture this time as I can take another elective course instead of the course I failed.

Findings from the Question Have You Received Any Recommendation from Someone While Choosing the Music Culture Course?

There are *friend* and *advisor* codes in the recommendation category. In this category, there are statements stating that students received a recommendation during their choices. It is seen that overwhelming majority of the students received the advice from their friends who took the course in the previous semesters. Furthermore, it is understood from these student statements that they obtained information about the course content and the course in general. In the student statements in the advisor coding, it is seen that the advisor only takes the quota status of the course into consideration while giving advice.

Yes, I got advice. I even talked to my friend (s/he is saying the name of the friend) *who took the lesson in previous semesters to give advice on this issue. When s/he talked about the lesson, I was impressed by what I could learn. Especially the history of music attracts my attention a lot.*

I already had to retake the course. I did not want to take the course I failed, again. I talked to my advisor. He looked at the quota status of the elective courses and helped me choose the course that was suitable for me.

After determining the codes and categories regarding the students' responses to open-ended questions, the data has been reviewed and the following network of relationships has been created by the researchers in order to understand what kind of relationship there exists among multiple reasons of choice of the students answering the questions.

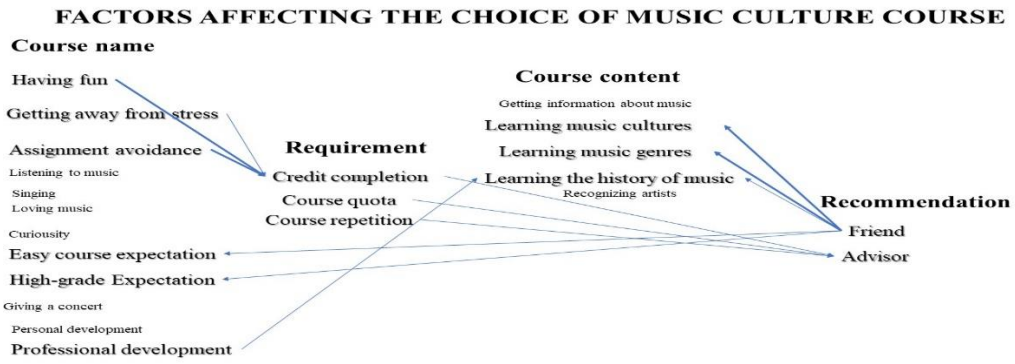

Figure 3. *Relationship chart*

As seen on the figure 3 what is striking is that the statements of the students regarding the codes indicated in small fonts are unique to themselves. The students whose statements take place in these codes answered only one of the open-ended questions and left the others unanswered. For example, students who have a statement taking place in the coding of giving a concert stated that there is no requirement to choose the course, they have no knowledge of the content of the course, and that they did not receive any recommendation in choosing the course. This single-preference reasoned orientation also applies to the codes of listening to music, singing, curiosity, personal development, getting information about music, and recognizing artists. It is understood that the students who chose the course for the reasons in these codes chose the course just by looking at the name. Looking at the relationship network, the majority of students who chose the course for having fun and avoiding assignments see the music culture course they chose as a course to be taken for credit completion. Even though it is not as strong as the relationship between these two choices, a small portion of the students who aim to get away from stress have the requirement of credit completion, again. Among the students who were influenced by the course name in their choice and saw a personal development opportunity in the course name, very few of them associated their choice with the course content. These students (especially the department of architecture) aim to characteristically relate the historical periods of music and architecture. All of the students who stated that the course content was effective in their choices do not have any requirement in their course choice. From this, it is understood that students who made their course choices by the influence of the course content make a more conscious choice. It is seen that students who stated that learning music cultures, learning music genres and learning history of music, which are directly related to the course content, affect their choices, made their choices upon a recommendation. Based on the statements of the students who received recommendation, it is understood that the content information about the course was obtained from their friends who took the course in the previous semesters. Also, it is observed that there is a relationship between these recommendations and the codes of easy course expectation and high-grade expectation. Among the students who stated a requirement to do with course repetition, credit completion and course quota codes, very few of them requested advice from their advisors in their course selection. However, no correlation has been found between the course content and advisor's guidance of the students regarding the course.

