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## Schooling Experiences of Disadvantaged Children in Preschool: Attitudes, Engagement and Interactions<sup>1,2</sup>

Arzu ARIKAN<sup>3</sup>

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### ABSTRACT

**Purpose:** The research adopting children's perspectives about early care and education has flourished since the adoption of UNCRG; however, the studies investigating experiences of children from diverse backgrounds in the literature are still scarce. This study aims to describe disadvantaged children's experiences in a target preschool from their own perspectives.

**Research Methods:** This study is part of a large-scale research project, and it focuses on disadvantaged children's perspectives using a case study design. The case of interest included a specific group of people associated with a unique preschool designed for the disadvantaged children. The data comes from 26 children and their parents for this study. Child-interviews were the primary source of data. Parent-interviews, observations and other documents supplemented data analysis. The data was analyzed using ATLAS.ti 7 Software.

**Findings:** The basic dimensions of schooling experiences included children's attitudes toward school, engagement in daily activities, and echoes of school experiences at home. The findings suggest that access to resources does not mean quality educational experiences for all children, and there is room for improvement. Although disadvantaged children appeared to have positive attitudes toward school, their experiences involved limited engagement in certain activities. All children had inadequate stimulation and low-quality interactions with the parents at home regarding the school experiences. Comparing experiences based on gender, age, developmental milestones and family structure yielded some differences in children's experiences of schooling.

**Implications for Research and Practice:** This study highlights the need for inclusive and enriched educational practices for disadvantaged children. Future research may investigate children's educational experiences in mixed schools and examine home-school connections.

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## Introduction

The effects of early childhood education on disadvantaged children's learning and development have been subject to many research and policy initiatives. Due to various adversities they experience, disadvantaged children need stronger developmental and educational support than their more advantaged peers do. They often lack specific social-emotional, cognitive, and language skills necessary for their future life. Most importantly, disadvantaged children's voices find limited space in research and educational practices. This qualitative study aims to describe disadvantaged children's experiences in a target preschool from their perspectives.

A wide range of adjectives, such as low-income, high-poverty, fragile, impoverished, at-risk, and disadvantaged define these groups of children and their families; however, poverty is a common denominator in their lives. Growing up in poverty, they face multiple environmental adversities, such as low parental income, substance abuse, unemployment, insufficient education, single parenthood and biological risk factors, including low birth-weight and chronic health issues (Addison, Hulme, & Kanbur, 2009; Jensen, 2009). The role of early childhood education in reducing the effects of poverty on disadvantaged children appears to be essential. It can narrow the learning and developmental gaps among children from different backgrounds (Bulut, 2013; Suziedelyte, & Zhu, 2015; Yoshikawa, Weiland, & Brooks-Gunn, 2016). This understanding, coupled with the potential contribution of early education to the economy, has moved policymakers to invest in early intervention for young children living in disadvantaged conditions. The Head Start and Early Head Start programs are the best-known examples of this movement combatting to break the poverty cycle in the U.S. Smaller-scale programs and schools serving similar groups of children are also available in other countries with more fragile economies, such as Brazil, India, and Turkey (Chopra, 2016; Cruz, 2019; Morkoc & Acar, 2014).

Although these programs stated above are valuable to combat educational inequalities, there appears to be more to do in the way of achieving quality and justice for disadvantaged children. Pianta, Downer and Hamre (2016) state that "effective teacher-child interactions and strong, developmentally aligned curricula are not as readily available to low-income children as they are to high-income children" (p. 129). This statement raises questions about the quality of early education provisions for disadvantaged children. Similarly, the research in these target programs questions the effects of early intervention for these children (Barnett, 2011; Haan et al., 2013). Studies investigating these effects often focus on school readiness and developmental indicators for the short-term, academic achievement, employment status, and criminal involvement for the long-term (Shonkoff, 2011; Suziedelyte & Zhu, 2015; Yang et al., 2019). While there is a consensus on the short-term effects, the long-term effects of these interventions for disadvantaged children are still controversial.

Disadvantaged children's access to quality education is one of their fundamental rights guaranteed by international conventions. The United Nations Convention on the Rights of the Child (UNCRC), Article 29, emphasizes the purpose of education as follows: "Education must develop every child's personality, talents, and abilities to the

full.” To reach this end and create the conditions of social justice in schools, listening to the voices of disadvantaged children is necessary. Indeed, understanding the nature of education in early childhood settings from children’s perspectives can inform various programs and support children’s well-being (Clark, 2005; Hilppo et al., 2016; Lundqvist, 2014). In this context, the current studies with children offers valuable insights on different dimensions of children’s experiences in various education settings. They focus on children’s interactions with peers and teachers, classroom engagement, daily routines, academic activities, learning and play in early childhood centers (Ceglowski & Bacigalupa, 2007; Einarsdottir, 2008; Fluckiger et al., 2018; Georgeson et al., 2014; Kragh-Muller, & Isbell, 2011; Kyronlampi-Kylmänen, & Määttä, 2012; Perry & Dockett, 2012; Puroila, Estola, & Syrjälä, 2012; Wiltz & Klein, 2001). These studies generally report positive experiences and well-being of young children and emphasize children’s universal preferences for play and friendships in different education settings. However, the majority of this research originates from Western and Nordic countries and takes place in non-diverse education settings. A few studies focusing on school transition are from other regions, and they report negative perceptions of school among young children (Kocyigit, 2014; Komba, 2013).

The research adopting children’s perspectives about early care and education has flourished since the adoption of UNCRC; however, the studies investigating experiences of children from diverse backgrounds are still scarce (Cruz, 2019; Grace, Walsh, & Baird, 2018; O’Rourke, O’Farrelly, Booth, & Doyle, 2017; Trudgett & Grace, 2011). We do not know yet if disadvantaged children’s experiences of schooling are similar to their advantaged peers or not in early education settings. As Hunner-Kreisel and Kuhn (2011) argue ‘children also have to be seen within the institutional and societal boundaries defining the space within which they can act’ (p. 116). Since children from disadvantaged backgrounds encounter many adversities and contextual stressors, they have different needs (Brown & Ackerman, 2011; Qi et al., 2019; Yang et al., 2019). Accordingly, their experiences in early childhood settings may differ from children who do not have such difficulties in life. The limited number of studies focusing on disadvantaged children presents alarming findings on their educational experiences (Chopra, 2016; Cruz, 2019; Grace et al. 2018). Studying the quality of schools for disadvantaged children, Chopra (2016) reached negative findings on physical facilities, quality of educational materials, and small-group activities and noted the high proportion of teacher-centered activities and absenteeism in Delhi schools. In a recent review of research, Cruz (2019) reported similar educational experiences for low-income children in Brazil. She noted teacher-centered practices, authoritarian relations and children’s discontentment with educational experiences.

The insufficient number of these studies with disadvantaged children shows that there is a need for more research to extend the emerging knowledge and understanding on young children’s experiences in diverse educational settings. The present study investigates disadvantaged children’s experiences of schooling in a preschool located in a Central Anatolian city of Turkey. Inspired by a rights-based framework, this study specifically contributes to the scarce area of research focusing on the perspectives of disadvantaged children.

## Method

### Research Design

This case study aims to describe the schooling experiences of disadvantaged preschool children. The paper draws relevant data from a large-scale qualitative study that utilized multiple research approaches to investigate the project approach with disadvantaged groups (Arikan, 2016). The definition of the case study as ‘an in-depth description and analysis of a bounded system’ guided this research (Merriam, 2009). The case of interest included a specific group of people associated with a unique preschool designed for disadvantaged children.

### Study Group

The study group was determined using the purposeful sampling method. The Happy Ants Preschool for disadvantaged children was the research setting. It is a small public preschool located at a mid-size Central Anatolian city in Turkey. The school has two classrooms, serving 3-4-year-old and 5-6-year-old children with two teachers in each classroom. It offers year-round, full-day education for about 42 children at no charge. This study draws data from 26 children who continued the school in summer and data from their parents<sup>4</sup> (25). Table 1 shows demographic information for the participants<sup>5</sup>.

**Table 1**

*Demographic Profiles of the Children*

Children	N	Family Structure		Parents' Level of Education		
		Nuclear	Diverse	No School	Elementary/ Middle	High School
Boy	10	4	6	1	6	3
Girl	16	6	10	3	12	1
Age (3-4)	10	5	5	0	8	2
Age (5-6)	16	5	11	4	10	2

Low family income was a common characteristic of the participant children in this study. The children have also been facing such adversities like their parents' mental health issues, residence in underserved neighborhoods, and living with single mother or older relatives due to prisoned father, abandonment, or divorce (Diverse family structure). In this study, ten children had a nuclear family structure. The majority of their parents had less than high school education; parents were not working or they had irregular jobs (e.g., house cleaning). Although the majority of the family members were mothers, one father and three grandparents also participated in the original large-scale research. This study used the word ‘parent’ for all family participants.

In the process of accessing the school and recruiting the participants, the researcher complied with ethical principles. The Ethics Review Board and the affiliated public

<sup>4</sup> One of the mothers had twins.

<sup>5</sup> The number of family participants were higher in the original research than this study. Since the researcher limited the child-interviews to the children attending the summer school, the parent-interview data from the respective families was used to make comparisons between children and families' accounts for this study.

institution approved this project. The researcher provided detailed information for the participants and invited them to participate in the research. Assigning pseudonyms and blurring the photos were the main measures to protect the participants' identities.

#### *Research Instruments and Procedures*

The researcher adopted multiple data collection techniques, including indoor and outdoor observations and audiovisual records in the school, collection of various documents and semi-structured interviews with staff, families, and children in the original project. The researcher wrote ongoing journals during and after data collection. The documents included field notes, attendance sheets, photos, and family information forms. Child interviews lasted between 10-30 minutes. The researcher used a voice recorder and a large size doll during the interviews with children (Mac Naughton & Hughes, 2009). Figure 1 shows the doll and sample questions from the interviews with children.



Cindy decided to go to school. Do you think Cindy would like this school? Why?

Cindy wants to know what you are doing at school. Would you tell her what you do here?

Cindy wonders what you like to do the most in this school. What is it?

**Figure 1.** *The Doll Cindy and Sample Questions for Child Interviews*

In preparing interview questions, the researcher consulted the literature and used peer debriefing and piloting. Based on the flexible nature of qualitative research, the researcher continued crystalizing the interview questions in the field (Creswell, 2007). In the present study, the child interviews were the primary sources of data; the interviews with parents, daily observations, and institutional documents supplemented the data analysis. The researcher chose only the parallel questions related to children's school experiences from the parent interviews (e.g., what/how does your child talk about the school when s/he comes home.).

#### *Data Analysis*

Data analysis involved systematic steps of preparing and organizing data, repeated reading of printed documents, coding subsamples of data, application of codes to the rest of the documents, making changes as new insights developed through comparison and categorizing codes under themes and interpreting the results in light of the researcher journal. The researcher utilized constant comparison and induction for the analysis (Corbin, & Strauss, 2008; Miles, Huberman, & Saldana, 2014). The research question, the raw data, and the interview questions guided initial ideas for coding the data. Using ATLAS.ti 7, the researcher developed the code structure in two

cycles that consisted of several rounds (Friese, 2014; Saldana, 2015). The first cycle of coding included breaking down the data into descriptive and n-Vivo codes. The second cycle involved searching for relationships, classifying the codes under thematic categories. The researcher continued keeping journals during the analysis and constantly compared the data for negative cases.

### *Trustworthiness*

The concept of trustworthiness replaces the validity and reliability in qualitative research, and it requires using multiple strategies during different stages of the research (Lincoln & Guba, 1985). To establish trustworthiness in qualitative research, Creswell (2007) also suggests using two or three different strategies. In light of these perspectives, the researcher applied systematic and careful procedures and kept researcher journals during this research. Triangulation of data sources and the participants and detailed description of the research process, the setting and the data also increase the trustworthiness of this study as well as presenting quotes as evidence from different participants' perspectives and sharing negative cases in the report. The researcher's engagement in the school for a prolonged period also supports drawing informed conclusions and valid interpretations in the study.

## **Results**

This section presents the disadvantaged children's schooling experiences in three related dimensions that emerged from the data: 1) *Attitudes toward the school*, 2) *Engagement in the classroom activities*, 3) *Echoes of school experiences at home*. The code networks, provided for each dimension of schooling experiences, serve as visual guides for the reader and shows the density of the codes for each theme. The comparisons for children's perspectives on specific child attributes offer a backdrop for the findings. Table 2 provides the overall distribution of these attributes.

**Table 2**

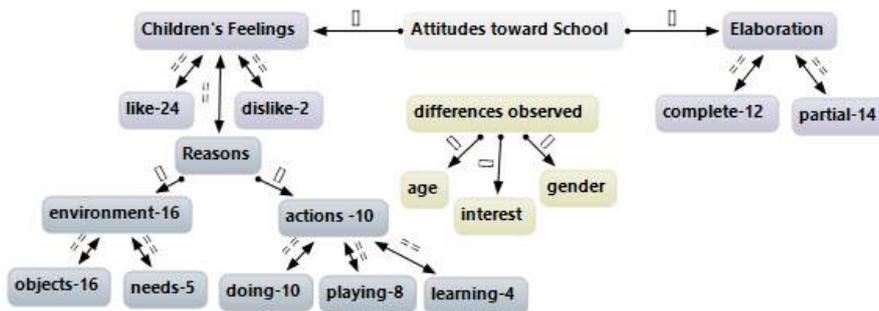
### *The Attributes of Children*

	N	Cognitive Milestones		Language Milestones		Social-Emotional Milestones	
		Reached	Support	Reached	Support	Reached	Support
	26	12	14	10	16	10	16
Boys	10	5	5	5	5	4	6
Girls	16	7	9	5	11	6	10
Age (3-4)	10	5	5	7	3	6	4
Age (5-6)	16	7	9	3	13	4	12
Continuous interest	18	11	7	10	8	10	8
Dispersed interest	8	1	7	0	8	0	8
Low Absenteeism	15	8	7	7	8	5	10
High Absenteeism	11	4	7	3	8	5	6

The researcher created these attributes using institutional documents and the observations, after noticing ambivalent attitudes among children during daily activities in school. The observations identified one-third of the children having dispersed interest and the rest having continuous interest. That is, some children (grouped as *continuous interest*) appeared more interested and involved in activities than other children (grouped as *dispersed interest*) did. The researcher also identified two groups of children based on a review of children’s developmental reports that the classroom teachers had prepared at the end of the school year. According to these reports<sup>6</sup>, some children reached expected milestones, while other children still needed support in certain developmental domains.

*Attitudes toward School*

The first dimension of disadvantaged children’s experiences of schooling consisted of their attitudes toward school revealed by their feelings for the school and their level of elaboration in describing<sup>7</sup> the school. Comparing their narratives based on age, interest in activities and gender indicated specific differences (Figure 2).



**Figure 2.** Children's Attitudes toward School

**Children's Feelings and Reasoning.** The data showed that the majority of the children appeared to like the school but they had different reasons for these feelings. Two children disliked it, but they still liked to play with the toys in the school. Two salient themes emerged from the children’s responses to the question of why they liked the school: the *environment* and the *actions* (Figure 2). That is, the children found the school appealing for either touchable or doable things.

Sixteen children’s reasons involved the *environment* theme, focusing on the objects (i.e., the toys, educational materials, learning centers) and the basic needs (i.e., food, bed, drinks). This group liked the school for the availability of toys and other concrete things in the school. The following excerpt from a girl illustrates this theme:

R: Cindy has decided to start this school. Would she like this school?

<sup>6</sup> Except two children, all children reached developmental milestones in self-care and psychomotor domains.  
<sup>7</sup> The researcher did not correct errors in children and parents’ quotes.

Ceyda (5)<sup>8</sup>: She would like it.

R: Why would she like it?

Ceyda: This school is beautiful. There is food; there is bed.

Ten children explained their reasons to like the school involving *actions* theme. They focused on the opportunities to play, different activities to do, and the things they learn at the school. This group emphasized the things they do in the educational process. Comparing children's reasons based on some attributes revealed differences by gender, interest in the activities, and age. The boys (8), the 3-4-year-olds (10), and children having dispersed interest (7) focused more on the environment than the actions. The rest of the participants noted both the environment and the actions while explaining why they liked the school. In sum, the majority of the disadvantaged children appeared to like the school for the physical resources available within the school as explained in the environment theme.

**The Level of Children's Elaboration.** This theme involved the scope of children's descriptions of the school. Their level of elaboration was reflective of their attitudes toward school. Some children explained the *complete* daily schedule of the school in an orderly manner (12), while other children provided *partial* descriptions, focusing on specific activities only (14). The partial describers elaborated their responses after the researcher's prompts like, 'What else? Is that all you do here all day?' The children's elaboration also differed based on their interest in activities and age. Almost all children having a dispersed interest (7) and more than half of children in the age group 5-6 (10) provided partial descriptions for the school. The following quote from a boy (5) exemplifies partial description:

R: You come in the morning, and you are here all day! Can you tell me what you are doing here until the evening?

Ahmet: We eat food...(child pauses here)

R: Hmm. What else?

Ahmet: hmm?...

R: Any other?

Ahmet: After that, we go to bed.

R: hhh...

Ahmet: We are getting up and doing lessons. We do coloring.

This boy, coming from a diverse family, had dispersed interest, and high absenteeism. According to the teachers' records, he also needed support in language development. The following response is a sample of a complete description of what children do in school:

Asena (4): We play toys, we converse a little [with the teacher], and then we do things like we do lessons. Then we go to bed, get up, eat our food, then watch some TV [cartoons], and when the service (school bus) comes, we go home.

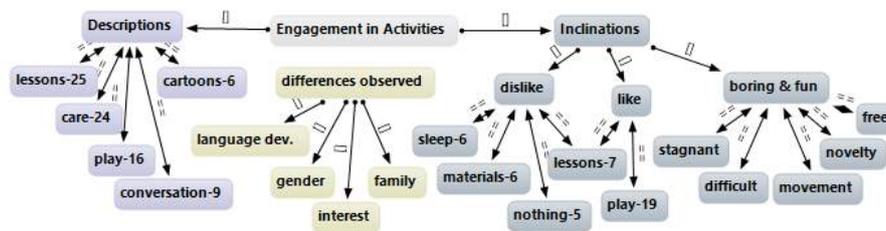
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<sup>8</sup> Child's age

This girl had a nuclear family and a continuous interest in school activities. She reached developmental milestones in the language domain. These observed differences in children’s descriptions according to their interests and age may be a sign of changing attitudes in time.

*Engagement in Classroom Activities*

The disadvantaged children’s explanations of what they do at the school illuminate their experiences at the level of engagement in the classroom activities. The way they describe the activities, their inclinations based on what they like at the school, and the words they choose revealed the nature of their engagement at the activity level. There were some differences in children’s narratives about certain activity types based on family structure, language milestones, gender, and interest attributes (Figure 3).



**Figure 3.** Children’s Engagement in Activities

**Activity Descriptions.** When describing what they do in school, children talked about five types of activities, including lessons, care routines, free-play, and conversation with the teacher and watching cartoons. Almost all children most frequently mentioned lessons, care routines, and play but the emphasis, content and the order of these activities in children’s narratives differed. For instance, the children most frequently mentioned the lesson as an activity, but many children remembered it after asking, ‘What else do you do here?’ They often referred to coloring just before the word ‘lesson’ indicating how they perceived lessons. A few children commented on counting and numbers. Figure 4 and Figure 5 show sample works from the age group (5-6). The researcher also observed that the teachers would say, ‘Now, we will do some lesson’ to work on coloring, arts-crafts, and worksheets. The teachers’ leading role and verbal transition in these activities appear to explain children’s construction of the lesson as something that the teacher asks them to do. Unlike the lessons, the care routines and free play came in the first order in children’s narratives. Care routines included having three meals and a prolonged sleep-time. When talking about free play, children noted playing in ball-pool, using toys and going to the playground.

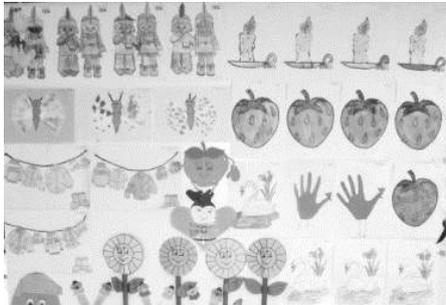


Figure 4. Sample Child Products



Figure 5. Sample Lesson

Only nine children talked about language-related experiences under the theme of conversation activity. Conversations included morning discussions and a review of new concepts in a didactic manner. Sometimes the teachers also read books. A noteworthy finding is that only three children reported reading or listening to books in the context of conversation activity. After searching the interviews for the word 'book,' the researcher found an additional eight children referring to the book corner or the coloring-books in the age group (5-6). They were mostly girls, children from diverse families, and children who needed support in language development. Finally, six children talked about watching cartoons at school. Children who mentioned watching cartoons were children from nuclear families, had continuous interest, and they appeared to reach developmental milestones in the language domain. During the fieldwork, however, children were watching cartoons at least once a day. Therefore, the researcher asked all children when and how often they watched cartoons at school. A sample response is as follows:

Selin (6): When we had nothing to do, my friends tell the teacher, 'should we watch cartoons?' and she would start TV, and we watch cartoons. Then, after we get up, my friends have nothing to do, we watch cartoons. When the service comes, we leave and watch the rest tomorrow.

Other children provided similar responses and said that they watched cartoons as they waited for the school bus in the morning and afternoon. It appears that children regard watching cartoons as an idle-time routine in school.

***Inclinations of Children for Activities.*** When describing the kinds of activities, children also explained the most liked and the least liked activities as an indication of their inclination. As Figure 3 shows, the majority of children (19) liked the free play, and a minority (7) liked lessons. Except for five children, they all had something that they *disliked* at the school<sup>9</sup> (i.e., some lessons (7), sleeping (6), and some materials (6), such as puzzles, books, and cars). Young children emphasized sleeping while the older group mentioned lessons and playing with specific materials as disliked activities.

<sup>9</sup> Two children disliked not getting prizes from the teacher; therefore, the researcher coded them elsewhere.

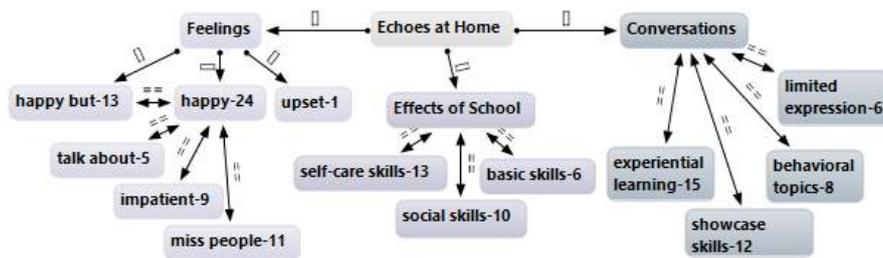
Some children indicated their inclinations using the adjectives ‘boring’ and ‘fun,’ and others implicitly merged these words into their verbal expressions. The following excerpt is from a boy:

Gokhan (4): We do not do anything here. We go to our class; then, we eat bread, then, we come to our class, then, we play toys, then we eat lunch, then we sleep, we sleep, we get up, then we eat, then we go back to our class, wait, and wait until the service comes.

The tone of this expression reveals a sense of triviality about what happens at school. For children, describing the activities using the words ‘fun’ or ‘boring,’ the pleasure appeared to be linked to play and some lessons if they involved free choice, novelty, and physical movement. For instance, they described going to field trips and playing in the ball-pool using the word ‘fun’ and shared their excitement with their parents at home, too. Children used the word boring, however, to describe sleeping, coloring, or counting objects, and they referred to the stagnant or ambiguous nature of these activities. In sum, the disadvantaged children were interested in free play and some activities, involving new learning and physical movement.

*Echoes of School Experiences at Home*

The disadvantaged children’s home life was the third dimension in their experiences of schooling. To understand how the children interacted with their family about their school experiences and to see how these experiences reflected at home life, the researcher asked questions about home context to parents and children. Parents reported their informal observations of children at home, and children talked about their home life during the interviews. These accounts revealed the echoes of children’s school experiences at home interactions. Drawing from the parents’ reported observations at home, Figure 7 shows these echoes in three areas: Children’s feelings about school, the effects of school for children and the content of conversations children and parents have at home interactions.



**Figure 7.** *Echoes of School Experiences at Home*

**Parental Observations of Children’s Feelings.** The parents’ observations verified children’s positive feelings about the school. They thought that the children were happy at the school (24). Only one parent noted that her son was not happy and said, “Ahmet (5) says, Mom, don’t send me tomorrow! I get very bored there ... They force me to eat olives and cheese.” The researcher also observed this boy throwing up once

when he had to eat olives for breakfast. The rest of the parents thought that children were generally happy at the school. Parents reported that when children were home, they talked about the school, were impatient to go to school, and missed their classmates and teachers (people). The following parent's observation exemplifies children's general reactions to the school at home:

Zara (6) is bored at home. She asks, 'When will the school start? When will I go to school?' She talks about her teachers all the time, wonders her friends, counts the days for school, in the morning, and evening, she wants school she loves it.

However, some parents (13) reported children's positive feelings with reservations and added that their children were *happy but* sometimes reluctant to go to school. They provided different reasons for this occasional attitude, including child's sickness, boredom, sleep patterns, school recess and need for maternal affection. Parents' reports of happy but reluctant explanations were consistent with children's absenteeism patterns, which added up to 96 days for some children. Indeed, the attendance sheets showed that the majority of these reluctant children that parents reported also had a high level of absenteeism. These findings are parallel with children's low inclination in some classroom activities. Although the children did not mention not liking the school during the interviews, some children mentioned boredom during certain activities and the majority had something they disliked at school.

**The School Effects Reflected at Home.** As for the effects of the school on children, the parents described the outcomes of schooling for their children and the joint activities they do at home. For the outcomes of schooling, the parents reported three areas of visible learning for their children. These areas included learning *self-care* skills (13), *social skills* (10), and *basic skills* (6). Only a few parents touched upon more than one area. As an example of self-care and social skills, the grandparent of Ali (6) said,

"He was a grumpy child, he wouldn't talk to anyone, would fight...he isn't grumpy any more (...) he learned how to eat and drink." For the basic skills, another parent noted, "Tuncer (4) didn't know how to hold a pair of scissors in the beginning. When I gave him a pen, he was scratching only. Now he doesn't have these differences, and he can draw now.

Parents' observations on the effects of the school are consistent with the teachers' developmental reports. The high frequency of care routines and the teacher-centered nature of 'lessons' in the school also appear to explain parents' observations of the effects of schooling.

For the possible home-enrichment using children's experiences in the school, the researcher asked children and parents about the activities and interactions they had after school. The data indicated a lack of stimulating experiences and limited enrichment at the home context. Both parents and children stated two to five different activities children do at home. The majority of children mentioned *playing* (23) and

watching TV (20) at home. Some children also reported coloring/homework activities (11), helping in housework (10) and going out with their family (6) (e.g., playground in the neighborhood, visits to doctor or relatives, and running errands). Neither children nor parents mentioned books or early literacy activities at home. Besides, children did not have toys or other tools, except a few, mentioning a bicycle, parents' phones or brother's computer. The accounts of parents and children were consistent with a few exceptions (Table 3).

Children also reported limited interactions with adults during these activities at home. Helping housework and going out were the only things that involved parent-child interaction for the majority of the children. Children and parents did no specific activity together in nine families. This case was specific to the families having infants, grandparent care, or parents with mental health issues. Almost half of the children had rivalry and conflicts with siblings at home, but they mentioned doing these activities with the siblings. The majority of children watch TV at home without the supervision of an adult.

**Table 3**

*Children's Activities at Home*

Activities	Children's activities at home		Interactions with Parents		Children's favorite activities at home	
	Children	Parent	Children	Parent	Children	Parent
Accounts by						
Playing	23	23	2	2	14	15
Watching TV	20	18	2	2	7	5
Coloring/ Homework	11	20	2	9	5	10
Housework	10	6	9	4	4	3
Going out	6	17	6	15	-	14

As for the most favorite activities at home, the children and parents frequently reported playing. The children played indoors or outside with their siblings, classmates, or other peers in the neighborhood. As was the case in the school, only a few children and parents mentioned watching TV as a favorite activity at home. While children's perspectives about the home activities were similar to their inclinations in classroom activities, there was a discord between children and parents' accounts regarding coloring, housework and going out. Parents mentioned coloring/homework and going out more often than children did. The final disagreement was about children helping housework. Although the girls reported helping parents in housework, parents did not mention this activity as much as children did. From these findings, the traces of home enrichment using educational experiences were only visible in coloring/homework activities for a limited number of children (11), and only five children showed school-related activities among their favorite activities at home.

*The Content of Conversations about the School.* The children's conversations about the school appear to differ when they go home. For the question of how, and if children talk about the school at home, each parent provided one to four different

topics that children shared with their parents during daily interactions. These involved four main themes, including *experiential learning* (15), *showcase skills* (12), *behavioral topics* (8), and *limited-expression* (6). The following quote illustrates a case in which a girl touches upon the behavioral topics about the school when her parent asks:

Jale (5) talks about the school if we ask (...) I am asking, how was your day? She says, 'Mom, my teacher gave me this gift; she gave me this prize. As you advise I did not piss my teacher off today, I slept, they gave me a prize, she says. I ate my food, and they gave me a prize', she says. I'm asking somehow, and then she explains.

Although each parent mentioned a mix of these themes for their child, their accounts indicated that the majority of children either excitedly talked about activities when they involved the use of multiple senses (e.g., field trips, planting); or liked to show what they learned at school (e.g., singing new songs). Some children also explained the prizes or punishments they got. Besides, six parents stated that their children were not verbally expressive. As the quote provided above had shown, these children only talked about the school if their parents asked.

#### Discussion, Conclusion and Recommendations

This qualitative case study explored the early schooling experiences of disadvantaged children at the Happy Ants Preschool. The basic dimensions of schooling experiences included children's attitudes toward school, engagement in daily activities, and echoes of school experiences at home. Compared to other schools in the Turkish education system, the school had more than sufficient physical and human resources for preschool education. However, the findings suggest that access to resources does not mean quality educational experiences for all children, and there is room for improvement. Nearly half of children missed school days much above official limits, needed extra support for different developmental domains, and all had inadequate stimulation and low-quality interactions with the parents regarding the school experiences. Comparing children's experiences based on gender, age, developmental milestones and family structure yielded some differences in their accounts. Although disadvantaged children appeared to have positive attitudes toward school, their experiences involved limited engagement in certain activities. The echoes of school experiences at home context were congruent with children's preferences, and nature of engagement in school activities and their home life enrichment through schooling was poor. These findings, mainly derived from the children's perspectives, contribute to emerging research with disadvantaged groups and add to the growing body of literature emphasizing child voice in early education settings.

The finding that disadvantaged children liked the school, and they were happy despite the occasional reluctance of some children, corroborates with previous research investigating children's perspectives about early childhood settings. These studies reported children's positive feelings or dispositions about the early education settings in different countries (Krag-Muller & Izbell, 2011; Perry & Dockett, 2012; Puroila et al., 2012; Trudgett & Grace, 2011). However, there were also instances of

unhappiness for disadvantaged children. Grace et al. (2018) studied young children's experiences of educational settings in disadvantaged communities of Australia and pointed out that more than half of children had negative emotions for the center. Similarly, Ceglowski and Bacigalupa (2007) reported some children's negative experiences of child-care and gave an example of an Ethiopian boy preferring to be at home rather than being in the childcare center. In the present study, two children had negative feelings for the school. One child with special needs and the other child being forced to eat disliked food. Parents reported occasional reluctance about attending school for some children. Despite the reported happiness of children, high absenteeism and dispersed interest in activities, as well as observed developmental needs of children, indicate gray areas in their attitudes toward the school. Taking into account the findings for the weak enrichment in children's home life using schooling experiences and parents' observations of children's learning only in self-care, social and basic skills, the children appear to be not reaching their actual potential. These findings highlight the need for more supportive and inclusive educational practices for all disadvantaged children. Otherwise, the schools may act as additional sources of adversity for disadvantaged children.

Puroila et al. (2012) emphasized the positive characteristics of the material environment, adults, friends, and activities for children's happiness in early care and education settings. However, it is not clear if the presence of some of these elements could be a measure of happiness in schools for disadvantaged children. The finding that more children were focusing on the physical resources in the school environment than the children focusing on the schooling processes is a unique contribution of the study to the literature. Children liked the school for resources, such as toys and food, and they described the school as a beautiful place. Their explanations also differed based on gender, observed interest and age. Disadvantaged children's focus on the environment while explaining why they liked the school may relate to their inadequate living conditions at home.

Preoccupation of the 3-4 year-olds with toys and the boys' dispersed interest in activities extend the results of some other studies. In similar lines, King and Howard (2014) noted preferences of young children for object play. Winer and Phillips (2012) emphasized boys' experience of lower quality childcare compared to girls. However, the finding of children's changing levels of elaboration in school descriptions, either as being complete or partial, is somewhat inconsistent with previous research. Wiltz and Clein (2001) explored children's experiences of child-care in different settings and noted that children in low-quality centers tended to describe activities in a rigid order, whereas children in high-quality environments only emphasized some crucial events. The older age group and those with dispersed interest provided partial descriptions in this study. These children's partial elaboration may relate to their prior experiences in school.

The disadvantaged children's inclination for play was an expected result of the study. Play is the most essential and valuable engagement for children regardless of where they play, whether it is at home or school, and if it is indoors or outdoors. In the present study, children focused on free play as their favorite activity. They

reflected these experiences in their interactions with their parents as well. Children's descriptions of activities showed their preferences for play and thirst for novelty and physical movement in school activities. These findings consistent with earlier studies noting the play as a valuable part of school experiences for children (Krag-Muller & Izbell, 2011; Kyronlampi-Kylmänen & Määttä, 2012; Perry & Dockett, 2012, Wu, 2019). However, a few children did not like some play materials in the classroom and a few did not even mention play. Children have an internal motivation for play and its learning outcomes for children may be higher if teachers make open-ended play materials available in classrooms. The findings on children's enjoyment from physical movement and field trips resonate well with previous research emphasizing the importance of outdoor spaces for children's engagement and wellbeing (Blanchet-Cohen, & Elliott, 2011; Moore, Morrissey, & Robertson, 2019). Occupying children with simple coloring activities and developmentally inappropriate worksheets may be a source of boredom for disadvantaged children in this study. Involving children in outdoor activities more frequently and opening further space for field trips may contribute to disadvantaged children's further engagement in other school activities.

The findings related to children's the least liked activities also illuminate their experiences of schooling at the activity level. Although some children disliked lessons for being stagnant or difficult, still the majority of the children mentioned the lessons as part of the daily schedule in the school. This result is at odds with some studies noting the absence of structured and teacher-led activities in children's narratives about the school (Einarsdottir, 2008; Grace et al., 2018). Even though children frequently mentioned care routines in the classroom, sleeping was also among disliked activities. This finding contributes to the critiques that recent studies make about sleep-rest times (Gehret et al., 2019; Nothard et al., 2015). Offering choices and providing flexibility to children in sleep-rest times may support their learning and engagement.

The results related to the language-related activities are notable for disadvantaged children in this study. Children's low frequency of responses, including the word 'book' was reflective of the condition of the books and teachers' frequency of reading books in the classroom. The finding that very few children mentioned the books in the context of the conversations with the teacher is somewhat similar to the findings of Grace et al. (2018). In their study, the children in disadvantaged communities did not talk about books although they had plenty of books and reading activity in the classrooms. However, in the present study, 5-6 year-olds children had access to quality books during the project implementation in the original research (Arikan, 2016); and notably, only these children mentioned the books. This finding suggests that having sufficient books and open-ended discussions have the potential to attract disadvantaged children's attention. Also, the girls from diverse families and those who needed language support mentioned the books. This finding may be an opportunity window for children with limited language skills. We know that children from low-income families need support in developing their language skills (Golcuk, Okur, Berument, 2015; Hayakawa & Reynolds, 2014). In this sense, increasing teachers' capacity to foster disadvantaged children's language development should be a priority (Dickinson, 2011).

It was a surprising finding that children often watch TV/cartoons in both home and school settings, but there were very few who liked watching TV. This finding parallels children's limited quality interactions with their parents at home. In a previous study, Ceglowski and Bacigalupa (2007) reported 'widespread viewing of videos and the use of video games' among young children in childcare settings. If selected carefully, viewing the digital content under the guidance of teachers in preschools may support children's language and cognitive development (Lee, Spence, & Carson, 2017). The finding on the meaning of watching TV/cartoons as an idle-time activity for children, however, implies a lack of cognitive stimulation and waste of valuable learning time in both school and home contexts. Although it may not be a common practice in other early education settings, children meet TV during infancy, and it becomes an inseparable part of their daily routine at home (Aral & Dogan Keskin, 2018). Increasing child-friendly educational content in free channels of the TV may provide disadvantaged children with necessary language exposure and cognitive stimulation at home.

The echoes of school experiences at home showed that children had inadequate stimulation, limited interactions with their parents and poor enrichment at home. While this was an expected result, it is a significant contribution to the limited literature on school-home connections for disadvantaged children (Kuger, Marcus, & Spiess, 2019). Increasing the number of quality activities and involving families in education through using culturally relevant practices may contribute to disadvantaged children's home life and future success in elementary school. These can also build strong bridges between school and home for sustainable outcomes in education.

This paper described young children's schooling experiences in a preschool designed for disadvantaged groups. Some children's boredom from specific activities, prolonged periods of care routines, high absenteeism and the occasional reluctance of some children, and children's preoccupation with the resources may be a sign for the need to increase quality in the school. Offering stimulating, concrete and challenging experiences to disadvantaged children may support their development and increase their engagement in different activities in preschool (Arikan & Kimzan, 2016). For this, educators need to listen children's voices and observe their interests in different activities. They should also pay attention to children's absenteeism during school days (Arikan, 2015).

This study was limited to children who attended summer school; therefore, the findings may not be applicable for other children who chose a recess in the school. Still, the results obtained from the participating children's perspectives highlight the need to reflect on changing educational discourses around the world on inclusive, universal and child-centered practices (Haan et al., 2013; Harris, 2015). In this sense, decision-makers may aim for policy changes to move toward inclusive educational experiences for disadvantaged children. Besides, teacher education programs should support prospective teachers to meet the challenge of teaching in diverse settings (Lampert & Burnett, 2016; Jensen, 2009). Future research may investigate

disadvantaged children's educational experiences in mixed schools and further examine home-school connections in these contexts.

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## Okul Öncesinde Dezavantajlı Çocukların Okullu Olma Deneyimleri: Tutumlar, Katılım ve Etkileşimler

### Atf:

Arikan, A. (2020). Schooling experiences of disadvantaged children in preschool: Attitudes, engagement and interactions. *Eurasian Journal of Educational Sciences*, 86, 1-24, DOI: 10.14689/ejer.2020.86.1

### Özet

*Problem Durumu:* Geçmişten bugüne risk altında, kırılğan, düşük gelirli, yoksul, dezavantajlı gibi sıfatlarla tanımlanan çocukların özgün yaşam koşulları, eğitim ihtiyaçları ve bu koşulların çocuklar üzerindeki etkileri pek çok araştırma ve politika girişimine konu olmuştur. Çoğunlukla dezavantajlı gruplardan çocuklarla yapılan bu çalışmalarda kısa vadeli gözlenebilir etkiler konusunda bir fikir birliği vardır. Uzun dönemli etkilere yönelik ise çeşitli sorunlara işaret edilmektedir. Bu gruplarda çocukların eğitim kaynaklarına erişimini sağlamak yeterli olmayıp aldıkları eğitimin her açıdan nitelikli olması gerekmektedir; çünkü bu, çocukların uluslararası sözleşmelerle güvence altına alınmış temel haklarından. Bu çalışma da hak temelli bir çerçeveden hareketle bu tür kurumlarda eğitimin niteliğinin tartışılmasında çocukların bakış açılarının dikkate alınmasını vurgulamaktadır. Çocukların bakış açılarına dayalı çeşitli araştırmalar olmakla birlikte dezavantajlı çocukların okul konusundaki deneyimlerine odaklanan çalışmalar sınırlıdır.

*Araştırmanın Amacı:* Bu çalışmanın amacı dezavantajlı koşullarda yaşayan çocuklara hizmet veren bir anaokulunda çocukların eğitim deneyimlerini betimlemektir.

*Araştırmanın Yöntemi:* Bu çalışma farklı yöntemlerin sentezlendiği büyük çaplı bir nitel araştırmanın parçası olup, durum çalışması deseninde elde edilen verilerin bir kısmının işlenmesine dayanmaktadır. Çalışmanın katılımcılarını dezavantajlı gruplara hizmet veren bir anaokuluna kayıtlı 3-6 yaş aralığındaki çocuklar arasından belirlenen toplam 26 çocuk ve aileleri oluşturmuştur. Veri toplama tekniği olarak çoklu yöntemlere başvurulmuştur. Bu çalışma kapsamında çocukların bakış açılarına odaklanıldığından çocuklarla yapılan yarı-yapılandırılmış görüşmeler temel veri olarak kullanılmıştır. Ebeveyn görüşmelerinden bazılarını, gözlemler, yoklama listeleri, çocuk ve aileye ait bilgiler içeren kurum belgeleri ve araştırmacı günlüklerine ise çocukların bakış açılarına destekleyen ikincil veri kaynağı olarak başvurulmuştur. Çocuklarla yapılan görüşmelerde büyük boy bir dolgu bebek kullanılmıştır. Veri analizinde sürekli karşılaştırma ve tümevarım yaklaşımına başvurulmuş ve ATLAS.ti 7. Yazılımı kullanılmıştır.

*Araştırmanın Bulguları:* Araştırmanın gerçekleştirildiği anaokulu, her sınıfta iki öğretmen olmak üzere okul öncesi eğitim için yeterli fiziksel kaynaklara ve insan kaynaklarına sahiptir. Bununla birlikte, görüşmelerden ve kurumsal belgelerden elde edilen bulgular, kaynaklara erişimin tüm çocuklar için kaliteli eğitim deneyimleri anlamına gelmediğini ve eğitimde geliştirilmesi gereken yönler olduğunu göstermektedir. Çocukların neredeyse yarısı resmi sınırların üzerinde devamsızlık yapmış, farklı gelişim alanları için ekstra desteğe ihtiyaç duyduğu belirlenmiş ve hepsinin evde yetersiz uyaran ortamında yaşadığı anlaşılmıştır. Çalışmaya katılan dezavantajlı çocuklar okula karşı olumlu tutumlara sahipmiş gibi görünse de, deneyimlerinin belirli etkinliklere seçici katılım ve ebeveynlerle okul konusunda sınırlı etkileşimler içerdiği bulunmuştur. Ev ortamında eğitim deneyimlerinin yansımaları çocukların etkinlik tercihleri ve okuldaki çalışmalara seçici katılımı ile uyumlu olmakla birlikte çocukların okul deneyimlerinin ev yaşamını zenginleştirme yönünden zayıf olduğu görülmüştür. Cinsiyet, yaş, gelişimsel kazanımlar ve aile yapısına göre yapılan çeşitli karşılaştırmalarda çocukların deneyimlerinde dikkate değer farklılıklar gözlenmiştir.

Dikkat çekici bulgulardan en önemlisi çocukların çoğunun okulu sevme sebebi olarak fiziksel ortama vurgu yapmış olmasıdır. Bu bağlamda, oyuncaklar ve yiyecek gibi öğelere konuşmalarında yer vermişlerdir. Öğrenme, etkinliklere katılma ve oynama gibi eylem içeren, sürece yönelik öğelere vurgu yapanlar ise daha az sayıdadır. Çocuklar en fazla oyun etkinliğine dikkat çekmiş, uyku rutini konusunda hoşnutsuzluklarını dile getirenler olmuştur. Çocuklar okulda ve evde sıklıkla TV izlemelerine karşın hoşlandıkları etkinlikleri açıklarken TV'den bahsetmemişlerdir. Çocuklardan bazıları kitap ve okuma gibi dil etkinliklerine konuşmalarında yer vermiş; yenilik/farklılık ve fiziksel hareket içeren etkinliklerde eğlendiklerini ifade etmişlerdir.

*Araştırmanın Sonuçları ve Öneriler:* Çocukların bakış açılarına dayalı olarak elde edilen araştırma bulguları öncelikle dezavantajlı gruplarla ilgili yeni gelişmekte olan araştırmalara ve erken eğitim ortamlarında çocuk bakış açısını vurgulayan alanyazına katkıda bulunmaktadır. Araştırmadan elde edilen sonuçlar, dünya çapında kapsayıcı ve çocuk merkezli felsefeler yönünde değişen eğitimsel söylemler üzerinde yansıtma yapmanın gerekliliğini vurgulamaktadır. Dezavantajlı çocukların eğitimi konusunda öğretmen eğitiminde boşluklar olduğuna dikkat çekilmiş ve kapsayıcı eğitime yönelik politika değişikliğine gidilmesi yönünde karar vericilere çağrıda bulunulmuştur.

*Anahtar Sözcükler:* Erken çocukluk eğitimi, çocuk katılımı, düşük gelirli aileler, yoksulluk, durum çalışması, kapsayıcı eğitim.



## Model of Performance Improvement of Certified Teachers in Private Vocational Schools

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### ABSTRACT

**Purpose:** This study aimed to investigate a performance development model of the certified teachers at private vocational schools through school principal leadership, working environment, and teachers' alleviating motivation.

**Research Method:** This research was conducted using a descriptive correlation approach with a multiple regression analysis. The data were collected using a purposive random sampling technique with total respondents of 118 certified teachers from various private vocational schools in Tegal, Central Java, Indonesia. The data were gathered through questionnaires and then analyzed using SPSS 12.

**Findings:** The regression analysis testing results indicated that (1) school principal leadership with the correlation coefficient of 0.83 positively and significantly influenced the performance of certified teachers by 82.8%, (2) working environment with the correlation coefficient of 0.877 positively and significantly influenced the performance of certified teachers by 87.7%, and (3) affiliating motivation with the correlation coefficient of 0.035 did not positively and significantly influence the performance of certified teachers by 3.50%. The results of multiple regression analysis showed that performance of certified teachers was influenced by school principal leadership, working environment, and teachers' affiliating motivation.

**Implications for Research and Practice:** Based on the research results, it is suggested that the private vocational principals should continuously improve their leadership and create positive working environments as these variables positively influence teachers' performance, while teachers' affiliating motivation should also be considered.