Discussion

When students chose the elective music culture course by being influenced by the course name and the course content, they, in some cases, express their requirements and get advice. Jain & Jain (2018) emphasized that students may not be inclined to make their choices alone, these choices may be influenced by family, friends, relatives, teachers or various organizations, and these choices can be academic or non-academic by nature. “Making this decision may not be trivial since students do not have enough information. Thus, generally, they are influenced by other college students' comments” (Esteban, Zafra & Romero, 2020, p. 1). According to Tezcan & Gümüş (2008), it is a known fact that students are influenced by the students who have taken that course before. In this study, too, it has been concluded that the students benefited from the recommendation of friends in reaching out to the course content, however, it cannot be said that the choices made by being influenced by the course content are solely due to the recommendation of friends because the recommendation category is at the bottom of the hierarchy chart (see Figure 2). It is also known that students in universities in Turkey use the course information package included in the Bologna process to access the course content and they look at the information package in a positive light in this respect (Fer et al., 2019). Again, in a study in Turkey, Dündar (2008) determined one of the elective course choice criteria of the students as *the name and content of the course*. Therefore, in any circumstances, students take the time to access the course content and get information about it before making their choices (Esteban, et al., 2020). Another code apart from friend recommendations is advisor recommendation. The finding that needs to be discussed regarding the advisor recommendations is no guidance is present as to course content by the advisor. In situations of

uncertainty that students may experience during their course choices, the role of advisors is to help students make appropriate decisions and help them develop their plans for their future careers (Chan et al., 2019).

In this study, the course name and course content were evaluated as two separate criteria, so it has been understood that the main criterion that guided the students' choice of music culture course was vigorously the course name. First of all, it is noticed that the word music in the course name sounds attractive to students. Students' interest in music is noticed in the choices they made based on the course name. This interest presents itself in the codes of loving music, singing, listening to music, and giving a concert. Ke & Zeng (2008) found in their study that the main motivation that guided students during course selection was students' interests and hobbies. Similarly, Ursavas & Kesimal (2020) has ranked the interest in the course fourth among the sixteen factors that affect students' course choice. Em, Yöndem, & Ece (2018), in their study on elective music courses in Turkish universities, also stated that students preferred the music course because of their interest, that they wanted to learn to play the instrument, and that the music course provided relaxation in the intensive course schedule. Similar results were obtained in the study in which Çağlayan, Karadeniz & Sarı (2018) revealed the views of students of the vocational school of higher education regarding the music course. In the study, it was stated that the students were interested in music before choosing the music course, too.

The choices stemming from the course name show that students do not have the desire to explore the course content, and there is also almost no link between these two choices in terms of the relationship among the categories. Specific to this study, the fact that the choices stemming from the course name come to the forefront can be associated with the presence of the word music in the course name. However, this situation may also indicate that students may be inclined to exhibit similar behavior when they encounter a course name they like. Students' course choices under the influence of the word music and a person acting relying on the brand value without looking at the content while buying a product can be evaluated from the same perspective. These choices, which are seen as independent from each other, stem from metaphorically the unconditional trust of the students in the brand value of music while making their course choices. It can be thought that this trust drives from the students' pre-university amateur music life (Doğan, 2020) and their past musical education experiences. In the choices made influenced by the course name, there are expectations such as having fun, getting away from stress, avoiding assignments, singing, giving concert. At first glance, it may seem normal for students to expect having fun in class. Ursavas & Kesimal (2020) put forward the having fun-entertaining course expectations of students in their course choices. However, specific to this study, these expectations are in contradiction with the fact that the course is a theoretical course. Because, these codes also reveal that the students do not try to make sense of the course while evaluating the course name, and that they have a prejudice that the course is a music course. Students adopted a result-oriented approach rather than process in their choices. What is suggested by the educators, however, is the exact opposite (Ting & Lee, 2012). The situation that strengthens this point of view is that students who expect to have fun, to get away from stress, and to avoid assignments stated in the section of choice requirement that they consider the course only for credit completion. It is also seen that students expect easy course and high grade (Kurnaz & Alev, 2009; Samara, 2015) in their choices made by being influenced by the course name. One of the most important situations that students consider in their course choices (Ting & Lee, 2012) is the perceived level of difficulty of the course. Moreover, it is understood in the study that these expectations are partially guided by friend recommendations.

The fact that professional and personal development codes are found in the choices made under the influence of the course name, and only professional development codes have a weak relationship with the course content shows that even in a course that students choose for their career plans, they only prioritize the course name. However, the music culture course is a course that students choose among the courses within the scope of general culture. It is expected that the statements on personal and professional development codes

would be less. The point underlined here is that a choice made for this purpose was made without having sufficient information about the course.