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## Introduction

The fundamental issues of National Education System in Indonesia have lasted for about a half century, especially from the perspective of teacher's profession. According to Sidi (2001), a professional teacher is required to have qualified professional education and scientific competence, good communication skills with learners, creativity and productivity, working ethics and commitments to his/her profession, and always continuously develop himself/herself. Of 2.6 million teachers in Indonesia, a proximally half of those do not have adequate competences to teach. In 2006, it is recorded that 15 percent of teachers do not teach based on their field of expertise (Wagiran *et al.*, 2013). Isjoni (2009) states that teachers should have good competences to encourage learners have good competences as well. Thus, teachers should pursue their educator certification.

Most people expect that teachers should have competences. Teachers should be able to effectively and appropriately develop their performances (Moran *et al.*, 1998). Teachers' participation in decision making affects their profession as they successfully obtain some achievements. Among teachers in an urban, Midwestern school district, the greater freedom teachers felt to make decisions affecting their own classrooms, the greater was their general teaching efficacy. Teachers who felt they had a greater influence in school-based decision-making and perceived fewer impediments to teaching had a stronger sense of problems on teaching efficacy (Moore & Esselman, 1992). Teachers with capabilities on teaching and learning aspects, including program planning, learning process implementation, classroom management maintenance, optimal learning control, and learning outcome assessment are highly required due to the commitments to their profession. However, it is actually limited completely by the institutions (Zimmerman, 1989). Karabay (2016) suggests that in teaching-learning process, a teacher is not only a guide but also a leader while the students should be active. It is viewed that a teacher is regarded as a knowledge facilitator rather than the only source of information.

Those problems are still growing with teachers who teach beyond their field of expertise. Lack of professional knowledge, incompatible educational background, and lack of working motivation lead to teachers' low performance. Nurlaela (2008) in her descriptive study on the certified teachers' performance concludes that (1) on qualification elements and main duties, the compulsory teaching credit is 24; (2) most teachers still participate in trainings to improve their competences as their paper and research writing competences are still low; and (3) teachers rarely participate in scientific forums.

Baedlowi (2009) states that basically teacher's performance either before or after certification is still low, and it requires serious attention. Teachers who have obtained certification do not significantly improve their performance. The teachers' motivation for certification is not actually to improve their competence, but on financial matters in the form of profession allowance. The other survey finding conducted by the Indonesian Teachers Association concerning the impact of teachers' professional certification on teachers' performance shows that the performance of teachers who

have obtained certification is still not satisfying (Wagiran, 2013).

The teachers' complicated problems are due to the poor teaching management, including their performance management. Teacher supervisory activities do not comprehensively consider factors which influence their performance. It is consistent with an analysis conducted by Djohar (2006: 5-6) stating that challenges related to the teachers' quality are in the form of personal, social, competence, profession, and skills in performing their duties.

Those various problems show that it is necessary to improve teachers' performance. Teachers with low performances are not only failed to meet the criteria/standards, but may also cause bad influences to others (Jones, Jenkin & Lord, 2006: 2). Teachers with low performance may cause negative impacts in terms of (1) school reputation and image to the society, (2) school performance achievement, (3) other teachers' performance, (4) support staffs' performance, and (5) school leadership and management. Theoretically, performance is interpreted as an individual's overall results or success rate in certain periods in performing the duties compared with working result possibilities, targets or criteria which were previously determined and agreed. A study on performance resulted is in accordance with a theory formulated by Cascio (1998: 267); Hersey and Blanchard (1996: 406), the desired theory related to the working result and goal achievement used as employees' decision-making. Banks and May (1999: 118) reveal that performance is related to the completion of duties accomplished by individuals who have met the requirements that performance can be measured from the result aspects.

The provisional findings of a survey conducted by the Indonesian Teachers Association concerning the impacts of teachers' profession certification on their performance conducted in 16 of 28 provinces show that the certified teachers' performance has not significantly increased (Wagiran *et al.*, 2013). The certified teachers generally do not show any progress in terms of pedagogical, personal, professional, and social aspects. Teachers are only active when approaching to the certification completion time. Once the teachers complete certification, their quality decreases, even the research results (Baedlowi 2008) show that teachers are still only delivering the teaching material content (subject matter oriented) and lack encouraging students to be active (teacher-oriented), meaning that the teachers' performance is still very low. The teachers' low performance mainly in teaching is characterized with their lack of understanding on learning strategies, poor classroom management proficiency, low ability in performing and utilizing classroom action research, low achievement motivation, lack of discipline, lack of commitment to their profession, and poor time management skills (Mulyasa & Edward, 2002).

Many factors influence the teachers' poor performance, such as affiliating motivation. It is in accordance with Davis's statement (in Mangkunagara, 2008) mentioning that factors influencing performance achievement is motivation ability which means leaders' and employees' attitudes to the working environment or situation within organization. In the world of employment, motivation is the most important element that employees should have. Motivation is someone's ability to

make some efforts to achieve the goals and fulfill his/her needs.

The teachers' performance is influenced by many factors. Due to the purposes of this research, the authors limit the influencing performance factors by only three variables covering school leadership, working environment, and affiliating motivation. Accordingly, research problems are formulated as follows:

1. Is the certified teachers' performance influenced by school leadership?
2. Is the certified teachers' performance influenced by working environment factor?
3. Is the certified teachers' performance influenced by the affiliating motivation?
4. Is the certified teachers' performance simultaneously influenced by all of those three factors of principal leadership, working environment, and affiliating motivation?

Based on the vocational school changes and the existing theoretical bases, the researchers think that if the teachers' understanding on the working environmental norms increases, the roles of school principals may also change and with the increasing teachers' affiliating motivation, understanding on teachers' working performance norms may also increase.

## Method

### *Research Design*

This research uses *ex post facto* approach with a correlation design to examine the direct influence of exogenous variables on endogenous variable. The exogenous variables consist of school leadership (X1), working environment (X2), and affiliating motivation (X3) while the endogenous variable is the certified teachers' performance (Y).

### *Research Sample*

The population target unit of this study was private vocational teachers in Tegal. There were 118 legally certified teachers spread in 17 schools. Teachers who passed the certification at this time were 118. Samples were collected using a random sampling technique. The samples were determined through Yamane's formula (1967),  $n=N/(1+Ne^2)$  and then resulted in 34 samples, but we used 40 respondents.

### *Research Instruments and Procedures*

This research used an instrument in the form of questionnaires, including school principals' leaderships measured with a particular model (Burhanuddin, 1994) as a modification study previously conducted by Siagian (1992). Teachers' working environment and working environment quality questionnaires are modified by Robbin (2006, pp.240-246), and Sudarwan (2005). Affiliating motivation with four components of motivation measurement model is developed by Celland (in Sarwono, 1998), and Chaplin (1999: 14). Teacher performance measurement performance model

consists of (mental and physical) abilities and skills, background (family, social level, experience, demography [age, origin, gender]) (Ravianto, 1985, p. 18).

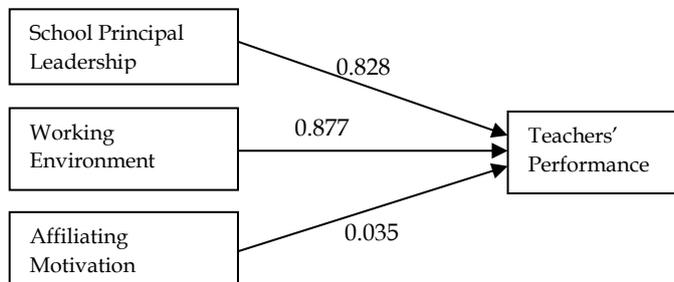
### Data Analysis

All those variables were measured in a five-point Likert Scale. Path analytical technique was used to examine the hypotheses (Al Rashid, 1994) with the assistance of SPSS application program for Windows version 19 at the significance error level of 5% as well as to determine the proportional influence by using a formula used by Siburian (2012). The SPSS analytical results in the column of item total statistics were bigger than the  $r$  values in the product moment correlation table (Sukestyarso, 2010: 5). If the number of Cronbach alpha is greater than the value  $f$  0.6, the items are then considered reliable (Ghozali & Fuad, 2005, p. 136). According to the analytical results, coefficient working environment variables were represented by 0.836, school principal leadership by 0.848, affiliating motivation by 0.790, and teachers' performance variable by 0.899. Those values were greater than 0.6; that is, the items related to the variables were reliable. The numbers on the corrected item total correlation column in the table of Item Total Statistic of working environment, school principal leadership, teachers' affiliating motivation, and performance variable were greater than  $r$  table of 0.316. Thus, all variable statement items were considered valid. This study used a Path statistical technique or cross Analytical Method (Solimun, 2002, p. 23). Ferdinand (2002, p. 135) states that path analysis is an analysis used to explain the causal relationship between one or more variables. The influence testing is conducted using path analysis with SPSS 12 program.

### Results

The results showed that school principal leadership, working environment, and affiliating motivation had significant influence on those certified teachers' performance. With the coefficient value of 0.828, it meant that school principal leadership, together with working environment and affiliating motivation, had positive and significant and positive influence either directly or indirectly on the certified teachers' performance.

In the form of equation model, it is standardized as follows; the first equation is Teacher Performance  $Y = 0.828$  with School Principal Leadership =  $\xi_1$ ; the second equation is Teacher Performance  $Y = 0.877$  with Working Environment =  $\xi_2$ , and the third equation Teacher Performance  $Y = 0.035$  with Affiliating Motivation =  $\xi_3$ .



**Figure 1.** Multivariate Analytical Results of school principal leadership, working environment, and affiliating motivation variable on the certified teachers' performance

The results showed that when the school principal leadership was properly implemented, it influenced the teachers' performance working in favorable school environment and stimulated them to grow and develop leadership to achieve the goals, and may then significantly influence their working performance maximally. A person's leadership type influences the working process since leadership is related to how the decision is made, and the relationship is maintained between superiors and subordinates. School principal leadership in Private Vocational Schools in Tegal is at good perception by 55% and at unfavorable perception by 45%.

School principal leadership, working environment, and teachers' affiliating motivation significantly and positively influenced the performance either partially or holistically. The correlation coefficient of school principal leadership on teachers' performance ( $r_{xy}$ ) was 0.828, and the influence value was 0.172 (45%). It showed that if the school principal leadership performance improved, then the teachers' performance might also develop, and vice versa.

### **Discussion, Conclusion and Recommendations**

Due to those findings, it is necessary for school principals to understand leadership model oriented on subordinates, principles and changes, future, emotional expression aspects (Robbin, 2006, p. 146), duties and behaviors during the works, learning autonomy, capacity building (Syafirudin, 2002, p. 67), functional approach to improve teachers' performance, (how to become a leader), behaviors (how to behave as a leader), and successfulness (what makes the leader effective) (Wahyusumidjo 2007, p. 19). The teachers' performance improvement levels are influenced by school principal leadership. It indicates that the teachers' performance is naturally established, yet within the active role of school principal as the leader through the functional approach to improve the teachers' performance in performing their duties, the principal should have the ability to perform his/her duties as a professional leader, providing good paragon to the teachers, to highly motivate the teachers' performance to work better at school. The teachers who are already satisfied with their work will have positive attitudes to accomplish the jobs as good as possible which results in a good performance. Milton in Burhanuddin (1994, p.162) states that when a person is satisfied with his/her work, then he/she will have a positive attitude regarding to his/her work. The intended positive attitude is a good performance. Demir (2008) has demonstrated that transformational leadership contributes to teachers' self-efficacy, collective efficacy, and collaborative culture. This study strengthens these results by finding similar relationships of transformational leadership with teachers' self-efficacy, collective efficacy, and collaborative culture. In addition, this study has provided evidence that teachers' self-efficacy and collaborative school culture moderated the relationship between transformational leaders and collective teacher efficacy. Ozmen *et al.* (2016) recommend that school managers and teachers adopt an open-door policy for parents; and the schools should take the initiative of realizing

collaborative efforts among the school staff, parents, and other relevant institutions in order to eliminate communication barriers. It is seen that teacher candidates offered some strategies reinforcing a positive classroom atmosphere such as knowing students and the effective use of non-verbal messages and communication methods to struggle with unwanted classroom behaviors. In addition, it emphasizes that the teacher is an important factor in creating the classroom atmosphere. It is important that classroom has to be considered as a democratic and social system and the teacher's positive personal characteristics are highlighted (Ozsezer & Saban, 2016). The results are encouraging and suggest that teachers should involve more in design and development of web based materials to help students to learn (Akpinar & Bayramoğlu, 2008).

Characteristics are highly essential aspects to face the global competitions (Su-Yung Fu, 2000) that willingness are made through various efforts to achieve the organizational goals (Koont, 2000, p. 659), subordinates, in this case, teachers feel the trust, pride, loyalty and respect that they are eventually motivated (Bass, 1985 in Natsir & Syahir, 2004, pp. 2-3).

The formula of teachers' performance in this research is the results achieved by the teachers in performing the duties given regarding the ability, experience, persistence, and time with the resulted output reflected from the quality and quantity. The level of teachers' performance may be seen from the implementation results upon their main duties and functions in a certain period. Individual or group performance on duties and functions is not an independent dimension, yet it is related to the influencing factors. Performance is a function of ability (A), motivation (M), and particularly affiliating motivation and opportunity (O) may be considered as working environment (situation). In other words, performance is determined by factors of school principal's leadership, teachers' affiliating motivation, and situational factors, that is the working environment. It shows that performance is not only influenced by internal but also external factors (Byars & Rue, 1991, p. 250; Kierstead, 1998, pp. 1-2; Robbin, 2006, pp. 240-242).

Teachers' performance may be formulated that optimal teachers' performance is driven by the strength of the internal/individual factors (such as commitment, motivation, and ability), as well as of the supporting external (situational) factors (such as, adequate incentive, supporting leadership and preferable school condition). Similarly, the school principal leadership or the preferable environment and the other work-related motivation are essential factors for teachers. Higher motivation may shape someone's attitude in building his/her professional commitment. Greenberg and Baron (1997, p. 177) state that someone's attitude upon his/her job is the commitment of someone to his/her employer.

Clelland (in Sarwono, 1998, p.70) states that everyone has the need for power, that is a need to dominate or control others; need for achievement, that is a need to achieve success; and need for affiliation, that is a need to direct someone's attitude to get in touch with others. Someone who has a strong motivation to success tends to pursue his/her own achievement than the incentives or rewards upon his/her success. They are highly motivated to do something better and more efficient than the previous

results which is called the need of *achievement* “*nAch*”, that is the motivation to do the jobs as good as possible to gain achievement with a predicate of excellence/with compliment (Mangkunegara, 2008).

Higher working motivation may have positive influence on the working environment and vice versa. Higher motivation may improve teachers’ working result or performance and school management controlled by the school principle to provide the best way or method and to pay more attention to the teachers to work more effectively.

The other influencing factor on teachers’ performance is the working environment. In facts, teachers are not only working but also expecting reasonable salary and convenient working environment including openness, attention, support, and reward. Achievement-based working environment and attention on staffs/teachers may improve the desired achievement results. Boredom and resentment felt both in the workplace and environment, such as lack of supporting friends and lack of support from higher superiors’ policies may inhibit the working patterns and working atmosphere. On the other hand, laziness, boredom, and lack of supporting environment may lead to poor teachers’ performance.

Hughes (1993) reports that an organizational performance is influenced by the school environmental situation or atmosphere. A teacher’s performance is presumably influenced by the environment where he/she is performing the duties. Sophisticated condition has positive relationship with the working achievement.

In developed countries, researches on school working environment or climate have been growing which establish and contribute significantly to the development of effective schools (Cohen, *et al.*, 2009; Thapa & Cohen, 2013). Mangkunegara (2008) concludes that achievement motivation positively influence performance achievement. It means that leaders, managers and staffs with higher motivation may also reach higher achievement, and vice versa.

The success of school management is highly determined by human resource empowerment which depends on efficiency and effectiveness of school principal performance (Wahyosumidjo, 2007, p.349). Similarly, Snyder *et al.*, (1991) conclude that there are no good schools without good principals. School principal should have the ability to empower all school human resources to reach the school’s objectives and particularly should have the ability to improve teachers’ performance through human resource (teachers) empowerment

The subsequent results find that working environment has a direct influence on teachers’ performance. It is characterized by the hypothesis which generate working environment with a significant influence on teachers’ performance. It is obvious that respondents positively respond (excellently and very well by 0.877%). The correlation of working environment variables on teacher performance is equal to 0.877. It means that the working environment created with the favorable/fun atmosphere may provide positive supports to the teachers’ jobs with a contribution of 87.7%.

The respondents' perceptions are revealed through those who answer the questions based on reality. The better the school principal's ability to perform his leadership, the better the teachers' performance may improve in performing their duties as school educators. Performance is the output driven from processes, humans, or otherwise. Thus, performance may be considered as the process output result (August, W.S. in Sedarmayanti, 2007, p. 50). Performance is highly influenced by the working ability, environment, incentives, competencies, knowledge, leadership, motivation and working experience (Simanjuntak, 2005). The other factor is the favorable environment which may encourage teachers gain more optimal achievement based on their interest and abilities. Organizational atmosphere may become the major driving force for employees to deliver their best performance. The most essential factor to improve the teachers' performance is the physical working environment in which teachers perform their daily activities related to the illumination or light, air, and working equipment conditions. The implementation of teachers' duties and jobs may be well performed if supported by the adequate lighting and air conditioning as well as healthy working spaces and low level of noises. Adequate working environment is expected to influence and lead the teachers to achieve the predetermined goals.

The teachers feel the pleasing atmosphere when they do something beneficial and worthwhile, such as when they are assigned for responsibilities, involved in organization, committed the duties, and related to open organizational policies structures and the supported management practices.

According to the factual field information, uncertified teachers have good performance while the certified teachers' performance is considered not satisfying. Higher working performance is in fact shown by those who have not obtained certification as they expect to obtain it.

The other results show that the performance of certified teachers due to the affiliating motivation is not significant and has no influence characterized by hypothesis testing. That is, teachers' affiliating motivation on their performance are not proven having significant influence. Teachers' affiliating motivation influences their performance ( $r_{xy}$ ) by 0.035 (the influence value is 3.5%). It means that when teachers' affiliating motivation is increasing and they feel satisfied with the work, their performance will also increase better, and vice versa.

The unproven testing is basically due to various factors related to the teachers' affiliating motivation as someone's motivation comes from inner and outer components. The teachers' performance may improve when the school principal gives them autonomy in teaching, developing their abilities, and improving their working appreciation. It is expected that by having good school principal leadership, new ideas and opportunities may grow and develop better including to their functional status fulfillment. A research on teacher performance is conducted using these indicators: ability to plan a teaching-learning program, ability to implement or manage learning processes, ability to assess learning processes, and ability/mastery on technology to support the teaching-learning activities.

The teachers' lack of competence may lead them to be less advantageous for learners, especially for the certified teachers or educators. This finding is in contradiction with the reality that most teachers are still oriented on the delivery of subject matters and teaching-learning process which poorly encourage learners to become active (teacher centered), (Baedlowi, 2008). The existing problems in vocational schools are lack of teachers' skills in teaching productive subjects. Data taken from P4TK Malang in 2007 on teachers' competence test training show that there are only 6 of 12 teachers who pass the test, which means that vocational teachers' competence is still poor, and even there are some teachers who do not know the development of technologies for teaching-learning processes. Vocational school teachers have experienced stagnation for years. Thus, it is necessary to investigate whether the certified teachers have good performances or not.

From the results above, it shows that the average performance of private vocational school teachers in Tegal City is considered good as there is no private vocational school teacher in Tegal with low performance. Most respondents' answers in the questioners given related to the certified teachers performance is good by 51%, including in curriculum implementation, teaching material mastery, multi teaching method application, high professional standards, better working results from time to time, no decreasing working quality as it is always above the average, on time working completion, high working competition frequency, and good spare time utilization to complete the delayed tasks and jobs. According to the findings, it is expected that the teaching-learning quality may be developed in the future that the schools' education quality may also improve as the schools' education quality depends on the teachers' performance. From the research results and the hypothetical testing above, it shows that school principal leadership, working environment, and teachers' affiliating motivation positively and significantly influence the teachers' performance either partially or holistically. The correlation coefficient of school principal leadership on teachers' performance ( $r_{xy}$ ) is 0.668, and influence value is 0.446 (44.6%). It shows that when the school principals are good at performing their leadership duties, the teacher's performance may also be better, and vice versa.

The correlation coefficient of school principal leadership variable on teachers' performance ( $r_{xy}$ ) is 0.394 which shows that the influence level is 39.4% while the correlation working environment variable on teachers' performance is equal to 0.877. It means that if the working environment is favorable /fun, it may provide positive supports for teachers to work, with a support contribution of 87.7%. Meanwhile, the correlation coefficient of the teachers' affiliating motivation on teachers' performance ( $r_{xy}$ ) is 0.035 and the influence levels 3.5%. It shows that when teachers have better affiliating motivation and feel satisfied with their work, their performance may get better, and vice versa. According to the results of simple regression analysis (the influence of school principal leadership on teachers' performance, of working environmental on teacher performance, the influence of teachers' affiliating motivation on teachers' performance), the influence determination coefficient of school principal leadership, working environment and teachers' affiliating motivation is 0.044, which means that the certified teachers' performance may be explained by the

independent variable of 4.4%, while the remaining 95.6% is explained by the other variables.

Gibson (2005, p. 133) states that someone's performance such as the teachers' is acceptable as influenced by the following three variables, p. individual variable consisting of abilities and skills (mental and physical competences) and background (family, social level, experience, demographic (age, origin, gender), organization variable consisting of resources, leadership, rewards, and psychology variable consisting of perception, attitude, personality, motivation of learning. Meanwhile, Ravianto (1985, p. 18) suggests that performance is influenced by education, skills, discipline, motivation, income, working climate, working experience, health and so forth. It means that the teachers' performance is not only influenced by school principal leadership, working environment, and teachers' affiliating motivation as there are other factors beyond the study which are not yet examined and may also determine the results. Teachers who have good performance are generally the ones with good school leadership. Similarly, when the working environment is good, the teachers' affiliating motivation is also good. It can be concluded that teachers' good performance is influenced by a good school leadership, good working environment, and teachers' high affiliating motivation. However, these issues must be examined and proven using good relationship linearity testing with simple or/and multiple regression analysis.

In short, as the teachers' performances are influenced by attitudes and behaviors such as organizational commitment (Greenberg & Baron, 2003, p. 207), the teachers in this case, are eventually obscure in their commitment and inhibit their extra behavioral roles. Meyer and Powell (2004) believe that organizational commitment is an attitude resulted from the expected sustainable behaviors based on identification of certain conditions. Thus, with good teaching and learning conditions, the teachers may also produce excellence jobs. Due to such questioned conditions, Skinner (in Gibson, 2005, p. 133) argues that behavior seems to cause repeated positive consequences and unrepeated negative ones. Therefore, by having good educational settings, those may influence the sustainable behaviors as the individual behavioral consequences, in this case, the teachers. Based on above explanation, data analysis and discussion, it can be concluded that school principal leadership and working environment significantly and positively influence the certified teachers' performance either directly or indirectly. Meanwhile, teachers' affiliating motivation, even through organizational commitment, does not positively influence their performance.

The conclusion of this research were; First, school principal leadership positively influences teachers' performance by 55% in a good category while the other 45% is in less favorable category. Second, working environment influences teachers' performance by 50% in a good category while the other 50% is in less favorable category. Third, teachers' affiliating motivation influences their performance by 48% in less favorable category while 52% is in good category. Fourth, school principal leadership, teachers' working environment and affiliating motivation may improve teachers' performance by 0.044, meaning that teachers' performance may be explained by the independent variables including school principal leadership, working

environment, and affiliating motivation by 4.4%, while the remaining 95.6% is explained by the other unexamined variables as indicated by the residual variables by 95.6%. Thus, the equation may explain teachers' performance =  $1.409 + 0.035$  of their affiliating motivation

Teacher certification is one method to improve the ability of performance and the quality of learning to students. The suggestions given based on the results of this study are: firstly, there is a need to increase teacher awareness of the importance of their performance on the quality of learning in vocational schools; secondly, principals need to provide support for the teachers by supporting them follow education and training on an ongoing basis and tiered through formal (post-graduate) and non-formal channels. This is useful for improving pedagogic and professional competence.

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## Examining English Self-Efficacy Beliefs of University Preparatory Class Students\*

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### ABSTRACT

**Purpose:** Students in Turkey have difficulty reaching fluency in English. Affective factors in teaching English are as important as cognitive factors. Perceived self-efficacy, an affective factor, is known to influence learning a second language. This study explores the effects of a university preparatory school's English curriculum on its students' self-efficacy beliefs to understand if the design, application and evaluation of the curriculum could be better suited to English language learners.

**Research Method:** 426 students participated in the research, conducted with the cross-sectional survey design. An adapted psychometric scale was used to

measure students' levels of English self-efficacy beliefs. In addition, an open-ended questionnaire was distributed to the participants to better understand their views on the sources of self-efficacy. The data were analyzed using paired samples t-test, percentages and frequency distributions.

**Findings:** Findings revealed that preparatory class practices increased students' self-efficacy beliefs in all sub-dimensions. The fear of making mistakes, losing face, and not being able to express their opinions negatively affected students' self-efficacy beliefs. Applying the language in productive activities, showing effort to use English in daily life and taking responsibility within the context of the English curriculum, modelling after positive behavior of the teachers and friends, and encouraging expressions by the teachers positively affected students' self-efficacy beliefs.

**Implications for Research and Practice:** To develop professional teacher training programs that apply more effective activities and provide better feedback and correction, it is imperative to establish better communication with the students and understand how to integrate technology in the language lessons.

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## Introduction

In an increasingly globalized world, where the mother tongues are not adequate for proper communication, English has long emerged as the *lingua franca*. It has been preferred as the language of economy, education and research as well as media and popular culture. English language has been a compulsory school subject in European classrooms where multilingualism is standard. Similarly, learning English in Turkey is no longer perceived as a luxury, but a necessity.

Despite all efforts put forth into the teaching of the English language, it is still problematic in Turkey (Bayraktaroglu, 2014a; Paker, 2012). According to the Education First English Proficiency Index (2018) scores, Turkey ranks 73<sup>rd</sup> out of 88 countries. Even in universities where English is the medium of instruction, the targeted advanced language skills are not achieved by the students (Bayraktaroglu, 2014b). To rectify this downward spiral, educational policies, and more specifically, English curricula, keep changing.

Ministry of National Education introduced English lessons at an earlier age and supported curriculum with up-to-date teaching methods and materials. Nevertheless, affective factors need to be considered as well, as they too, are important as cognitive factors in language teaching (Henter, 2014). Separating affection from cognition can hinder the ability to comprehend life as a whole (Swain, Kinnear & Steinman, 2011). Bandura (1986, p. 391) defined self-efficacy as “beliefs in one’s capabilities to organize and execute the courses of action required to manage prospective situations”. The effects of self-efficacy on the cognitive processes (Bandura, 1993) and the performance of learning a second language (Acikel, 2011; Karafil & Ari, 2016; Raofli, Tan & Chan, 2012; Tilfarlioglu & Ciftci, 2011) are well substantiated. However, studies reveal that the majority of language learners exhibit low levels of self-efficacy, thus negatively affecting the success of language learning (Crookes & Schmidt, 1991; Oxford & Shearin, 1994). Many students feel lost in language classes (Horwitz, Horwitz & Cope, 1986). Students do not feel confident when they feel they cannot learn a foreign language. As a result, they approach the learning process with lower levels of motivation and lack of enthusiasm.

Several studies have focused on English self-efficacy beliefs (e.g. Bonyadi, Nikou & Shahbaz, 2012; Filatov & Pill, 2015; Matthews, 2010; Zimmerman, Bandura & Martinez-Pons, 1992) and sources (e.g. Blumenthal, 2014; Phan & Locke, 2015; Zuo & Wang, 2014). In Turkey, research directed at English self-efficacy beliefs have often examined the relationship between self-efficacy and other variables (e.g. Kanadli & Bagceci, 2015; Karagol, 2015; Kasik, 2014). However, little research has targeted students in English preparatory classes. Tilfarlioglu and Cinkara (2009) found that English preparatory class students had high levels of self-efficacy. They also postulated that there was a positive correlation between language proficiency and self-efficacy level with regard to year-end final grades. Acikel (2011) claimed that English preparatory class students’ perceived self-efficacy is a good predictor of reading and listening skills in English. Karafil and Ari (2016) surmised that students’ reading self-efficacy was the highest while their writing self-efficacy was the lowest. Despite these

studies, no research has investigated how the English preparatory class curricula affected students' self-efficacy beliefs. Moreover, there is no analysis of the self-efficacy sources of English preparatory class students. Thus, a need to examine the effects of English preparatory class curricula on the self-efficacy beliefs controlling for curricular and non-curricular factors affecting English self-efficacy sources is a viable research endeavor.

This study benefits the administrators and faculty members that are responsible for designing and implementing the curriculum because a key factor that has been missing in the processes of creating a dynamic English curriculum is the concept of students' self-efficacy. Moreover, findings from this study inform instructors about the strengths and weaknesses of the curriculum in terms of students' self-efficacy beliefs and enable them to review their practices. In addition, the results enhance the awareness of preparatory class students' own learning strategies and point out what they can do to raise their own perceived self-efficacy.

The purpose of this study was to identify how the English curriculum of a university preparatory class affected the students' self-efficacy beliefs in order to be able to design, apply and evaluate such curricula better. The main research question was, "How does the English preparatory class curriculum of a state university affect the students' self-efficacy beliefs?" In order to best answer this question, the following questions below were also examined:

1. Is there a significant difference between the self-efficacy scores of students before taking and after completing the course in the curriculum?
2. What are the students' opinions on the factors affecting their English self-efficacy?

## Method

### *Research Design*

Survey research design aims to collect data from a large group of participants at a certain time to understand the nature of an already existing phenomenon and to describe the tendencies, attitudes or opinions of a certain group (Cohen, Manion & Morrison, 2005; Creswell, 2014). Therefore, the study was conducted using cross-sectional survey research design as the aim was to understand the nature of the English preparatory class curriculum's contribution to students' self-efficacy beliefs.

### *Research Sample*

The sample of this study was constituted of A1, A2 and B1 level students who studied in the preparatory class at a state university in the fall ( $n=704$ ) and spring ( $n=698$ ) semesters during the 2016-2017 academic year. A total of 598 students, who were enrolled in undergraduate programs and did not repeat the preparatory class, volunteered to participate in the study in the fall semester. In the spring semester, 486 students volunteered. After having excluded the students whose questionnaires contained missing information and/or who did not participate in both the pre and

posttests, the sample size of the study numbered 426 students: 59.1% A1 level students ( $n=252$ ), 30.8% A2 level students ( $n=131$ ), and 10.1% B1 level students ( $n=43$ ).

#### *Research Instruments and Procedures*

*English self-efficacy scale.* Yanar and Bumen's (2012) Self-Efficacy Scale for English was disseminated to students in two separate phases - right after the semester began and immediately following upon completing the curriculum for the academic year. The Likert-type scale consists of 4 sub-dimensions and 34 items associated with reading, writing, listening and speaking skills in English. As the scale was developed for high school students and was intended to be used for a higher education group in this research, validity and reliability tests were carried out after the pretest ( $n=598$ ). The test for Cronbach's alpha revealed a total scale score of .94. The Cronbach's alpha value of the sub-dimensions was as following: reading .76, writing .82, listening .92, and speaking .73. A scale is accepted as reliable if the Cronbach's alpha value is .70 and above (Nunnally, 1978). After confirmatory factor analysis (CFA) was employed to verify the model of the scale,  $t$  values for the sub-dimensions and items were found to be significant at the level of .001. The results of CFA fit indices ( $\chi^2/df=2.51$ ,  $p<.01$ ,  $CFI=.90$ ,  $RMSEA=.05$ ,  $GFI=.90$ ,  $AGFI=.88$ ) showed that the model-data fit is either good or acceptable and the scale has construct validity (Anderson & Gerbing, 1984; Joreskog & Sorbom, 1993).

*Factors affecting English self-efficacy beliefs questionnaire.* An additional 13 open-ended questions were developed to further understand how students' opinions affected their self-efficacy beliefs. The instrument was applied at the end of the preparatory class practices. The survey questions were written within the context of self-efficacy sources. Questions 1 thru 6 are specific to mastery experiences, questions 7 and 8 apply to vicarious experiences, questions 9 thru 11 cover verbal persuasion, and questions 12 and 13 are a measurement for emotional and physiological state (Bandura, 1977, 1988, 1994). The survey was then sent to various members of the departmental faculty where upon suggestions were finalized before it was administered to participants in the posttest setting.

#### *Data Analysis*

Measures of skewness ( $pretest=-.395$ ;  $posttest=-.347$ ) and kurtosis ( $pretest=.625$ ;  $posttest=.336$ ) demonstrated the data set exhibited a normal distribution curve. Paired samples  $t$ -tests were run to evaluate the first sub-problem; whereas percentages (%) and frequency ( $f$ ) were employed to determine the second sub-problem. To analyze the open-ended questions, all written responses were first read, and then coded under certain concepts and phrases based on their frequency of repetition. Then, these codes were categorized within the themes of self-efficacy sources. These categorizations were labelled as *positive*, *negative* and sometimes *other*.

## Results

### *Effects of the Curriculum on the Students' Level of Self-Efficacy*

Students' self-efficacy scores before and after they've participated in the English preparatory class practices are presented in Table 1. Average of total test scores of the students' self-efficacy levels was found to be significant at the end of the English preparatory class [ $t(425)=14.12$ ;  $p<.05$ ]. Findings revealed that the English curriculum of the preparatory class increased students' levels of self-efficacy, both in total and in all sub-dimensions. The greatest increase occurred in the reading sub-dimension. It should be noted that the English curriculum contributed more to the self-efficacy scores in terms of receptive skills, such as reading and listening; as opposed to productive skills, such as writing and speaking.

**Table 1**

*Comparison of Pre and Posttest Setting Scores*

Sub-Dimensions	Setting	<i>n</i>	$\bar{X}$	<i>Sd</i>	<i>df</i>	<i>t</i>
Reading	Pretest	426	25.98	5.56	425	14.70*
	Posttest		29.52	4.98		
Writing	Pretest	426	32.16	7.25	425	3.88*
	Posttest		33.62	5.78		
Speaking	Pretest	426	18.93	5.01	425	10.15*
	Posttest		21.29	4.76		
Listening	Pretest	426	32.17	7.26	425	9.35*
	Posttest		35.24	7.28		
Total	Pretest	426	106.03	23.04	425	14.12*
	Posttest		119.68	19.25		

\* $p<.05$

### *Students' Opinions on the Factors Affecting Self-Efficacy Beliefs*

*Mastery experiences.* Findings indicated that the mastery experiences of English self-efficacy beliefs were derived from "putting effort" ( $f=881$ ) and "characteristics of the curriculum" ( $f=726$ ). Students' opinions on putting effort were categorized under positive ( $f=690$ ) and negative ( $f=191$ ) opinions as shown in Table 2. Students' responses indicated that they included English in their daily lives ( $f=457$ ) as a result of showing effort to practice it more. In doing so, they respectively used English for entertainment purposes ( $f=136$ ), in situations that require basic communication ( $f=113$ ), while communicating with foreigners ( $f=111$ ), in every opportunity ( $f=48$ ), while chatting with friends ( $f=27$ ), and abroad ( $f=22$ ).

Students mostly put effort to use English for entertainment purposes. For example, one student says, "I think I learn daily phrases in English better when I watch English TV shows. It helps me pay more attention to pronunciation and stress while speaking." Students who undertake responsibility within the curriculum ( $f=169$ ) study/make revisions ( $f=43$ ), do vocabulary ( $f=40$ ) and reading ( $f=33$ ) exercises, attend to the lessons ( $f=21$ ), do writing exercises ( $f=9$ ), obtain extra materials ( $f=8$ ), translate ( $f=7$ ), watch the lesson videos ( $f=5$ ), take

notes ( $f=2$ ), and identify their weaknesses ( $f=1$ ). The following statement, "I repeated what we did at school after school constantly and regularly." is an example for studying and making revisions. For doing vocabulary exercises, one respondent stated, "I made a vocabulary box. I added the new words I learnt at school in this box and I repeated them every day." Another student says, "I started reading simplified books. I started with Grade 3, but I can understand Grade 5 books now very well." as an example for doing reading exercises. In addition to these activities, other students placed emphasis on class attendance: "Even though I get bored in some of the lessons, I forced myself to attend to them and tried to make them fun for myself." Furthermore, some students indicated they experienced more success after they put effort in learning ( $f=64$ ): "I think the effort I put in the extra exercises paid off for me."

**Table 2**

*Distribution of Students' Opinions Regarding Putting Effort*

Positive	<i>f</i>	Negative	<i>f</i>
Including English in daily life	457	Not putting enough effort	83
Undertaking responsibility within the curriculum	169	Putting effort but failing in the end	58
Putting effort and succeeding as a result	64	Not including English in daily life	40
		Using English only when forced to	10
Total	690	Total	191

Of the students who pointed out negative opinions ( $f=191$ ), with regard to putting in the effort, many expressed they failed even if they tried ( $f=58$ ), that they did not include English in their daily lives ( $f=40$ ) and that they only used English when forced to do so ( $f=10$ ). The most viable opinions were found to be in not putting enough effort ( $f=83$ ). According to one student, "I find myself inefficient in all of the subjects in English. I don't spend enough time and effort because when I study on my own, I struggle too much and then I just quit." Contrarily, there were students who put in the effort, yet failed in the end. One such student stated, "I watch English TV shows, but my language skills don't improve at all. I read English books, but I will fail the preparatory class."

In Table 3, the data indicated that 316 positive statements and 410 negative statements were associated with the characteristics of the curriculum. However, the respondents stated more positive opinions with regard to learning situations ( $f=296$ ). Specific activities aimed to develop language production ( $f=192$ ) in particular, appeared to be positively associated with students' self-efficacy. These activities were mostly related to speaking and writing skills. According to one respondent, "... the presentation we did in front of the whole class transformed us in such a way that we both became more self-confident and our language skills improved immensely." Another stated, "The essays we wrote in the writing class were enough for us to see our mistakes. I think we learn better when we get concrete corrections after we make a mistake." Some students criticized that there were not enough classroom activities that supported language

production ( $f=62$ ): "I feel inefficient. The opportunities to practice the language are really limited. Speaking lesson in particular should include constant practice."

**Table 3**

*Distribution of Students' Opinions Regarding the Characteristics of the Curriculum*

Positive	<i>f</i>	Negative	<i>f</i>
<i>Learning Situations</i>	296	<i>Learning Situations</i>	205
Activities aimed at language production	192	Activities that don't support language production	62
Activities aimed at receptive skills	75	Activities aimed at receptive skills	57
Games	24	Facilities	49
Facilities	5	Activities that are difficult/boring/unnecessary	25
		Course materials	7
		Parrot-fashion	5
<i>Assessment</i>	8	<i>Assessment</i>	3
Exams	8	Exams	3
<i>Others</i>	12	<i>Others</i>	202
Speaking club	4	No extra-curricular activities	177
English as the medium of instruction	6	Compulsory attendance policy	10
Grouping students	2	Inefficient course hours	10
		Long course hours	3
		Using Turkish in the lessons	2
Total	316	Total	410

A small number of respondents felt exams ( $f=8$ ) improved self-efficacy beliefs. For example, one respondent stated, "Having to attend to lots of classes and to take many exams like quizzes and monthly exams disciplined me this year." Another added, "I tried to improve my English by comparing myself to my partner in the speaking exam." Some students claimed otherwise ( $f=3$ ) by highlighting that the exams contributed negatively to their self-efficacy because they are difficult and on the remembering level: "I think the quizzes are too difficult and based on memorization. Getting low scores makes me feel inadequate." Among other characteristics of the curriculum that were found to positively contribute to the self-efficacy were speaking club, English as the medium of instruction and grouping students. However, the lack of extra-curricular activities ( $f=177$ ) was given as the most influential factor that negatively affected self-efficacy beliefs.

**Table 4***Distribution of Students' Opinions Regarding Taking Someone as a Model*

Positive	f	Negative	f	Other	f
<i>Role Models</i>		<i>Role Models</i>			
Classmates	144	Classmates	220		
Teachers	70	Teachers	30		
Family members	47	Lack of role models	196		
Others (TV characters, acquaintances)	11			Not being affected by the success or failure of the classmates	157
Total	272	Total	446	Total	157

*Vicarious experiences.* As seen in Table 4, the most influential vicarious experience on the students' self-efficacy beliefs was *taking someone as a model* ( $f=875$ ). The students' opinions on taking someone as a model were categorized under *positive* ( $f=272$ ), *negative* ( $f=446$ ) and *other* ( $f=157$ ). Respondents indicated that their classmates played more of a negative role ( $f=220$ ) than positive ( $f=144$ ). Both the success and failure of their classmates created negative emotions in students and hindered learning after modeling. One such student stated, "I have friends who study more than me, but they still fail. I don't know, I feel like I will fail at the end even if I try not to." Another asserted, "I've always looked down on myself because of my friends whose English is really good. This affected my grades negatively." Findings showed that being in the same class with students who exhibited different proficiency levels negatively affected their self-efficacy beliefs. One respondent declared, "I don't think we are in the right language level. There are people whose English is way better than mine in my class. I am demoralized when they say the classroom activities are easy because they are actually very hard for me." However, regarding classmates as a model could also have a positive effect ( $f=144$ ). A number of students felt that having successful classmates at a similar language level with them was beneficial for their self-efficacy. Students who reported that they were not affected by the success or failure of their classmates had a high frequency ( $f=157$ ). Findings indicated this situation to be mostly related to personality traits, for example, one minding one's own business rather than others' and cultural factors (Everyman for himself).

The role of the teacher was found to be more positive ( $f=70$ ) than negative ( $f=30$ ). Teachers' perseverance, determination and interest in the students supported self-efficacy beliefs, in addition to their effective language skills in English according to this student's statement, "I took some of my teachers as role-models. They are determined, hardworking and genuinely interested in us and this affected me a great deal." Further, another one added, "I modelled after my teachers' fluent and accurate English." However, too much teacher talking time, a lack of concept and instruction checks, and methods and techniques used to deliver the lessons had a negative effect on student's self-

efficacy who exhibited low language proficiency ( $f=30$ ). One respondent said, "Teachers mostly talk themselves and there are no activities that would make a difference. This makes me lose my motivation to learn." Another added, "I thought I was going to fail because of the negative behaviors and attitudes of some teachers." Another statement shows how the language proficiency of teachers can have a negative effect on the students' self - efficacy; "For me, a teacher must have a good command of English. Everyone can make a mistake or be forgetful at times. But I get demotivated when this happens too much." Students' opinions on taking family members as models ( $f=47$ ) revealed the positive effects of diligence, determination and negative experiences of learning English of family members.

*Verbal persuasion.* As seen in Table 5, students' opinions on verbal persuasion ( $f=820$ ) were classified as *positive* ( $f=323$ ), *negative* ( $f=69$ ) and *other* ( $f=428$ ). Teachers ( $f=165$ ) played a key role in forming students' self-efficacy beliefs in terms of verbal persuasion. One respondent stated, "Teachers give me good feedback to my answers in the class. It encourages and motivates me more." The student illustrated how teachers' constructive feedbacks motivated students. However, teachers ( $f=36$ ) can also be a source for negative social persuasion. To exemplify, "Some teachers said that we are not good enough and have to study again next year." Teachers' stern warnings concerning the importance of exams and grades did not have the desired effects on students' self-efficacy as seen in the following statement: "Teachers' speeches starting with 'You will fail this year.' 'You are supposed to know this.' after each exam made me think that I wouldn't be able to learn English." Methods applied in the classroom for error correction and giving feedback by some teachers also negatively affected student's self-efficacy beliefs. One student claims, "I get sad and don't want to attend to the lessons when my teachers ridicule my mistakes."

**Table 5**

*Distribution of Students' Opinions Regarding Verbal Persuasion*

Positive	<i>f</i>	Negative	<i>f</i>	Other	<i>f</i>
Sources	315	Sources	61	Sources	376
Teachers	165	Teachers	36	Negative persuasion from no one	290
Friends	21	Friends	14	Positive persuasion from no one	86
Family members	129	Family members	2	Teachers	52
		Society	9	No encouraging/ discouraging expressions	48
Negative expressions	8	Positive expressions	8	Not being affected by teachers' encouraging/ discouraging expressions	4
Total	323	Total	69	Total	428

Family members ( $f=129$ ) was another contributing factor that affected students' self-efficacy. The praising of students' individual characteristics, for example, their intelligence, talents, and diligence; all were positively associated with students' self-efficacy beliefs. One respondent states, "My family and friends gave me positive feedback that I will succeed. They told me that I am capable, smart and will learn English easily."

Other ( $f=428$ ) factors that affect English self-efficacy beliefs through verbal persuasion included that students received neither positive ( $f=86$ ) nor negative ( $f=290$ ) feedback. Several students penned they did not receive negative feedback from anyone as they were already successful and even if they did, it would make them study more. Additionally, students reported that certain teachers did not have encouraging or discouraging expressions ( $f=48$ ): "My teachers didn't encourage me to learn more, but they didn't say anything discouraging, either." Lastly, a small number of students declared they were not affected by their teachers' encouraging or discouraging expressions ( $f=4$ ). According to one such respondent, "I don't let the expressions of teachers affect me in any permanent way."

**Table 6**

*Distribution of Students' Opinions Regarding Physiological and Emotional State*

Positive	<i>f</i>	Negative	<i>f</i>
Positive Emotions (Happy, secure, etc.)	222	Negative Emotions (Stressed, anxious etc.)	311
Reasons to Have Positive Emotions	43	Reasons to Have Negative Emotions	179
Being successful	43	Lack of English knowledge	76
Positive Attitude (Towards the curriculum and teachers)	11	Fear of making mistakes	34
		Having to speak without preparation	24
		Fear of not being to express oneself	18
		Individual differences	15
		Fear of being mocked	6
		Negative mental suggestions	6
		Negative Attitude (Towards the curriculum and English language)	16
Total	276	Total	506

*Physiological and emotional state.* Table 6 shows that students' opinions on the physiological and emotional state ( $f=782$ ) were grouped as *positive* ( $f=276$ ) and *negative* ( $f=506$ ). Statements reporting positive physiological and emotional state of the students were categorized into three categories: *positive emotions* ( $f=222$ ), *reasons* ( $f=43$ ) and *positive attitude* ( $f=11$ ). The following statement encompasses the positive emotions that students experience when they use the language. He/she states, "I feel like I can achieve anything I want. I feel happy as if I was someone with a great talent." It is clear in the

students' statements that they attribute positive emotions to being successful: *"I am proud of myself because it's great to see my achievements after nine years of learning English."* Furthermore, some students exhibited a positive attitude towards the curriculum. One such student writes, *"I remember having attended to Listening and Reading classes willingly because I was able to follow up with the syllabus more easily."* Another statement is an example of having a positive attitude towards teachers: *"... another reason is that we have a great MC1 teacher. I think the most important factor in understanding what the teacher says is to love him/her."*

Students who reported experiencing *negative emotions* ( $f=311$ ) included expressions such as *'anxiety,' 'stress,' 'nervousness,'* and *'embarrassment'* in their statements. One student claims, *"No matter what I try, I just freeze when I have to speak English."* Negative emotions were mainly experienced during speaking exams, when having to speak with English native speakers / foreigners, and /or when speaking in front of other people.