Students who made a choice by being influenced by the course name also explained their choice requirements regarding the quota status. This requirement also reveals why students who chose only by being influenced by the course name behaved in this way. Again, students who chose by being influenced of the course name have a requirement to repeat the course. Normally, this situation may prevent the student from acts like researching into the course again and looking at its content since the student will be taking the same course. However, all of the students in this study who repeat the course have chosen the music culture course as a replacement to another elective course they had failed in the previous year(s). The requirement of some students to take another course instead of the course they failed indirectly caused the course to be evaluated only with its name again. Notwithstanding that it does not matter which of the elective courses they take for some students, it is understood that they chose the course to complete credit. Babad (2001) determined that in the first course selection of the students, the criteria of *course credit* moved from the 7th to the 2nd place in the process and revealed that student choices changed over time in favor of paying attention to course credits. Kurnaz & Alev (2009) also determined that one of the course selection criteria of students is the goal of completing credits.

State of considering the lecturer conducting the course (Samara, 2015), which is seen in the findings of previous studies in the interview form, is not included in this study. The reason for no data were obtained regarding this reason of choice in pilot interviews with students is that the same instructor conducts the music culture course in all departments at Balıkesir University.

The discussion of the research findings specific to the music culture course also pave the way for the creation of a discussion topic on the of students' choice approach towards all other general culture courses since this course is a general culture course, as well.

The elective music culture course is a non-area general culture elective course included in the elective course pool of departments or faculties, which does not take part in their own field. Therefore, that students have requirements in their course selection and their tendency to choose the course only based on the course name are an obstacle to the realization of the course purpose not only for the music culture course but also for other general culture elective courses.

General culture education at universities has a very wide content in many developed countries within the framework of concepts such as general education, core curriculum or liberal education. In other words, general culture education is carried out with an interdisciplinary curriculum designated in a way that can include all subjects outside of the student's own academic field. General culture education constitutes a wide area of academic freedom that covers all subjects that the individual thinks necessary for himself and feel insufficient himself (Sağdıç, 2020, p. 9-10).

Conclusion

It has been determined that the factors that guide the students' choices in choosing the music culture course, which is an elective course, are the course name, course content, requirement and recommendation. The most important criterion for students to choose the music culture course in the pool of elective courses is the name of the course. In this context, students regard the course as a course which is assignment-free, easy to pass, and as a course through which they will have fun, relieve stress, sing, and give concert. Students see the music culture course as a hobby class rather than a course. Specific to this study, the fact that the students chose the music culture course based on the course name may show that they made a choice that would make them happy; because the course is a music course and the students clearly expressed their interest in music through the choices they made based on the name of the course. Therefore, it is not asserted that the students

were not satisfied or chose a course that would not be suitable for them. But it is clear that the way they make these choices is not academic. The students who made their choice based on the course name acted with their interest in music, not with their interest in music culture. Therefore, while the students wanted to take a course they were interested in, by being influenced by the course name, they took a course that they could not meet their expectations to a great extent. Besides, the fact that the students chose the course by making so many inferences about the course only through the name of the music culture course showed how much they care about the course name in their choices. The students, who evaluated the course from an academic perspective, made their course choices completely differently from the above-mentioned student group and for reasons related to the course content. The presence of students who evaluated the course from an academic perspective also shows that students who act relying on the course name do not have the desire to learn the content, do not care what the education process will add to them, are not interested in the process itself. Requirement status, which comes third in terms of statement intensity, also includes the students who made their choices by being influenced by the course name. Students who chose the music culture course due to requirement are inclined to choose the course by looking at the course name. However, instead of searching the content of the course, they take friends' advice on whether they can pass the course easily and get a high grade. However, students who made the choice knowing the course content take their advice based on the course content.

This research is a case study. Thus, the generalizability of the research results is limited. However, the research contains valuable and striking results, first for the relevant university, then for the Turkish Higher Education Institution and foreign education policy makers and education experts. This research will contribute to policy makers and higher education decision-makers in Turkey in terms of discovering the choices students make in general culture courses that may have negative educational consequences. The types of elective courses, their purpose of existence and even their choice-pattern may have their own characteristics in Turkey. However, this research paves the way for inquiries about how diligent students can be in making their course choices at universities abroad, too. For this reason, the case that can be questioned is how much the value of the course name can gain prominence in the eyes of the students in guiding the course choices and whether or not the students will go so far as to make a course selection based on the course name alone.

While some of the national and international studies on students' course choices are about understanding the reasons for course choices, the other part is concerned with making course choices more effective. At the relevant university, too, where this research was conducted, studies should be carried out to enable students to make their course choices more effectively.

As a contribution to other similar studies in Turkey, the research results brought to the forefront the choices of the students based on the course name in their music culture course choices. Therefore, in order to observe the situation in general, it is recommended to conduct further studies in more universities and therefore with larger study groups.

It is recommended that the student advisors at the university guide students in accessing the content of the course, accessing the information about the credit of the course and the course hours, and accessing the information of the lecturer of the course. Within this framework, it is thought that a course selection orientation meeting to be held before the course selection would be beneficial.

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