The *lack of English knowledge* ( $f=76$ ) was the most repeated reason why students had negative emotions ( $f=179$ ). Students' lack of knowledge in grammar and vocabulary triggered negative emotions, especially during language production activities: *"I am not efficient in speaking lessons. I struggle a lot while speaking because I don't have the right vocabulary."* Another respondent adds, *"Writing, because I don't think my grammar and vocabulary are good enough."* Findings indicated that the *fear of making mistakes* was negatively associated with self-efficacy beliefs.

*Negative attitude* ( $f=16$ ) was directed at the part of the curriculum which was intended to improve productive skills. One student asserts, *"I feel inefficient in writing classes because I don't like writing. I only write when I must or when I absolutely need it. And even then, I can't write well."* A negative attitude towards English is apparent in the following statement: *"I wouldn't like to learn English at all if it wasn't compulsory."*

### Discussion, Conclusion and Recommendations

The preparatory class's English curriculum had a positive effect on the students' self-efficacy beliefs. The increase in students' self-efficacy levels in listening, speaking, reading, and writing sub-dimensions were significant. Although no research has been carried out with English preparatory classes in this particular field, other studies have demonstrated that receiving training for a certain skill is positively correlated with self-efficacy beliefs of this skill (Ballo-allo, 2010; Celik, Gokce, Aydogan-Yenmez, & Ozpinar, 2017; Rahayu & Jacobson, 2012). When students' pre and posttest scores were compared, the students' self-efficacy beliefs of receptive skills (listening and reading) increased more than productive skills (speaking and writing). Considering there is a strong correlation between self-efficacy beliefs and the academic success at language skills (Kitikandan & Sasimonton, 2017), a higher level of achievement at the end of preparatory class practices can be reached through activities designed to improve students' self-efficacy beliefs.

Results revealed that students' opinions were primarily related to mastery experiences, thus confirming it to be the most effective self-efficacy source (Bandura,

1997; Sheu et al., 2018; Usher & Pajares, 2008; Zimmerman, 2000). Students demonstrated effort in using English by including it in their daily lives and undertaking responsibilities within the curriculum. Individual efforts exhibited inside and outside of the classroom positively affected the students' self-efficacy beliefs in that they themselves started to use the language more effectively. Yough (2011) emphasizes the importance of the relationship between the willingness to use the language and self-efficacy. On the other hand, not showing enough effort was a factor resulted in low self-efficacy. Kara, Dundar and Ayaz (2017) confirmed that students attribute their own failure in learning English to not spending enough time and putting in effort.

The analysis revealed the most effective component of the curriculum, in terms of students' self-efficacy beliefs, was learning situations. While activities aimed at producing the language improved students' self-efficacy beliefs, activities that did not support language production had a negative effect. Doing grammar exercises is known to affect self-efficacy beliefs negatively, when compared to productive and communicative activities (Haznedar, 2010). Interactive videos and other uses of technology should be integrated in the courses and the course materials should be designed considering the needs, interests and levels of the students as the materials and facilities can have a profound effect on the self-efficacy beliefs (Solak & Bayar, 2015). The lack of extra-curricular activities negatively affects students' self-efficacy beliefs although other studies have shown that academic self-efficacy beliefs can be supported through extra-curricular activities (Attarwala, 2015; Burr, 2012).

Results also suggested that role-models affect students' self-efficacy beliefs through vicarious experiences. Bandura (1994) expresses that model and observer should share similar characteristics for the self-efficacy beliefs to be affected. The findings supported this notion as the classmates were the most effective contributing factor to improve or damage self-efficacy beliefs. Thus, grouping students based on their language proficiency levels can prevent mix-ability classrooms and enhance self-efficacy. Students modeled after their teachers, which confirmed the claim that the model's proficiency in the observed skill or behavior is more influential than the similarity between the model and the observer (Ahn, Bong & Kim, 2017; Ahn, Usher, Butz, & Bong, 2016). Teachers' statements, specifically on the subject related to the importance of exams and grades, did not have the desired effects on students' self-efficacy. Moreover, methods used by teachers for giving feedback and error correction did not improve students' self-efficacy beliefs, either.

Social persuasion affected students' self-efficacy beliefs in the form of positive and negative expressions given by different people in students' lives. In particular, encouraging expressions made by teachers and friends affected students' self-efficacy beliefs. Other studies have similarly shown that positive verbal persuasion and feedbacks from advisors, teachers, friends and classmates encourage students to practice speaking in English more (Rahayu & Jacobson, 2012; Zuo & Wang, 2014). This study concluded that positive expressions had a higher frequency than negative ones, which gives evidence to the fact that verbal persuasion heavily influenced students' self-efficacy beliefs. Students' cultural background should be taken into consideration

when commenting on vicarious experiences and verbal persuasion. Ahn et al. (2016) advocates that the self-efficacy beliefs of students from collectivist and individualist cultures are affected differently by these sources. Considering the traditionally collectivist structure of the Turkish society (Ozdil, 2017), students may have attributed more value to these two sources.

Statements from students divulged mostly feelings of stress, anxiety, and embarrassment, which parallels other studies in the literature. English language learners often go through stress, embarrassment, nervousness and anxiety (Dewaele & MacIntyre, 2014; Dornyei, 2005; Jin, Bot & Keijzer, 2017; Kruk, 2015). Bhatti, Memon and Pathan (2016) reported that students avoid using English for fear of negative evaluation by others or not being able to communicate. Dogan (2016) points out the negative correlation between anxiety and English self-efficacy. Situations, in which students experience negative emotions, correspond with the five factors defined by Mak (2011); fear of being assessed negatively, anxiety of talking to native speakers, negative attitude towards English courses, negative self-assessment, and fear of failure. Kayaoglu and Saglamel (2013) defined the possible reasons for language anxiety in speaking classes, which are linguistic difficulties, cognitive challenges like fear of failure and lack of self-esteem, lack of information in the native language, teachers' role, and competitiveness. The findings in this study confirms their results in terms of teachers' negative expressions, classmates' success and individual differences.

Students reported that they avoid situations in which they need to speak English because they are afraid that their friends would make fun of their mistakes and pronunciation. Students' statements related to not being able to express themselves and fear of making mistakes stand out amongst others. Zuo and Wang's (2014) study found similar results. Horwitz, Horwitz and Cope (1986) also highlighted that students who experience higher levels of anxiety tend to think their classmates are better than them and they fear they would make mistakes while speaking. As a result, they have a fear of being mocked by their peers. On the other hand, statements reporting positive emotions can be interpreted as a reflection of another study where the researchers found out that perceived self-efficacy is a strong predictor of student happiness, especially in competitive situations (Shilpa & Prasad, 2017).

The limitation of the study was collecting data only from the students at the beginning and at the end of the academic year. Therefore, future qualitative studies may ensure that data is collected from all stakeholders and explore how the English language curricula are implemented in terms of students' self-efficacy beliefs and sources. Nevertheless, based on the results of this study, certain suggestions are offered for English curriculum implementations. English curricula can include more activities aimed at producing the language and real communication to get students to have more mastery experiences. Professional development programs for teachers to design and apply in-class activities considering students' self-efficacy, to give constructive feedback and better error correction, to have a more effective communication with students, and to integrate technology in their lessons can be organized. Teachers can highlight students' progress rather than comparing them to

one another in their feedback. They can also create a safe environment for students to practice English without any hesitation or fear. Students with low and high self-efficacy levels can be identified and matched in in-class activities and term projects so that they could have the opportunity to learn after modelling and to motivate one another.

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## Üniversite Hazırlık Sınıfı Öğrencilerinin İngilizce Öz-Yeterlik Algılarının İncelenmesi

### Atıf:

Citil, C., & Yurdakul, B. (2020). Examining English self-efficacy beliefs of university preparatory class students. *Eurasian Journal of Educational Research*, 86, 39-60, DOI: 10.14689/ejer.2020.86.3

### Özet

*Problem Durumu:* Türkiye’de, İngilizce öğretimi alanındaki çabalara rağmen İngilizcenin yeterince akıcı ve doğru bir şekilde kullanılmadığı görülmektedir (Bayraktaroğlu, 2014a; Paker, 2012). Uluslararası eğitim şirketi Education First Index (2018), İngilizce yeterlik açısından Türkiye’yi 88 ülke arasında 73. sırada ve çok düşük yeterliğe sahip ülkeler arasında göstermektedir. Bayraktaroğlu’na (2014b) göre yabancı dille eğitim yapılan üniversitelerde bile amaçlanan ileri düzey dil seviyelerine erişilememektedir. İngilizce öğretiminde duyuşsal özelliklerin, en az bilişsel özellikler kadar önemli ve birbirinin tamamlayıcısı olduğu bilinmektedir (Henter, 2014). Duyuşsal özelliklerden olan öz yeterlik algısının bilişsel süreçler üzerinde (Bandura, 1993) ve yabancı dil öğrenme performansında etkili olduğu ileri sürülmektedir (Açıkel, 2011; Tılfarlıoğlu ve Çiftçi, 2011). Alanyazında, üniversite hazırlık sınıfı İngilizce öğretim programlarının öğrencilerin İngilizce öz yeterlik algısını nasıl etkilediğine ya da bu öğrencilerin İngilizce öz yeterlik algısını oluşturan kaynaklara ilişkin herhangi bir çalışma bulunmamaktadır. Bu araştırma, programın yönetiminden sorumlu karar alıcılara, koordinatörlüklere ve özellikle programı tasarlayan ekibe İngilizce öğretim programlarının öğelerini dil öğreniminde kilit rol oynayan öz yeterlik algısını da dikkate alarak tasarlayabilmelerine imkân tanıyabilecek sonuçlar üretilebilir. Ulaşılan sonuçlar ayrıca, öğretim görevlilerine öğrencilerin öz yeterlik algılarına katkıları açısından yürüttükleri programın güçlü ve zayıf yönlerini gösterebilir ve böylelikle kendi uygulamalarını gözden geçirmelerini sağlayabilir. Hazırlık sınıfı öğrencilerinde ise kendi öğrenmeleriyle ilgili farkındalık oluşturabilir ve öz yeterlik algılarını artırabilmeleri için neler yapabileceklerine dikkat çekebilir.

*Araştırmanın Amacı:* Bu araştırma, üniversite düzeyinde İngilizce hazırlık sınıfı program çalışmalarında kullanılacak bulgulara ulaşmak için var olan program uygulamalarının öğrencilerin İngilizce öz yeterlik algı düzeylerini nasıl etkilediğini belirlemek amacıyla yürütülmüştür. Araştırmanın temel sorusu ise: “Bir devlet üniversitesinin hazırlık sınıfı İngilizce öğretim programı, öğrencilerin İngilizce öz yeterlik algılarını nasıl etkilemektedir?” biçiminde ifade edilmiştir. Araştırmanın temel sorusunu yanıtlamak için 1) Öğrencilerin program uygulamalarının öncesindeki ve program uygulamaları sonundaki İngilizce öz yeterlik algı düzeyi puan ortalamaları arasında anlamlı bir fark var mıdır? ve 2) Hazırlık sınıfı öğrencilerinin İngilizce öz yeterlik algısını etkileyen etmenlere ilişkin görüşleri nelerdir? biçiminde iki alt problem oluşturulmuştur.

*Araştırmanın Yöntemi:* Kesitsel tarama deseniyle yürütülen araştırmaya bir devlet üniversitesinin İngilizce hazırlık sınıfında öğrenim gören 426 öğrenci katılmıştır.

Öğrencilerin %59.1'i (n=252) A1, %30.8'i (n=131) A2 ve %10.1'i (n=43) de B1 düzeyindedir. Öğrencilerin program öncesi ve sonrası İngilizce öz yeterlik algı düzeyleri, Yanar ve Bümen (2012) tarafından geliştirilen ve bu araştırma için uyarlanan bir ölçekle belirlenmiştir. Ayrıca öğrencilerin İngilizce öz yeterlik algısını etkileyen etmenlere ilişkin görüşlerinin elde edildiği 13 açık uçlu sorudan oluşan bir anket hazırlanarak hazırlık programı sonunda uygulanmıştır. Veriler, *t* testi (Paired Samples *t*-Test), yüzde (%) ve frekans (*f*) kullanılarak analiz edilmiştir.

*Araştırmanın Bulguları:* Hazırlık sınıfı İngilizce öğretim programı uygulamaları sonunda öğrencilerin İngilizce öz yeterlik düzeyleri anlamlı bir şekilde artmıştır. En çok artış, okuma becerisinde gerçekleşmiştir. Öğrencilerin okuma ve dinleme gibi anlamaya yönelik dil becerilerine ilişkin öz yeterlik algısının, yazma ve konuşma gibi üretime yönelik becerilerden daha çok gelişmesi dikkat çekmiştir. Hazırlık sınıfı öğrencilerinin İngilizce öz yeterlik algısını etkileyen önemli etmenlerin, doğrudan deneyimlerle ilişkilendirilen İngilizceyi günlük yaşama dâhil etme ve öğretim programı kapsamında rol ve sorumluluk üstlenme çabası olduğu ortaya çıkmıştır. İngilizce öğretim programı kapsamında özellikle üretime dayalı uygulamalı etkinlikler, öğrencilerin İngilizce öz yeterlilik algısını güçlendirmiştir. Bu etkinliklerin; daha çok konuşma ve yazma becerisiyle ilgili olduğu belirlenmiştir. Model alma açısından öğrenciler, öğretmenlerinin olumlu etkilerini belirtmişlerdir. Öğretmenlerin çaba göstermeleri, azimli ve ilgili olmaları yanında dil becerilerini etkin kullanmaları öğrenciler tarafından olumlu görülmüştür. Sözel ikna açısından da öğretmenlerin önemli etkileri ortaya çıkmıştır. Öğrenciler tarafından öğretmenlerinin teşvik edici söylemleri önemsenmiş; sınav ve not odaklı konuşmaları, hataları düzeltme ve geribildirim verme yöntemleri eleştirilmiştir. Öz yeterliğin kaynaklarından fizyolojik ve duygusal durum açısından öğrenciler, daha çok konuşma becerisinin kullanılmasını gerektiren durumlarda kendilerini kaygılı ve stresli hissettiklerini; hata yapma, kendini ve düşüncelerini ifade edememe ve alay edilme korkusu yaşadıklarını belirtmişlerdir.

*Araştırmanın Sonuçları ve Önerileri:* Hazırlık sınıfı İngilizce öğretim programı uygulamaları öğrencilerin İngilizce öz yeterlik düzeylerini yükseltmiştir. Her ne kadar alanyazında hazırlık sınıfı programlarına dair bu araştırmanın kurgusuna benzer bir çalışma olmasa da belli bir davranışa yönelik alınan eğitimin öz yeterlik algısını olumlu yönde etkilediği bilinmektedir (Ballo-allo, 2010; Rahayu ve Jacobson, 2012). Öğrencilerin okuma ve dinleme becerilerindeki öz yeterlik algı düzeyleri daha yüksektir. Ayrıca öğrenci görüşleri, İngilizce öz yeterlik algısını destekleyen en etkili kaynağın doğrudan deneyimler olduğunu doğrulamıştır (Bandura, 1997; Zimmerman, 2000; Usher ve Pajares, 2008). Model alınan kişiler olarak öğretmenlerin, öğrencilerin İngilizce öz yeterlik algısını etkilediği ortaya çıkmış; bu sonuç, onların bazı davranış ve özelliklerinin model alınmasının, modelin gözlemlenen davranıştaki yetkinliğinden kaynaklandığını belirten çalışmaların (Ahn, Bong ve Kim, 2017; Ahn, Usher, Butz ve Bong, 2016) sonuçlarıyla paralellik göstermiştir. Ayrıca danışmanlarından, öğretmenlerinden, akranlarından ya da sınıf arkadaşlarından gelen olumlu sözel ikna ve geribildirimlerin, öğrencileri daha fazla İngilizce konuşmaya teşvik ettiği (Rahayu ve Jacobson, 2012; Zuo ve Wang 2014) yönündeki

araştırma bulgularında olduğu gibi, bu çalışmada da öğrenciler, öğretmenlerinin teşvik edici söylemlerinin İngilizce öz yeterlik algısını olumlu etkilediğini belirtmişlerdir. Fizyolojik ve duygusal durum açısından öğrencilerin Zuo ve Wang (2014) ve Horwitz, Horwitz ve Cope'un (1986) çalışmalarında da işaret edildiği gibi daha çok konuşma gerektiren durumlarda olumsuz duygu durumunda oldukları ortaya çıkmıştır. Araştırmanın sonuçları doğrultusunda; İngilizce öğretim programları tasarlanırken doğrudan deneyim oluşturmak için öğrencilerin dili üreterek kullanmasına imkân verecek etkinliklere daha fazla yer verilebileceği; öz yeterlik algısını göz önünde bulunduran etkinlikler düzenleme ve uygulama, geribildirim verme, öğrenme eksikliklerini ve hatalarını düzeltme, öğrencilerle iletişim ve etkileşim, yabancı dil öğretimiyle teknolojiyi bütünleştirme gibi konularda öğretmenlere yönelik uygulamalı mesleki gelişim programlarının düzenlenebileceği; öğretmenlerin, öğrencilerin gösterdikleri gelişime dikkat çeken değerlendirmelerde bulunabileceği ve İngilizceyi güvenli bir ortamda uygulamalarını sağlayacak düzenlemelere gidebilecekleri ve sınıf içi etkinliklerde öz yeterlik algısı yüksek ve düşük öğrencilerin eşleştirilebileceği ve böylelikle birbirlerinden model alarak öğrenme ve birbirlerini güdüleme fırsatlarının sağlanabileceği önerilmiştir.

*Anahtar Sözcükler:* İngilizce öz yeterlik algısı, öz yeterlik kaynakları, yükseköğretim, İngilizce öğretim programı.





## Elementary School Students' Informal Reasoning and Its' Quality Regarding Socio-Scientific Issues\*

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### ABSTRACT

**Purpose:** Since developing science literacy is a primary objective of science education and socio-scientific (SSI) decision-making is an important aspect of science literacy, it is valuable to explore how students structure their decisions related to SSIs, and how they discuss and solve SSIs. The aim of present study was to examine elementary school students' informal reasoning patterns related to SSIs, and the quality of these patterns.

**Research Methods:** In the study, I employed basic qualitative design. To recruit the participants, I used

typical case sampling to determine the schools and then I employed critical case sampling to select these participants. I gathered the data through semi-structured interviews and employed thematic analysis in the data analysis process. Findings: The findings revealed that the participants used logical, emotional and intuitive informal reasoning patterns to solve socio-scientific issues. However, a notable result of the study is that the least used reasoning pattern was logical reasoning while the most frequently used pattern was intuitive reasoning. Furthermore, it was found that the participants were engaged mostly in low-quality reasoning.

**Implications for Research and Practice:** The results of the study revealed that individuals use not only logic, but also emotions and intuition while looking for an answer for SSIs. Therefore, it is important for science educators to consider value-laden science teaching.

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## Introduction

A primary goal of science education is to cultivate scientific literacy for all students (American Association for the Advancement of Science [AAAS], 1993; National Research Council [NRC], 1996; National Science Teachers Association [NSTA], 2000). This skill requires discussing complex social issues and decision-making related to science (Fowler, Zeidler & Sadler, 2009), and it is accepted that it can be taught through socio-scientific issues (SSIs) (Kolstø, 2001a; Sadler, 2004a; Zeidler & Keefer, 2003). This is because SSIs create active contexts for the development of knowledge and processes that contribute to science literacy, such as forming evidence-based arguments, reaching a consensus, moral reasoning, and comprehending and applying scientific content (Sadler, 2009; Zeidler & Sadler, 2011), and they focus on developing individuals' ability to make conscious decisions (Sadler, 2004b; Zeidler & Keefer, 2003). Therefore, SSIs are an interesting and significant topic for science educators (Driver, Newton & Osborne, 2000; Kolstø, 2001a; Sadler & Zeidler, 2005b).

SSIs are science-based social issues that are complex, open-ended, and controversial; they lack absolute solutions and include contradictions (Sadler, 2004b). They can be encountered in daily life (Kolstø, 2001a), and are centered upon social dimensions of scientific content (Topcu, 2010). SSIs are current events on which there is no consensus while moral and ethical choices should be made, and they influence individuals, involve understanding risks and possibilities, are structured in the form of open-ended contradictions, and can be solved in multiple ways but have no exact solution (Ozden, 2015). Accordingly, in the literature, SSIs are usually associated with developments in biotechnology and environmental problems (Sadler & Zeidler, 2005a). For example, deforestation, genetically modified products (Foong & Daniel, 2013), climate change (Morris, 2014), cloning, the use of nuclear energy, the depletion of the ozone layer, and epidemics are accepted as SSIs (Pedretti, 2003). Certain controversial issues such as embryo selection, stem cell applications, and transplantation of tissues or organs between two different species are also SSIs (Levinson, 2006).

Discussing SSIs requires individuals to produce socio-scientific arguments (Grooms, Sampson & Golden, 2014). This type of argumentation is referred to as informal reasoning (Sadler & Zeidler, 2005b), which is a goal-oriented process that involves demonstrating and evaluating the pieces of proof related to a claim or result (Means & Voss, 1996). Informal reasoning is an evaluation regarding the reasons, consequences, advantages and disadvantages of certain suggestions or decision alternatives (Zohar & Nemet, 2002). It can also be used to describe scientific processes used in discussions and solutions of socio-scientific issues (Sadler & Zeidler, 2004). In accordance with these definitions, informal reasoning pertains to the thought processes that include evaluating the proof and considering different perspectives, which lead to individuals justifying their result with political, economic, moral, and ecological arguments in decision-making related to SSIs.

Traditionally, reasoning is used in the sense of formal reasoning, which is characterized with the rules of logic and mathematics (Sadler, 2003). Formal reasoning

emphasizes producing, evaluating, criticizing and developing claims and proof to explain natural phenomena (Duschl & Osborne, 2002; Osborne, Erduran & Simon, 2004). In other words, formal reasoning is the act of evaluating information (Cavagnetto, Hand & Norton-Meier, 2010). On the other hand, informal reasoning has a slightly ambiguous structure, and is based on the skill of producing and evaluating arguments. However, unlike formal arguments, such informal arguments are evaluated in terms of the soundness criterion, not as processes of information evaluation. This criterion has three primary indicators: 1) the acceptability of the supporting reason, 2) whether the reason supports the conclusion, or in other words, whether it is related to the reason, and 3) the extent to which counterarguments are considered (Means & Voss, 1996). Another criterion is to give priority to non-scientific proof and perspectives such as economic, political, and moral issues (Grooms et al., 2014). Informal reasoning makes use of cognitive as well as emotional characteristics while examining SSIs (Topcu, Yilmaz-Tuzun & Sadler, 2011). Consequently, in informal reasoning, individuals obtain a result based on the pieces of information they gain from multiple sources including personal experience, knowledge, beliefs, and values (Rundgren, 2011).

Regarding SSIs, there are different approaches that examine informal reasoning constructs. To explain the factors that affect individuals' reasoning processes related to SSIs (e.g., cognitive, affective, moral, ethical, economic, social, and political factors), constructs referred to as modes (Patronis, Potari & Spiliotopoulou, 1999; Yang & Anderson, 2003; Wu & Tsai, 2011) and patterns (Sadler & Zeidler, 2005a, b) are used. For instance, Patronis et al. (1999) describe informal reasoning processes with reference to social, ecological, economic, and practical modes. Yang and Anderson (2003) explain informal reasoning processes as scientifically oriented, social oriented, and equally disposed modes. Wu and Tsai (2011) refer to the reasoning processes related to SSIs as social, economic, ecological, and scientific, or as technology-oriented argument modes. While social oriented reasoning involves thoughts about social welfare and sympathy for others, the economic oriented mode reflects the perspective that is based on economic development. Moreover, the ecological oriented mode focuses on thoughts that observe the ecological balance, whereas scientific or technology-oriented modes relate to the advantages or limitations of science or technology (Wu & Tsai, 2011). On the other hand, Sadler and Zeidler (2005a, 2005b) address the informal reasoning process with reference to logical, emotional, and intuitive reasoning patterns. Logical informal reasoning includes thinking rationally, a thought process that refers to pragmatic principles, the issue of cost and benefit, and rational evaluation of technology. Emotional reasoning requires emotions such as empathy and sympathy in the decision-making process, and thus it is a kind of reasoning that focuses on human characteristics (i.e. emotions) in decision making. Lastly, intuitive informal reasoning represents individuals' unexplained sudden impulses in cognitive processes toward solving socio-scientific issues (Dawson & Venville, 2013; Sadler & Zeidler, 2005a, b; Topcu et al., 2011).

The quality of informal reasoning is as important as that of informal reasoning patterns (Topcu, 2008). In this respect, many studies examined the skills individuals

possess in producing arguments in the context of different SSIs (e.g., Albe, 2008; Ekborg, 2008; Jimenez-Aleixandre, Rodriguez & Duschl, 2000; Kortland, 1996; Lee, 2007; Patronis et al., 1999; Sadler, 2003; Ozturk & Yilmaz-Tuzun, 2017; Zohar & Nemet, 2002). These studies mostly based the analysis processes on the principals of informal reasoning (Means & Voss, 1996), the argumentation model (Toulmin, 2003), and the critical thinking developmental model (Kuhn, 1999). Although each of these models has different theoretical bases, all three of them emphasize the importance of producing supporting or opposing arguments related to the solution of socio-scientific issues (Sakschewski, Eggert, Schneider & Bögeholz, 2014). Accordingly, the criteria to be followed in evaluating the arguments that individuals produce in the process of informal reasoning can be specified as follows: (a) Does the individual state an argument related to the case presented? (b) Does the argument have an acceptable justification? (c) What is the quality of the justification proposed? (d) Have both sides of the problem been taken into consideration? In other words, have opposing arguments been stated as well? (e) Have qualifiers, or meta-statements, been used properly? and (f) How many acceptable justifications have been indicated to support the claims asserted? (Means & Voss, 1996). These criteria are used to evaluate the quality of informal reasoning employed in the literature with various modifications (e.g. Dawson & Carson, 2017; Evagorou, Jimenez-Aleixandre & Osborne, 2012; Sadler, 2003; Topcu, 2008; Wu & Tsai, 2011). However, the relevant literature does not provide any consistent models to explain the relationship between the quality of informal reasoning and individuals' argumentation skills (Topcu, 2008).

With regard to the literature on SSIs, studies mostly examined producing arguments in SSIs (Cetin, Dogan & Kutluca, 2014; Molinatti, Girault & Hammond, 2010), developing argumentation skills related to SSIs (Dawson & Venville, 2013; Grooms et al., 2014; Kortland, 1996; Zohar & Nemet, 2002), decision-making processes for SSIs (Evagorou et al., 2012; Grace, Lee, Asshoff & Wallin, 2015; Sakschewski et al., 2014), and informal reasoning and the factors affecting it (Sadler, 2003; Sadler & Zeidler, 2005a, b; Topcu et al., 2011). The data in related studies were gathered from middle school (Emery, Harlow, Whitmer & Gaines, 2017; Khishfe, 2014; Patronis et al., 1999), high school (Dawson & Carson, 2017; Kolarova, Hadjiali & Denev, 2013), pre-service (Grooms et al., 2014; Topcu et al., 2011; Ozturk & Yilmaz-Tuzun, 2017), and in-service teachers (Day & Bryce, 2011; Liu & Roehrig, 2019). It can thus be argued that elementary school students' processes of informal reasoning were ignored by researchers. Therefore, examining these overlooked school students' processes of informal reasoning has a special significance. If SSIs are or will be used as learning contexts in science classes, then elementary school students' informal reasoning patterns and qualities should be understood. This is because SSIs are reorganized as a pedagogical tool for science instruction to develop science literacy (Sadler & Zeidler, 2005a; Topcu, 2008). Since developing science literacy is a primary objective of science education and socio-scientific decision-making is an important aspect of science literacy, it is valuable to explore how students structure their decisions related to SSIs, and how they discuss and solve SSIs. Based on this framework, the aim of this study was to examine elementary school students' informal reasoning patterns related to

SSIs, and the quality of these patterns. Specifically, the study was based on the following research questions:

1. What are elementary school students' informal reasoning patterns regarding multiple SSIs?
2. What are elementary school students' reasoning quality regarding SSIs?

## Method

### *Research Design*

In the study, I employed basic qualitative design (Merriam, 2009) to discover and evaluate participants' informal reasoning patterns related to SSIs, and the quality of these patterns with an interpretive approach. Hereby, I didn't consider generalizing the results to a wider population. Instead I preferred a more detailed approach to catch their perspectives regarding selected SSIs. Therefore, basic qualitative design provided me flexible research process to describe and interpret participants' understanding and approaches. In this way, I was able to describe participants' reasoning processes and the quality of these processes at a basic level.

### *Schools and Participants*

In the study, I firstly determined the elementary schools, and afterwards selected the students. In the first step, I used typical case sampling (Patton, 2001) to determine the schools where data would be gathered. By means of this sampling strategy, a researcher tries to understand a certain phenomenon by examining average cases. It is also a useful method because it can be used to show shareholders what is typical rather than making generalizations. In other words, the sample is selected in accordance with descriptive goals (Patton, 2001). In this regard, I decided to gather data in three elementary schools close to the provincial average in terms of socio-economic status in a city located in the west-central Anatolia region of Turkey.

In the second step, I selected the participants among students studying at the schools that had been previously determined. I employed critical case sampling to select these participants. The most important indicator for the existence of critical case sampling is the argument "if this group has a problem, we can be sure that all other groups have a problem" (Patton, 2001, p.236). In this respect, I determined the critical case as students with high overall and science academic achievement who would provide more data and have the most impact on knowledge generation. Accordingly, the participants' overall academic achievement ranged between 77 and 99 points, whereas their science class achievement was between 81 and 98 points. As for gender, eight of the participants were female and eleven were male. Thus, although I did not aim to make generalizations to all cases technically, I hoped to help both myself and the reader to make analytical generalizations for similar cases.

### *Data Collection*

I gathered the data through semi-structured interviews (Berg, 2001, Merriam, 2009), in which I asked a set of pre-determined questions to each participant in a

systematic and consistent order. The participants responded to the questions with as much detail as they wanted, and I allowed them to go beyond the partially-structured questions in order for them to provide more thorough answers (Flick, 2009). I developed a Student Interview Form consisting of five sections for the semi-structured interviews. In the first section, I provided information about myself, the research topic and aims, and the participants' rights. In the second section, I included a student consent form for students to sign prior to participation declaring that they did so voluntarily. The third section comprised of a parental consent form for parents to sign a declaration allowing their children to participate. First, I phoned all parents and explained about research clearly. After that, I wrote a consent form for the children to the parents and sent it with children; then they signed and returned it back. In the fourth section, there was a personal information form for students. Finally, four open-ended questions related to the scenarios and designed to reveal students' informal reasoning patterns and their quality was provided in the fifth section.

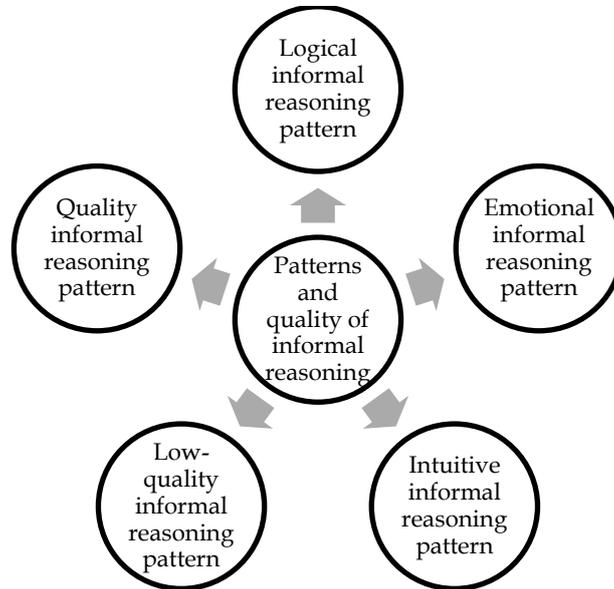
To gather data, I developed three scenarios including the socio-scientific issues of Organ Transplantation, Recycling, and Use of Forest Areas, and prepared interview questions related to these scenarios. I reviewed the literature in the process of developing these scenarios and questions. I realized that the existing scenarios of SSIs were mostly related to genetic engineering and global warming (see Liu & Roehrig, 2019; Molinatti et al., 2010; Sadler, 2004b; Sadler & Zeidler, 2005a). For this reason, I did not use the scenarios available in the literature because I determined that they were not suitable to the cognitive development of elementary school students. In fact, I mentioned in the introduction that studies that aimed to determine informal reasoning patterns and their quality gathered data from middle school, high school, and university students, as well as teachers. Therefore, I reviewed the Science Course Curricula for Grades 3-4 (Turkish Ministry of National Education [MoNE], 2013), and then prepared the scenarios that focus on the socio-scientific issues of Organ Transplantation, Recycling, and Use of Forest Areas, and prepared interview questions related to these scenarios. I then presented the scenarios and interview questions to two elementary school teachers and one science education expert studied in SSIs in order to elicit their opinions. Based on the feedback received from the experts, I made the necessary modifications to the form. For instance, instead of the expression "brain death" in the scenario script prepared for organ transplantation, I used the word "dying." Similarly, I used the word "view" instead of "argument" in the interview questions, and rephrased the question as follows: "What kind of explanations can someone who thinks differently than you provide to support his/her own views?" I included opposing ideas in the scenarios because of the nature of these issues. The interview questions I used in the scenario on organ transplantation are as follows: (1) Do you think a woman should donate the organs of her dying husband? Why? (2) How would you persuade a friend about your views? (3) What opposing views would there be for the view you just mentioned? What kind of explanations can someone who thinks differently than you provide to support his/her own views? (4) If you meet someone who thinks differently than you, how would you respond to him/her? How would you defend your views against his/her views?

I used the question structure presented above in all three sessions on the scenarios to enable the participants to describe their views, justify them, determine possible opposing views, and produce arguments to refute the opposing views. In each session, the participants read the scenario related to that SSI. I then asked them whether there was something they could not comprehend, and if they needed further explanation. After this introduction, I asked the participants the interview questions in the same order. I conducted the interviews for each scenario in different sessions and recorded these interviews after obtaining permission from both the participants and their parents. The shortest interview lasted for 13 minutes while the longest one was 21 minutes.

### *Data Analysis*

I employed thematic analysis (Braun & Clarke, 2006) in the data analysis process. Thematic analysis refers to conducting the analysis process based on the similarities, differences, and relationships within the data set. The word 'thematic' is about the goal to look for themes clustered in the data (Gibson & Brown, 2009; Willig, 2013). The steps I followed in thematic analysis are as follows: (i) getting to know the data, (ii) forming the initial codes, (iii) reviewing and associating the codes, (iv) forming and reviewing themes, (v) explaining the themes, and (vi) reporting the findings (Braun & Clarke, 2006; Saldaña, 2009). I elaborated on the data analysis process I performed based on the above-mentioned steps in the following:

In the first step, getting to know the data, I firstly transcribed the interviews. After I transcribed the interviews that I conducted with 19 participants three times, I read these transcriptions separately, and noted my initial thoughts about the data. In the second step, I systematically coded the relevant features within the data for research purposes. In this process, I revealed phrase-based codes such as "global warming," "other species," "making profit," and "good deed," as well as sentence-based codes such as "The rate of carbon dioxide in the air increases," "Animals become extinct," and "Places where animals can live disappear, and they are starting to die." At the end of this process, I created a data index. In the third step, I aimed to discuss the codes I revealed, the characteristics of these codes, their meaning, and adequacy for defining the data. In other words, I tried to make the codes explicit. Since thematic analysis, unlike content analysis, does not require peer review (Vaismoradi, Turunen & Bondas, 2013), the data were not coded by a second researcher. In the fourth step, I grouped the codes by clustering those that formed a meaningful pattern to create themes. I also assigned theme titles to these grouped codes and reviewed other studies in the literature in this process (e.g. Sadler & Zeidler, 2005a, b; Topcu, 2008; Topcu et al., 2011). At the end of the process, I revealed three themes to explain informal reasoning patterns: logical informal reasoning pattern, emotional informal reasoning pattern, and intuitive informal reasoning pattern. As for explaining the quality of informal reasoning patterns, I structured two themes: low-quality informal reasoning pattern and quality informal reasoning pattern. The theme map I came up with at the end of the analysis can be seen in Figure 1.



**Figure 1.** *Informal reasoning patterns related to SSIs and the quality of thinking processes*

In the fifth step, I defined the themes with reference to their similarities and differences with each other. The theme 'logical informal reasoning pattern' included stated views that were based on realistic, rational, and scientific knowledge. The theme 'emotional informal reasoning pattern' referred to being respectful and empathetic to other species' right to live. As for the theme 'intuitive informal reasoning pattern,' I used it as a construct to explain the arguments that the participants stated spontaneously and seemingly without much thought. The low-quality informal reasoning pattern involved the participants presenting and justifying their claims related to SSIs, whereas the quality informal reasoning pattern included the competencies of presenting a claim, justifying it, determining opposing claims and refuting the opposing claims. In the last step, reporting the findings, I established the relationship between the themes and codes, quoted interesting and important parts from the participants' views, and presented the findings with a descriptive approach.

## Results

In this section, I presented an overall view of the findings (see Table 1), and then the properties of the data under each theme.

**Table 1.**

*Matrix for the Patterns and Quality of Informal Reasoning*

Participants	Informal Reasoning Pattern on Organ Transplantation, and Its Quality					Informal Reasoning Pattern on the Use of Forest Areas, and Its Quality					Informal Reasoning Pattern on Recycling, and Its Quality				
	L. I. R. P.	E. I. R. P.	I. I. R. P.	Lo. I. R. P.	Q. I. R. P.	L. I. R. P.	E. I. R. P.	I. I. R. P.	Lo. I. R. P.	Q. I. R. P.	L. I. R. P.	E. I. R. P.	I. I. R. P.	Lo. I. R. P.	Q. I. R. P.
Nazmi			+	+				+	+				+	+	
Yasemin			+	+				+	+				+	+	
Eylül			+		+		+		+				+	+	
Rabia			+	+			+		+				+	+	
Sıla			+	+				+	+				+	+	
İkra			+	+				+	+				+	+	
Ensar		+		+			+			+		+		+	
Naime		+		+			+		+			+	+	+	
Umut		+		+			+		+			+	+	+	
Emir			+	+			+			+		+	+	+	
Elif			+	+			+			+		+	+	+	
Naz			+	+				+	+			+	+	+	
Damla			+	+			+		+			+	+	+	
Efe			+		+		+			+		+	+	+	
Nur		+			+		+			+		+	+	+	
Halil		+			+		+			+	+		+	+	
Ceren		+		+		+				+	+		+	+	
Burak		+			+	+				+	+		+	+	
İlker		+			+	+				+	+		+	+	

*L. I. R. P. : Logical informal reasoning pattern, E. I. R. P. : Emotional informal reasoning pattern, I. I. R. P. : Intuitive informal reasoning pattern, Lo. I. R. P. : Low-quality informal reasoning pattern, Q. I. R. P: Quality informal reasoning pattern.*

The informal reasoning patterns regarding organ transplantation, use of forest areas, and recycling, along with the quality of these patterns, are shown in Table 1. Regarding the SSI of organ transplantation, none of the students formed a logical informal reasoning pattern. On the other hand, the participants constructed mostly intuitive informal reasoning patterns for all the SSIs. This reasoning pattern was followed by emotional reasoning. The least used reasoning pattern by the participants was logical reasoning. When evaluated in terms of the quality of reasoning patterns, the participants were engaged mostly in low-quality thinking processes. In other words, most of the participants only developed claims related to the SSI scenarios, but did not justify these claims. Besides, only a small number of participants were able to state claims, justify them, determine possible opposing views, and refute these views. Only one participant had the ability to think through these four steps related to all

three scenarios. Apart from this overall view of the data, detailed explanations and properties of the themes can be found in the following sections.

#### *Logical Informal Reasoning Pattern*

Logical reasoning represented the participants' use of views and arguments based on reason. This type of informal reasoning was employed in two of the scenarios, which were the use of forest areas and recycling, but did not appear in relation to organ transplantation. Additionally, this reasoning pattern was used by only few participants in both SSIs. Sample quotations regarding the logical reasoning pattern are as follows:

*Burak: If other countries import domestic waste and turn it into electricity, there will be no need to cut off the power. Since they produce their own electricity and do not buy it from other countries, they make profit from domestic waste by using and exporting the electricity. Then the problem would be solved. When it is solved, more accurate decisions will be made. (Recycling).*

*Ceren: It is because we can both prevent environmental pollution and produce electricity by importing domestic waste from other countries. That's why power plants wouldn't have to work longer. Especially materials such as iron, paper, plastic, and glass can be found in domestic wastes. If the paper is torn apart, we can recycle it into paper again. In this way, fewer trees will be cut down. (Recycling).*

*İlker: If our natural areas disappear, there will be too much carbon dioxide in the air. People won't find a place to get fresh air. Global warming will increase and the glaciers will be destroyed. Animals will become extinct. (Use of Forest Areas).*

As is seen in the quotations, the participants provided reasonable justifications to support their claims. For example, Burak explained the recycling of domestic waste with an economic justification, while Ceren referred to an understanding of sustainability. On the other hand, İlker figured out that opening forest areas to settlements by cutting down trees would increase the rate of carbon dioxide, speed up global warming, and cause the melting of glaciers.

None of the participants built up a logical reasoning pattern related to the socio-scientific issue of organ transplantation. Unlike other examples of SSIs, organ donation is not included in elementary school curricula. Therefore, the participants may not have used this type of reasoning pattern because they did not have sufficient content knowledge.

#### *Emotional Informal Reasoning Pattern*

The emotional informal reasoning pattern was used in the thinking processes related to all three SSIs. This type of reasoning included considering the consequences of decisions for other people and species, being responsible for them, and wishing for their well-being; in short, showing empathy and being sympathetic. The participants who were engaged in this type of thinking considered how other species and people would be affected by the decisions made. Sample quotations regarding the emotional reasoning pattern are as follows:

*Nur: Yes. Because the woman's husband was already dying, she could at least help other people get better by donating his organs. (Organ Transplantation).*

*Umut: She should donate his organs. Because there are people who are about to die or have to live with a single kidney. (Organ Transplantation).*

*Damla: No. Because other countries need domestic waste. They need to produce their electricity with that waste. If Sweden imports domestic waste from other countries, they lose money, because Sweden already has their own waste. (Recycling).*

*Naz: No, they shouldn't import it. Because the country loses money by importing waste from other countries. It also diminishes other countries' plans about domestic waste. Sweden may be developed in this respect, but they prevent other countries from developing. (Recycling).*

*Naime: No. Because the world is not only ours. It is also the animals'. Mountains and plains are their home. If we build houses in every part of nature, animals will become extinct. (Use of Forest Areas).*

*Elif: No. Because natural areas are damaged. The places where animals can live disappear, and they are starting to die. (Use of Forest Areas).*

*Damla: No. Because we already have few natural areas. Plants and animals are also living beings. If we destroy natural areas, we destroy the living areas for plants and animals. (Use of Forest Areas).*

As is seen, the participants questioned how living beings other than them (i.e. people, animals, or plants) would be affected by the decisions made in all three scenarios. They emphasized that if the organs of a dying person were donated, other people's lives could be saved; if forest areas were to be opened for settlements, the habitats of other stakeholders would be limited; and thus, they would become extinct. In this respect, the participants stated their concerns for other species by considering the risks and possibilities in the SSI reasoning processes. Similarly, the participants evaluated what should be done for other species to continue their lives with an empathic approach. However, their emotional reasoning was not far from being rationale. On the contrary, wishing for the well-being of others was supported with a logical justification in the sample quotations presented above. The quotations "Natural areas are damaged," "Mountains and plains are animals' home," and "She could at least help other people get better by donating his organs" support this interpretation.

#### *Intuitive Informal Reasoning Pattern*

Intuitive thinking was the type of reasoning most commonly employed by the participants and accounted for instant and emotional decision-making. The students who employed intuitive reasoning provided superficial and instant positive or negative answers to the SSI scenarios without thinking enough. This thinking pattern was intuitive, and covered characteristics that were not rational as well. Sample quotations regarding the intuitive reasoning pattern are given below:

*Elif: Yes. Because the woman would help others and do a good deed. (Organ Transplantation).*

*Naz: Yes. Because it would be a good deed. (Organ Transplantation).*

*İkra: Yes, because we need electricity. (Recycling).*

*Emir: Yes, it should. Because it produces electric energy. (Recycling).*

*Eylül: Yes. Because only they can do this. (Recycling).*

*Naz: No. Because it would be good to have our natural areas. (Use of Forest Areas).*

*Sıla: No. Because nature gives us the air to breathe. (Use of Forest Areas).*

As can be seen in these quotations, the participants provided instant and superficial answers related to the SSI scenarios. While their answers regarding organ transplantation and recycling were positive, they responded to the use of forest areas with negative statements. However, these answers were not rational, as emphasized by responses such as “she would do a good deed,” “nature gives us the air to breathe,” and “only they can do this.” Moreover, they included superficial explanations.

#### *Low-Quality Informal Reasoning Pattern*

The low-quality informal reasoning pattern refers to the informal reasoning construct at the basic level. The participants who had low quality thinking structure stated their own claims related to SSIs but could not justify them. In this regard, stating a claim and justifying it are of different levels. Therefore, the participants who developed a low-quality reasoning pattern could not reach the second level. Sample quotations for the low-quality reasoning pattern are given below:

*Yasemin: I think she should donate his organs. (Organ Transplantation).*

*Emir: Yes, she should. Because his organs can keep several people alive. (Organ Transplantation).*

*Ceren: Yes. We should think of other people. They are living beings as well. They have a right to live. It is a good deed to donate organs to others. It is good for one person to die instead of five persons. If five persons stayed alive, they would be happy. If they got better, their family, relatives, and neighbors would be very happy. (Organ Transplantation).*

*Eylül: I think they shouldn't use these areas. If houses are built on green lands due to population increase, children will not have a place to play, or have a natural environment. (Use of Forest Areas).*

*Rabia: We, the children, want playgrounds to have fun. That's why I am against urbanization and want more areas to stay untouched. (Use of Forest Areas).*

*İkra: No. Streets and parks should be built in natural settlements, which are beautiful places. (Use of Forest Areas).*

*Nur: Energy can be produced from domestic waste. For this reason, Sweden is right to import garbage. (Recycling).*

*Efe: Yes, they should. Because they turn the garbage they get from other countries to electricity, so they should buy domestic garbage. I would persuade my friend by saying that*

*he/she should also say yes because Sweden does not do anything wrong but turns the domestic waste they get from other countries into electricity. (Recycling).*

*Sıla: No. Because everybody should produce electricity in their own country. Without electricity, we can't see anything. (Recycling).*

As is seen, the participants stated their claims related to SSIs with words like "yes" or "no." Despite this, they tried to justify their claims. Nevertheless, they expressed some naive justifications, such as "Because his organs can keep several people alive," "We want playgrounds to have fun," and "Because everybody should produce electricity in their own country." Similarly, the participants' claims and justifications were mostly related to the intuitive thinking pattern. Therefore, I can say that there is a relationship between intuitive thinking and low-quality thinking pattern.

#### *Quality Informal Reasoning Pattern*

The quality informal reasoning pattern indicated the most complex and developed informal reasoning construct. The participants who could reach this level were able to state their own claims, justify them, think about possible opposing views, and put forward arguments that could be used to refute such views. In terms of quality, the highest level at which the participants formed arguments was refuting evidence. Sample quotations regarding the quality reasoning pattern are as follows:

*Halil: Her husband was about to die. So, he doesn't need his organs which can save other people with a transplant. Since her husband is dying, she can save others with his organs. Therefore, yes, it is more sensible. Someone can say that his organs shouldn't be donated. Or maybe her husband would not die, we would kill him by taking out his organs, he/she would say. Then, if the organs weren't to be donated, other lives could be lost, as well as her husband's. (Organ Transplantation).*

*Burak: No. If green areas are used, and if forests and rivers are destroyed, then animals, plants, and people can't stay alive. For instance, if trees are cut down, people will die from a lack of oxygen, because trees produce the oxygen we need. And without trees, there would be no life. (...) My friend, if you say yes, then that beautiful nature disappears. Trees, plants, mushrooms, and even microscopic creatures live in that environment. Even microscopic creatures have a place in our lives. If microscopic creatures become extinct, we won't be able to eat most of the nice food. We would just be clean. If we are clean and healthy, and don't have any diseases, we can catch diseases more serious than being clean, and die. My friend can say that if buildings aren't there, people can't find a place to shelter. And if they can't, they die. My opinion is that we should have gardens instead of parks and playgrounds. If old houses in villages are taken down and everybody lives in a single house, and if we plant trees in the environment and replace the old houses with new ones, everything will be all right. But in your perspective people would die, and thus the population would decrease. My friend, if you say yes, the course of the natural environment will deteriorate. Then we will swim in petroleum rather than the sea, catch cans rather than fish, and eat bricks rather than food. I mean, if the course of the environment is deteriorated, bad things will happen. People can die from diseases. So, the population will decrease. And this environment would have been destroyed in vain. (Use of Forest Areas).*

*Ilker: Yes. Because if Sweden buys garbage from other countries, it turns it into energy and becomes rich. Sweden is pretty quick at producing electricity and has put much effort in turning domestic waste into electricity. The use of fossil fuels should end by 2030 because cars cause global warming. One can say that if it buys waste and can't turn it into electricity, there will be a big problem. I think Sweden wants to prevent global warming. That's why they buy domestic waste to increase the use of electricity. They want all cars to run on electricity by 2030. Sweden doesn't want the glaciers to melt down. Also [it wants] to be a rich country. (Recycling).*

As can be seen in the quotations, the participants justified their claims related to the SSIs, demonstrated opposing views, and developed justifications to refute these views. As for the types of informal reasoning, the quotations mostly overlapped with logical and emotional reasoning patterns. In this respect, there seems to be a relationship between quality reasoning patterns and logical and emotional reasoning patterns. In fact, the participants who developed logical and emotional reasoning patterns generally constructed quality thinking patterns. On the other hand, the most important ability expected from the participants was to produce arguments to refute opposing views. However, only one participant was able to achieve this ability in all three reasoning processes. Despite this, there were four different participants who could reach this level in different SSI scenarios. As a result, I can say that the participants had difficulty in terms of forming quality informal reasoning patterns and could usually reach the level of determining opposing views. Consequently, it can be argued that there is a need to conduct SSI practices that would take students above this level, or in other words develop their ability to refute opposing views.

### **Discussion, Conclusion and Recommendations**

This study aimed to examine elementary school students' informal reasoning patterns related to SSIs and the quality of these patterns, and revealed significant results for science education. In the study, the three scenarios (organ transplantation, use of forest areas, and recycling) were used to understand the students' reasoning patterns related to SSIs. In other studies conducted in context of SSIs, issues such as environmental problems (Kortland, 1996; Patronis et al., 1999), genetic engineering (Cetin et al., 2014; Christenson, Rundgren & Höglund, 2012; Kolarova et al., 2013; Zohar & Nemet, 2002), climate change (Dawson, 2015; Dawson & Carson, 2017), nuclear energy (Christenson et al., 2012), astrobiology (Hansson, Redfors & Rosberg, 2011), and energy transmission lines (Kolstø, 2001b) were used to examine and discover students' reasoning processes.

The participants used logical, emotional and intuitive informal reasoning patterns while discussing and trying to solve socio-scientific issues. In other words, they employed not only cognitive but also emotional processes while figuring out a solution for the socio-scientific issues. However, the studies referred to the thinking constructs related to SSIs with different names. For example, Ozturk and Yilmaz-Tuzun (2017) described informal thinking patterns as modes in their study with teacher candidates. They observed that the teacher candidates were engaged in economic-oriented, ecology-oriented, types of risk, science and technology-oriented, and political-oriented

reasoning. In a study with high school students, Yang and Anderson (2003) found that the participants used science-oriented, social-oriented, and equally-balanced reasoning modes. In the study, it was reported that the high school students with science-oriented reasoning used scientific knowledge in their decision-making processes, whereas social-oriented students considered social factors while making their decisions. On the other hand, the students with equally balanced modes used both scientific knowledge and social factors (Yang & Anderson, 2003). In another study, Patronis et al. (1999) revealed that students formed social, ecological, economic, and practical informal reasoning patterns. In his study conducted in the context of energy transmission lines and child leukemia, Kolstø (2006) reported that the participants developed the relative risk argument, the precautionary argument, the uncertainty argument, the small risk argument, and the pros and cons argument. As is seen, thinking structures revealed in solving socio-scientific issues are named differently in the current study and different studies in the literature. There is no doubt that naming reasoning processes is closely related to the scope of the scenarios used to gather data. However, it should be emphasized that regardless of the thematic name of these patterns, individuals use cognitive as well as political, social, economic, ethical, and ecological reasoning processes in solving socio-scientific issues.

A notable result of the study is that the least used reasoning pattern was logical reasoning while the most frequently used pattern was intuitive reasoning. Although science and science education are consistently characterized by rationalist thinking patterns (Sadler, 2003), the logical reasoning pattern has been the least used in solving SSIs among three reasoning patterns in other studies as well (Sadler & Zeidler, 2005a; Topcu, 2008; Topcu et al., 2011). On the other hand, there are different research findings reported in the literature. For instance, Kolarova et al. (2013) found that high school students used logical reasoning the most in issues related to genetic engineering. Unlike the current study, they also reported that the least used pattern was intuitive reasoning. Similarly, Ozturk and Yilmaz-Tuzun (2017) demonstrated that almost all the teacher candidates they worked with made evidence-based decisions. Although there are different results in the literature, it is clear that individuals use not only logic, but also emotions and intuition while looking for an answer for SSIs. The point to note here is not to change the representation of the nature of science in science classes, but to accept the importance of emotional and intuitive reasoning that individuals use when discussing complex SSIs (Topcu et al., 2011).

When evaluated in terms of the quality of reasoning patterns, it was found that the participants were engaged mostly in low-quality reasoning. In brief, they usually developed claims related to SSIs, and were able to justify these claims. As a result, they had difficulty in terms of forming quality informal reasoning patterns but could usually reach the level of determining opposing views. There are studies in the literature that overlap or contradict with this result I reported. For example, Jimenez-Alexandre et al. (2000) stated that ninth graders could not produce quality arguments to support their views on genetics. Likewise, Kortland (1996) observed that middle school students had limited ability to determine opposing views and produce arguments to refute them. According to Kortland, although the students were able to

produce basic arguments, the variety and clarity of the arguments proposed were restricted. In another study, Molinatti et al. (2010) underlined the students' weakness in discussion skills as the most remarkable finding of their study. They indicated that the high school students had difficulty in producing arguments, and were not competent in drawing attention to ethical, legal, economic, or social aspects of problems when producing an argument. In their study of science teachers, Liu and Roehrig (2019) found that the participants were able to support their argument with proof and valid justification, but the pieces of proof put forward were not sufficient. They examined teachers' arguments related to global warming, and although the teachers stated that the rate of carbon dioxide and weather temperature increased simultaneously, they did not discuss the cause-effect relationship between these two events. In the same study, the teachers were reported to form arguments involving personal observations based on their experiences rather than those based on scientific knowledge. They were also reported to have problems in discussing what different perspectives contradict with personal beliefs.

In the literature, results can be encountered which are different from what I reported in the current study and studies summarized above. For example, Patronis et al. (1999) reported that middle school students were able to produce quality arguments. In the study, the students worked in small groups to develop and plan a strategy to cope with a local environmental problem for a couple of months. According to the researchers, the students' work on a local problem enabled them to have a discussion process that was better than expected. Traditionally, science education focuses on directly conveying certain pieces of scientific knowledge. However, contexts that would enable students to think about science-based social issues are not employed by teachers although they are included in current science education curricula. For this reason, in the present study, the students may not have formed quality arguments due to lack of experience in discussing SSIs and content knowledge. In fact, the difference between Patronis et al.'s study (1999) and other studies in the field, including the present study, is that the students gained experience related to SSIs over a period of several months. It is possible that continuous instructional activities toward discussing SSIs and selecting the SSIs from the students' immediate environment may have helped them demonstrate quality thinking patterns. There are studies in the literature that overlap with this argument. For instance, Dawson and Venville's experimental study (2013) showed that the quality of students' argumentation skills can be improved. Before the experimental procedure, the participants were not competent in stating claims and supporting them with data. However, as a result of the practices regarding how argumentation is done, there was an improvement in their argumentation skills. Moreover, the experimental procedure helped the students make more use of logical reasoning patterns. A similar study was also conducted by Zohar and Nemet (2002) who aimed to develop ninth graders' skills of using argumentation related to genetic dilemmas. In the study, while the traditional course book was used in the control groups, advanced genetic concepts on genetic engineering, human genetics, and related social issues were taught to the students in the experimental group. Moreover, in addition to genetic engineering, the students in the experimental group also received instruction related to argumentation skills, and

produced arguments in the context of genetic dilemmas. Ultimately, although the control group did not show a significant development in discussing genetic dilemmas, the experimental group could form arguments in contexts similar to the dilemmas they were exposed to during the experimental procedure.

The qualitative nature and relatively small sample of this study certainly limit the generalizability of the results obtained. However, the results are thought to be significant in terms of demonstrating elementary school students' informal reasoning processes related to SSIs. In the literature, it is reported that certain participants – though small in number– highlighted that SSIs were not suitable to elementary school students' cognitive structures (Ozden, 2011). Yet, the results of the current study contradict such views, and show that SSIs can be used at elementary school level. As for further research, there seems to be a need for studies including practices towards improving the quality of reasoning in elementary school students.

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### İlkokul Öğrencilerinin Sosyobilimsel Konulara İlişkin İnfomal Akıl Yürütme Örüntülerinin İncelenmesi

#### Atf:

Ozden, M. (2020). Elementary school students' informal reasoning and its' quality regarding socio-scientific issues. *Eurasian Journal of Educational Research*, 86, 61-84, DOI: 10.14689/ejer.2020.86.4

#### Özet

*Problem Durumu:* Fen eğitiminin temel amacı bilim okuryazarı bireyler yetiştirmektir. Bilimle ilgili karmaşık sosyal meseleleri tartışma ve karar verme yeteneği gerektiren bilimsel okuryazarlık becerisinin sosyobilimsel konular (SBK) yoluyla kazandırılabilmesi kabul edilmektedir. SBK bireyleri etkileyen, üzerinde görüş birliği sağlanamamış, risk ve olasılıkları anlamayı içeren, açık uçlu ikilemler biçiminde yapılandırılmış, ahlaki ve etik seçimler yapılması gereken, çözümü birden çok alternatifi kapsayan ama kesin bir çözümü olmayan güncel olaylardır. SBK'ların tartışılması genellikle bireylerin sosyobilimsel argümantasyon yapmasını gerektirmektedir. Bu argümantasyon biçimi infomal akıl yürütme olarak adlandırılmaktadır. İnfomal akıl yürütme, SBK'da karar alma sürecinde konuyla ilgili kanıtların değerlendirilmesi, farklı bakış açılarının düşünülmesi ve bu zihinsel eylemler sonucunda bireyin kendi vardığı sonucu siyasal, ekonomik, ahlaki, ekolojik vb. argümanlarla gerekçelendirebilmesini içeren düşünme süreçlerini açıklamaktadır. Son yıllarda SBK'da infomal akıl yürütme süreçlerini inceleyen ve giderek artan bir alan yazın oluşmaktadır. Ancak bu araştırmalarda ilkökul öğrencilerine odaklanılmamaktadır. Fen sınıflarında SBK'lar öğrenme bağlamı olarak kullanılıyorsa ya da kullanılacaksa, ilkökul öğrencilerinin infomal akıl yürütme örüntülerini ve akıl yürütmelerinin niteliklerini anlamak önemlidir. Böylece öğrencilerin SBK'lara ilişkin kararlarını nasıl yapılandırdıklarını, SBK'ları nasıl tartıştıklarını ve çözdüklerini keşfedilebilir ve bu basamakta yapılan fen etkinliklerine ilişkin anlayış kazanılabilir.

*Araştırmanın amacı:* Bu araştırmada ilkökul öğrencilerin SBK'lara ilişkin infomal akıl yürütme örüntüleri ile bu örüntülerin niteliğini keşfetmek amaçlanmıştır. Bu

kapsamda Őu araŐtırma soruları oluŐturulmuŐtur: (1) İlkokul ğrencilerinin farklı SBK'lara iliŐkin oluŐturdukları informal akıl yürütme rüntüleri nedir?, (2) İlkokul ğrencilerinin SBK'lara iliŐkin yaptıkları akıl yürütme rüntülerinin niteliđi nedir?

*Yöntem:* AraŐtırmada temel nitel araŐtırma deseni kullanılmıŐtır. AraŐtırma katılımcılarını belirlemek üzere rnekleme iki aŐamada yapılmıŐtır. Bu amaçla öncelikle tipik durum rnekleme kullanılarak araŐtırma verilerinin toplanacađı okullar belirlenmiŐtir. Bu kapsamda araŐtırmanın uygulamasının sosyoekonomik düzey bakımından kent ortalamasına yakın üç ilkokulda gerçekteŐirilmesine karar verilmiŐtir. İkinci aŐamada ise belirlenen okullarda ğrenim görmekte olan ğrencilerden katılımcıları belirlemek üzere kritik durum rnekleme kullanılmıŐtır. Buna göre en fazla bilgiyi verebilecek ve bilgi üretimi konusunda en büyük etkiyi yapacak katılımcıları seçmek üzere kritik durum genel ve fen akademik başarıyı yüksek ğrenciler olarak belirlenmiŐtir. Buna göre sekiz kız ve 11 erkek ğrenci araŐtırmanın katılımcılarını oluŐturmuŐtur. AraŐtırma verileri yarı yapılandırılmıŐ görüŐmeler yoluyla toplanmıŐtır. Verileri toplamak üzere Organ Nakli, Geri DönüŐüm ve Orman Alanlarının Kullanımı SBK'larını içeren üç adet senaryo ve görüŐme sorularını geliŐtirilmiŐtir. SBK senaryolarının, bu konuların dođası geređi karŐıt fikirler içermesine özen gösterilmiŐtir. AraŐtırmada kullanılan görüŐme sorular ise katılımcıların iddialarını belirtmeleri, iddialarını gerekçelendirmeleri, olası karŐıt iddiaları belirlemeleri ve karŐıt iddiaları çürütebilecekleri argümanlar oluŐturmalarını sađlamak üzere oluŐturulmuŐtur. Her bir oturumda katılımcılar önce senaryoyu okumuŐlardır. Okumalarını tamamladıktan sonra anlaŐılmayan bir yer olup olmadıđı ve ek açıklama isteyip istemediklerini sorulmuŐtur. Verilerin analizinde tematik analiz yaklaŐımı kullanılmıŐtır. Analiz sonucunda informal akıl yürütme rüntülerini açıklamak üzere (i) mantıksal informal akıl yürütme rüntüsü, (ii) duygusal informal akıl yürütme rüntüsü ve (iii) sezgisel informal akıl yürütme rüntüsü temalarını oluŐturulmuŐtur. Informal akıl yürütme rüntülerinin niteliđini açıklamak üzere ise (i) düşük nitelikli informal akıl yürütme rüntüsü ve (ii) nitelikli informal akıl yürütme rüntüsü temaları yapılandırılmıŐtır.

*Bulgular:* AraŐtırmada, katılımcıların en çok sezgisel akıl yürütme rüntüsü oluŐturdukları görülmüŐtür. Bu akıl yürütme rüntüsünü duygusal akıl yürütme rüntüsü izlemektedir. Katılımcıların en az kullandıkları akıl yürütme rüntüsü ise mantıksal akıl yürütme rüntüsüdür. Akıl yürütme rüntüsünün niteliđi bakımından deđerlendirildiđinde ise katılımcılar daha çok düşük nitelikli düşünme süreçlerini kullanmıŐlardır. Yani katılımcıların çođunluđu SSI senaryolarına iliŐkin sadece iddia geliŐtirmişler ve bu iddialarını gerekçelendirmişlerdir. Bununla birlikte az sayıda katılımcının iddia oluŐturma, gerekçelendirme, olası karŐıt görüşleri belirleme ve bu görüşleri çürütme yeterliđinde oldukları anlaŐılmaktadır.

*Sonuç ve Öneriler:* AraŐtırmada SBK'ların çözüme yönelik düşünme süreçlerinde sadece biliŐsel düşünmenin deđil duyusall düşünme özelliklerinin de iŐe koŐulduđu belirlenmiŐtir. AraŐtırmanın en ilginç sonucu en az kullanılan akıl yürütme rüntüsünün mantıksal akıl yürütme rüntüsü; en çok kullanılan akıl yürütme rüntüsünün ise sezgisel akıl yürütme rüntüsü olmasıdır. Fen ve fen eđitimi çođunlukla rasyonalist düşünme kalıplarıyla karakterize edilmektedir. Bu durum

daha çok formal akıl yürütme ile ilişkilidir. İnfomal akıl yürütme ise formal akıl yürütmeden farklı olarak bilim ve teknoloji tabanlı güncel sorunları tartışırken sosyal, çevresel, etik, ahlaki, ekonomik, politik, duygusal vb. önceliklerin de düşünme sürecini etkilediğini ortaya koymaktadır. Bu nedenle öğretmenler SBK tartışma sürecinde öğrencilerin kullandıkları duygusal ve sezgisel akıl yürütmenin önemini kabul etmeli ve değer vermelidir. Akıl yürütme örüntüsünün niteliği bakımından öğrencilerin zorlandıkları ve çoğunlukla karşıt iddiaları belirleme düzeyine çıkabildikleri söylenebilir. Geleneksel olarak fen öğretimi belirli bilimsel bilgilerin doğrudan aktarımı üzerine odaklanmaktadır. Öğrencilerin bilim temelli sosyal konular üzerine düşünmelerini sağlayacak bağlamlar ise günümüz fen öğretim programlarında yer alsın bile bu bağlamların öğretmenler tarafından işe koşulmadığı bilinmektedir. Dolayısıyla öğrenciler hem SBK'ları tartışma konusunda deneyimsiz hem de içerik bilgisi bakımından yetersiz oldukları için nitelikli argümanlar oluşturamamış olabilirler. Bu nedenle, ilkökul düzeyinde akıl yürütmenin niteliğini geliştirmeye dönük uygulamalı araştırmalar yapılması gerektiği düşünülmektedir.

*Anahtar Sözcükler:* sosyobilimsel konular, sosyobilimsel konu senaryoları, argümantasyon, infomal akıl yürütme, akıl yürütme örüntüleri, akıl yürütme niteliği



## The Role of Charismatic Leader in School Culture

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### ABSTRACT

**Purpose:** This study aims to investigate the level at which the charismatic leadership style of school principals perceived by teachers predicts the school culture.

**Research Method:** The correlational model, a quantitative research model, was conducted. In this study, 490 teachers participated in Uskudar, Istanbul. The School Culture Scale (Terzi, 2005) and the Charismatic Leadership Scale (Conger & Kanungo, 1994) were used to measure the teacher's perception of the charismatic leadership and school culture.

Correlation analysis was performed to identify the relationship between the charismatic leadership style and the school culture perceived by the teachers. Regression analysis was performed to determine whether the charismatic leadership style was a predictor of school culture.

**Findings:** The findings obtained after the analyses showed that there was a significant positive relationship between the charismatic leadership and the success culture, support culture, mission culture, and bureaucratic culture and that the charismatic leadership style was a predictor of, respectively, the success culture, support culture, mission culture, and bureaucratic culture. The charismatic leadership explains 29% of the total variance in mission culture, 35% of the total variance in support culture, 36% of the total variance in success culture and 5% of the total variance in bureaucratic culture.

**Implications for Research and Practice:** The charismatic leadership role of school principals in shaping the school culture should be emphasized. It may be suggested that charismatic leaders who manage the school culture effectively can be successful.

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## Introduction

The most distinguishing characteristic of successful and effective organizations is their culture. Thus, today's complexities and uncertainties have increased the importance of culture for organizations. Organizations, by developing a clear and plain organization culture that is accepted by employees, adapt to the uncertainties, changes and competition environment and improve their competitiveness (Cameron & Quinn, 2017), and gain advantages by positively influencing the organizational performance, the motivation of the members and the change (Ashkanasy, Wilderom, & Peterson, 2000; Deal & Kennedy, 1982; Ouchi, 1981; Schein, 1988, 1990, 2004, 2009). Thus, the considerable importance of culture for the organization's life has been acknowledged. Due to such characteristics of culture, it is an important necessity for the effectiveness of an organization to identify the factors that constitute and influence the organizational culture (Anthony, 1994).

Culture is an abstract concept that is difficult to define (Dimmock & Walker, 2005; Hofstede, Neuijen, Ohavy, & Sanders, 1990). Culture is a complement of norms, values, beliefs, traditions and rituals (Peterson & Deal, 1998) created and shared (Hofstede et al., 1990), learned and transferred (Sisman, 2014) by the members of a certain social group or society that distinguish people in a certain group from those in another group (Keyton, 2005; Riutort, 2017), and provide unity of sentiments and thoughts (Hancerlioglu, 2018). Schein (2004, p. 17), on the other hand, defines culture as follows:

A pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems (p. 17).

Schein's definition focuses on the ways new members of an organization learn the culture, assumptions upheld deeply, because any organization can have multiple cultures (Keyton, 2005). In short, culture means "*the historical transfer of the patterns of sense*" (Terzi, 2005, p. 424). These patterns of sense are expressed in beliefs. Organizational culture, on the other hand, is the sum of common senses that arise from the interactions among, and are shared by, the members of an organization (beliefs, sentiments, behaviors and symbols, norms, values, philosophies, perspectives, beliefs, attitudes, myths or ceremonies), interconnect the sub-systems of the organization, create an identity for the organization, and distinguish the organization from other organizations (Hoy & Miskel, 2012; Keyton, 2005; Lunenberg & Ornstein, 2013; Robbins & Judge, 2013; Turner & Crang, 1996). Each organization has a culture, and the cultural differences of organizations manifest themselves as various symbols, heroes, rituals, and values. Symbols are words, gestures, images, or objects that have a certain meaning recognized by those who share the culture. Heroes are people with invaluable qualities that act as a role model in culture. Rituals are collective activities considered socially necessary to achieve the desired objectives. Values are the inclination to prefer certain situations more than others (Hofstede, Hofstede, & Minkov, 2010; Schein, 2004).

Schein (2004) and Hofstede et al. (1990) state that there is no consensus among the research on the definition of organizational culture, but that they agree on the characteristics of it. Organizational culture is the language, terminology, rituals and ceremonies used by the members of an organization in their interactions, the principles (observed behaviors), acceptable standard behaviors (norms), shared values (dominant values), principles for how the organization will treat its employees (philosophy of life), the “ropes” that ensure the harmony within the organization and enable new members to hold on within the organization (rules), and the overall atmosphere controlling the organization (sentiments) (Schein, 2004). Culture is holistic, has a historical background, is related to anthropological concepts, is constructed socially, and is hard to change (Hofstede et al., 1990). According to Lunenberg and Ornstein (2013), these characteristics cannot represent organizational culture alone. However, taken as a whole, they mean the organization’s culture (Schein, 2004).

According to Ouchi (1981), organizations have a culture just as nations and people have their own (Hofstede et al., 1990). Since culture consists of unwritten rules (Hofstede et al., 2010), it serves to enable new members to adapt to the organization, the organization to adapt to the internal and external environment, compete and gain control of the environment. An organization culture emerges from the complex and constant interaction network among the members of the organization (Keyton, 2005) and emphasizes what is valuable for the members and how they must think, feel and behave (Turner & Crange, 1996). According to Schein (2004), culture is the shared learning that contains the behavioral, sentimental and cognitive elements of a certain group. These shared learning are named as culture and turn into certain patterns over time. A review of the organizational culture literature shows that different models of organizational culture are presented. For example, Cameron and Quinn (2017) classified organizational culture as a hierarchy (control) culture, market (competition) culture, clan (cooperation) culture, and adhocracy (creative) culture, while Wallach (1983) classified it as bureaucratic culture, innovative culture and supportive culture. Handy (1995) used the ancient Greek gods to symbolize the management cultures or philosophies. According to Handy, there are four types of management culture or philosophy in organizations. These are club-power (Zeus), role (Apollo), mission (Athena) and individual-existentialist (Dionysus) cultures. Denison and Mishra (1995) analyzed organizational culture on two main axes. The first main axis is an organization's ability to adapt to external factors and achieve internal integration. The second main axis is change, flexibility, stability and direction capacities. Although researchers agree that organizations have different cultural structures and that an organization has multiple cultures, they presented different organizational models while explaining the organizational culture. The main reason for this difference may be the different perspectives of the researchers of the organizational culture or the different areas of service they analyzed in the organizations.

Organizational culture is one of the most fundamental characteristics of organizations and may lead to positive organizational results (Peterson & Deal, 2002). Organizational culture creates and shapes a managerial competence with values and

norms to improve organizational performance. Managerial competence subsumes elements, such as knowledge and skills, for leaders to perform their roles and duties in the best way (Hofstede et al., 1990). Leaders are considered a critical variable in determining organizations' success or failure (Schein, 2004). For, today is regarded as a very complex time, which expects many things from leaders (Bennis, 2016). Leadership is not only about visions, transformations and transactions (Antonakis & House, 2013). According to Conger (1989), leadership is the art of empowering others. Considering the complex nature of leadership, there is no, and may never be, a specific and widely recognized definition of it (Antonakis, Cianciolo, & Sternberg, 2004). In this respect, the question to answer is, "*What qualities must effective leaders have?*". McEwan (2018) established that effective leaders were communication experts, a trainer, had a vision, were a facilitator, change experts, motivator, productive, a character architect, encouraging and had the qualities of a *cultural architect*. Leaders also enable the achievement of organizational harmony (Antonakis, 2006). Thus, the qualities of the leaders working at the organization's senior management reflect the organizational culture. Particularly, the approach of senior managers with leadership characteristics at organizations to the general and work life, their values, attitudes, and behaviors identify with the organization and turn into organizational values and principles over time (Baytok, 2006). Leaders influence the culture, just as the cultural influences leaders. In other words, an organizational culture largely flourishes from leaders, and organizational culture can also influence the development of leaders. Cultures of effective organizations are created by their leaders, and leaders build a culture that supports the vision (Bass & Avolio, 1993). If the ideas suggested by leaders work and continue to work, assumptions that once belonged to the leader slowly turn into shared assumptions (Schein, 2004). Leaders act carefully because they believe that their organizational culture is unique and could be an effective tool to attract quality employees and distinguish their organization from the competition (Keyton, 2005). Culture is the result of a complex group learning process influenced by the leader's behaviors. In this sense, leadership and culture are conceptually intertwined (Schein, 2004).

Values, thoughts and behaviors that form the essence of leadership are social and interactive processes, and as a result, influenced culturally (Dimmock & Walker, 2005). Leadership is the source of the beliefs and values that enable one to move while dealing with a group's internal and external problems at the beginning. It is difficult to imagine that social processes, including the organizational culture, would occur without the efforts of leaders (Trice & Beyer, 1991). According to Schein (1985), leadership is critically important for creating and managing the culture and the essence of leadership. Therefore, leaders should read the culture very well, evaluate it, empower or transform it (Peterson & Deal, 2002).

Leading the change of culture means unlocking the key to the mysteries of organizations (Fullan, 2007). However, "*Does culture determine the leadership behaviors or do leadership behaviors change the culture?*" is not an important question to answer. Schein (2004) answers this question as leaders are considered the creators, transformers and managers of organizational culture. Culture and leadership are the

two sides of the medallion because leaders while creating groups and organizations, create a culture as well. Once the culture was created in the organization, it determines the leadership criteria and who can be the leader or not (Schein, 2004). Although culture has different impacts on the emergence of different leader types and their performance, an important aspect of organizational culture allows us to draw some general conclusions about the emergence of leaders and their performance (Mumford, Hunter, Friedrich & Caughron, 2009). At the organizational level, a strong organizational culture encourages the emergence of leaders and their performance and prevents the emergence and performance of leaders who advocate culturally inconsistent visions (Mumford et al., 2009). The research conducted by Schein (2004) on culture showed that the culture of a new culture was influenced by the organization's leader. On the other hand, leaders that entered organizations that had an established culture did not influence the culture equally. The latter shows that an established culture began to define leadership. In this sense, a charismatic leader can be considered a key to cultural change if he/she emerges under appropriate circumstances (Bell, 2013). A charismatic leader, followers and organization culture interact with each other (Arsenault, 1999). While charismatic leaders allow their followers to act freely on the reasons for achieving the goals, they influence and control through goals (Mumford et al., 2009). While charismatic leaders try to create an internal unity with organizational values to create an organizational culture, they create an external harmony with the vision (Eren, Alpkan, & Ergun, 2003), playing an active role in the creation of a culture.

The concept of charisma historically derived from an old Greek word (Conger & Kanungo, 1994) meaning "gift" (House, 1976), and was frequently used in political and religious domains (Choi, 2006). Although the concept was first used by Aristotle, the concept of charismatic leadership was first used by Weber (1947). The word charisma was first regarded as a special talent that gives some people the potential of doing extraordinary things (Northouse, 2014). Gifts that enable Lord to show extraordinary qualities, such as prophecy and healing, were considered (charisma) by the Church of Christianity (Conger & Kanungo, 1994; Conger, Kanungo, Menon, & Mathur, 1997). However, Weber used the concept of charisma as an umbrella term for social change and innovation in essence (Conger & Kanungo, 1987). It also spread across different fields, such as sociology, organizational research, and anthropology (Sy, Horton, & Riggio, 2018), to define leaders (House, 1976). Charisma is a quality that is "felt" and later attributed by followers to a leader. This makes charisma rare but is easily observed if it exists (Bell, 2013). Charisma provides a vision and a feeling of mission (Bass, 1990), is a values-based, symbolic, and emotion-laden leader signaling (Antonakis, Bastardo, Jacquart, & Shamir, 2016). Charisma can be "verified" only by the perception of followers. Therefore, the very powerful influence of charisma on followers and its theoretical nature must be considered (Antonakis, Fenley, & Liechti, 2011).

Weber defined the powers of authority in society and developed three ideal typologies. These are the charismatic authority, the traditional authority, and rational-legal authority (Conger & Kanungo, 1994; Conger et al., 1997). According to Weber,

legal authority is based on the belief that those ascended to the position of dominance are entitled to give orders; traditional authority is based on the established belief that traditions are sacred and that those who exercise power based on these traditions are legitimate; and charismatic authority is based on the sanctity, heroism or exemplary qualities of an individual. In other words, Weber argues that charismatic authority derives its legitimacy, not from traditions or laws, but the belief in the leader's exemplary quality (Conger & Kanungo, 1994). Trice and Beyer (1986) and Weber (1947) summarized its theory in five items. (1) An extraordinarily talented person, (2) a circumstance of social crisis or desperation, (3) a series of ideas offering a radical solution for the crisis, (4) a series of followers who attract the exceptional person to themselves and believe that the exceptional person is directly connected to the transcendental powers and (5) the verification of the extraordinary gifts and transcendence of that person with repeated achievements. According to Weber, charisma is a rarely seen phenomenon, and therefore, followers perceive the leader as someone with extraordinary qualities (Beyer, 1999; House, 1976). There are, however, researchers who argue that charisma may be a more common phenomenon (Beyer, 1999).

A charismatic leader is generally considered related to social change and renewal. Charismatic authority in Weber's theory typically emerges during crisis times that break both traditions and rational rule (Conger & Kanungo, 1987). In this sense, charismatic leadership develops in three stages: The first stage is examining and defining the opportunities and threats related to the environment as well as employee needs and demands. The second stage is developing and spreading a vision. The third stage is implementing the vision that exhibits a personal risk and uncommon behavior (Nikoloski, 2015).

Weber, being the first person to explain that a charismatic leader influences his/her followers (Antonakis, 2012), argued that charismatic leadership was very important for both continuity and change (Trice & Beyer, 1991). In this respect, the belief that charismatic leadership is the most suitable type of leadership that can achieve large-scale organizational changes has made it a subject of research on an organizational level (Conger et al., 1997). House (1977), being the first person to offer a theoretical framework to explain the behaviors of charismatic leaders, focused on the psychological influence of charismatic leaders on their followers (Antonakis, 2012). Since Weber (1947) and House (1977) introduced the charismatic leadership, many theoretical and empirical studies have sprung on the subject (e.g. Antonakis, 2006, 2012; Antonakis & Atwater, 2002; Antonakis, Avolio, & Sivasubramaniam, 2003; Antonakis et al., 2016; Antonakis et al., 2004; Antonakis et al., 2011; Banks, Engemann, Williams, Gooty, McCauley, & Medaugh, 2017; Bryman, 1992; Conger & Kanungo, 1987, 1988, 1994; Conger, Kanungo, & Menon, 2000; Conger et al., 1997; House, 1976; Mhatre & Riggio, 2014; Shamir, 1999; Yukl, 1999). These studies and theories suggest that charismatic leadership is an indispensable and vital for organizational life. In other words, today's competition, uncertainty, and change influence an organization's life and structures. In such an environment, the need for charismatic leaders increases to sustain organizational harmony, members, and culture (Shamir, 1999).

According to Conger and Kanungo (1987), leadership is an attribution to a person identified at the organization. Attributions to the leader may not be available equally across all leaders (Gul & Col, 2003). Therefore, which qualities of leaders will be considered charismatic by the members of an organization vary. According to Shamir (1999), a charismatic leader is a combination of “an inspiring vision, mitigating concerns, providing a sense, a feeling of control, a strong trust relationship between leader and member.” Conger and Kanungo (1987, 1994, 1998) listed the qualities of a charismatic leader as “setting a vision, environmental sensitivity, exhibiting extraordinary behaviors, taking personal risk, sensitivity to member needs and not maintaining the status quo,” Charismatic leaders are effective when they are in harmony with the values, ideals, and identities of their followers. Such harmony provides an environment for charismatic leaders to create a higher social identity and to internalize the goals their followers believe (Mhatre & Riggio, 2014). Charismatic leaders are not vision setters but also need other qualities to pioneer the organization. Therefore, they must articulate a vision, show empathy, and empower them to achieve motivation (Choi, 2006). The literature on charismatic leadership attributes three personal qualities to charismatic leaders: Extreme self-confidence, dominance, the need to influence, and a strong belief in the moral integrity of beliefs (House, 1976). Also, the sociological and political science literature gives some clues about the behaviors of charismatic leaders. Being a role model, creating a personal image, articulating objectives, having high expectations and trust in followers, being sensitive to followers’ expectations are motivating behaviors (House, 1976).

Followers of charismatic leaders are assumed to be distinguishable by their greater reverence, trust, and satisfaction with their leader and a heightened sense of collective identity, perceived group task performance and feelings of empowerment (Conger et al., 2000). A charismatic leader is defined as an individual who quickly motivates the group in the face of an emergency, and charismatic leadership is the process of the emergence of such leaders and influencing the follower behavior (Grabo, Spisak, & van Vugt, 2017). Charismatic leaders can produce radical social changes (Bacon, 2009), and in this sense, are important for organizational reforms (Conger & Kanungo, 1994).

Charismatic leaders can formulate inspiring visions and behaviors that foster the impression that they and their mission are extraordinary (Cicero & Pierro, 2007). The observed behavior of charismatic leaders is interpreted by their followers as an expression of their charisma. Charismatic leaders differ from other leaders by their behaviors and actions that foster the impression that they and their mission are extraordinary with an inspirational vision (Conger et al., 2000) and achieve great personal loyalty from their followers (Bryman, 1993). Charismatic leadership can be recognized but is a leadership style that can be perceived as less concretely than other leadership styles (Bell, 2013).

Charismatic leaders are considered the leading agents of change in organizational change (Beyer, 1999; Conger & Kanungo, 1998; Fiol, Harris, & House, 1999; House, 1977; Ladkin, 2006; Seyranian & Bligh, 2008; Shamir & Howell, 1999; Waldman & Javidan, 2002; Yukl, 1999). For example, an organizational change may lead to concerns, or challenge the interests of influential groups, and therefore, may lead to a

crisis for charismatic leaders. This crisis is perceived as a threat to the common interests and identity of the group (Levay, 2010), and creates a favorable atmosphere for charismatic leadership to emerge. The group members react as part of the situational context and ensure the attribution of charisma to the leader. What is suggested here is that charisma attribution by followers is intertwined with both the behaviors and contextual conditions of the leader (Bell, 2013).

According to House (1992), the personal qualities of charismatic leaders that have a specific charismatic influence on their followers encompass being dominant and having strong desires, self-confidence, and sound moral values to influence others. Again, charismatic leaders are strong role models, appear competent, articulate objectives, communicate high expectations, give confidence, and exhibit behaviors that arouse motives (Northouse, 2014). Charismatic leaders use effective communication, formulate a vision, give confidence, have the expertise, are sensitive to situational context (Bell, 2013), use images and are persuasive in communicating the vision. This way, they create an intense emotional connection with their followers (Antonakis, 2012). Charismatic leaders, as individuals who completely adhere to their vision and action style, firmly believe in the rightfulness of their mission and final success and are able to communicate this to their followers (Fiedler, 1996), do not maintain the status quo (Banks et al., 2017) and can create the needed change. Charismatic leaders put their own interests aside and are, therefore, highly revered by their dedicated followers (Antonakis, 2012). A charismatic leader is assumed to influence introducing a radical change with beliefs and values different than the established order (House, 1976). (i) Order, (ii) complexity, (iii) professionalism, (iv) politics and (v) culture are noticeable in the emergence of charismatic leaders and the shaping of their performance (Mumford et al., 2009).

Charismatic leaders more usually emerge during the transitional and crisis times of organizations (Mumford et al., 2009; Zel, 2011). Followers idealize these leaders who become role model for them, provide them with a vision and goal, look strong and self-confident and pay attention to the moral and ethical implications of their decisions (Antonakis, 2012). A charismatic leader, on the other hand, links his/her followers with the organizational identity (Northouse, 2014) and influence their motivation and performance (Antonakis, 2012; House, 1976). Charismatic leaders may or may not influence the organization's achievement of its goals, but their followers are blind, obedient, and loyal (Fiedler, 1996). In other words, followers appear to obey, be loyal, and committed to the leader without question (House, 1976).

A review of the literature shows several studies focusing on the relationship between *organizational cultures and different leadership styles* (Anthony, 1994; Britton, 2018; Chadwick, 1999; Dalgıç, 2015; Green, 2016; Kuyumcu, 2007; Lok & Crawford, 1999; Lucas, 2008; Lucas & Valentine, 2002; Marks, 2002; Mees, 2008; Miles, 2002; Ozgenel & Dursun, 2019; Ozgenel & Ankaralioglu, 2020; Ozgozgu, 2015; Yesil, 2016; Waldner, 2005), *academic success* (Gawerecki, 2004; Green, 2016; Le Clear, 2005; MacNeil, Prater, & Busch, 2009; Mees, 2008), *organizational size and structure, product/service quality, organizational climate, organizational silence, commitment to organization, organizational effectiveness, organizational performance, organizational trust,*

*organizational alienation and cynicism, personnel motivation, job satisfaction, communication, cooperation, harmony, personnel empowerment and performance* (Britton, 2018; Cooper, 2000; Davidson, 2009; Denison & Mishra, 1995; Doran, 1996; Featherstone, 2017; Gordon & DiTomaso, 1992; Hadian, 2017; Jones, 1998; Kahveci, 2015; Lok & Crawford, 1999; Mete, 2017; Nnadozie, 1993; Nystrom, 1993; Reames, 1997; Sorensen, 2002; Sarwono, 1990; Yalcinsoy, 2019; Yildiz, 2018; Zhu, Devos & Li, 2011), *the level of happiness and well-being of teachers, students, administrators and parents* (Yavuz Tabak, 2017; Zhu et al., 2011). There are also studies identifying the relationship between *charismatic leadership and social intelligence, openness to organizational change and leadership effectiveness* (Groves, 2003), *project management, teamwork and leadership, humorous behaviors and meeting effectiveness, innovative work behavior* (Brinkman, 2015; Henderson, 2018; Mete, 2017; Murphy & Ensher, 2008), *personnel empowerment, motivation, job satisfaction and performance and organizational culture, organizational engagement and citizenship behavior* (Arikan, Kilic, & Becerikli, 2017; Cinel, 2008; Conger et al., 2000; Gutierrez-Shackelford, 2016; Gul, 2003; Henderson, 2018; Milton, 2011; Oktay & Gul, 2003; Shastri, Mishra, & Sinha, 2010; Yaldızbas, 2015), *task-oriented leadership, participative leadership, people-oriented leadership, Bass charisma* (Conger & Kanungo, 1994) and *group identity* (Cicero & Pierro, 2007; Conger et al., 2000).

Given that organizations have different cultural structures, this results in them exhibiting different behaviors and different reactions to organizational change (Gizir, 2008). Here, to understand the structure of an organization, the organization, and its employees must be dealt with and examined from a cultural perspective (Schein, 2004). If it is understood how the culture emerged, who is influential, how it developed and changed, then the culture, which is an abstraction, can be better understood in mind. The present study was designed to identify the connection between charismatic leadership and organizational culture based on Schein's (1990, 2004) views that highlight the relationship between culture and leader. Specifically, the study aims to identify the relationship between the charismatic leadership behaviors of school principals and the organizational culture and how well the charismatic leadership is a predictor of the organizational culture. Culture shapes how people think, feel, and act at schools, connect the school society together (Peterson & Deal, 1998) and encourages students to learn (Peterson, 2002). The stronger the school culture is, the more satisfactory and motivated teachers will be, and the higher the student academic success will be (Cheng, 1993). While the culture strongly influences the behaviors of the employees of an organization (Schein, 2004), the role of charismatic leadership in school culture has not been researched (Trice & Beyer, 1993). The present study attempts to identify the relationship between the charismatic leadership style of school principals and the school culture based on the perceptions of teachers working at a public primary school, middle school, and high school. Teacher's perception of leadership is usually based on the behaviors of leaders and which models leaders observe daily (Britton, 2018). The net effect of a charismatic leader binds together the students, teachers, and other employees, the followers who fulfill the school objectives (Sergiovanni, 1984). Sergiovanni argues that perfect schools are distinguished from other schools by their cultural characteristics. Teachers, leaders, students and parents are the groups that both influence and are influenced by the school culture (Koni,

2017). The leadership style of a principal develops, encourages, and feeds a positive school culture (Le Clear, 2005).

Charismatic leaders are a value for the school culture. Charismatic leaders will play an important role in ensuring the change and development of the cultural structure of organizations. Therefore, the present study has emerged to identify the level at which the charismatic leadership styles of school principals influence the school culture since the previous researches were conducted outside the educational institutions of the Ministry of National Education and there is a limited number of studies focusing on these two variables. The present research was conducted to analyze the role charismatic leaders play in the school culture. Identifying the role of a charismatic leader in the school culture may contribute to the practitioners and researchers during the school process. In this sense, the purpose of this research is to determine the influence of the charismatic leadership style of school principals perceived by teachers on managing school culture. For this overall purpose, answers to the following sub-objectives were sought:

1. Is there a significant relationship between the charismatic leadership style of school principals perceived by teachers and the school culture?
2. Is the charismatic leadership style of school principals perceived by teachers a predictor of the school culture?

## Method

### *Research Model*

Since this research aims to identify the relationship between the charismatic leadership style of school principals perceived by teachers and the school culture and whether charismatic leadership style is a predictor of the school culture, a quantitative research model, correlational survey model, was used. The correlational model is a research model used to determine whether two variables are related or whether a variable is a predictor of another variable (Creswell, 2012; Isaac & Michael, 1995). Prediction is used to predict the variables that are likely to affect or predict future behavior (Hart, Bergstrom, Chapa, Chowdhury, & Dion, 2012; Mishra & Silakari, 2012).

### *Research Sample*

The research population consists of teachers working at public schools in Uskudar, Istanbul, during the 2018-2019 academic year. The sample was selected using a stratified sampling method. While using this method, the schools were first partitioned into primary schools, middle schools, and high schools, followed by a simple random sampling to select five schools from each school type. The stratified sampling method is the method that allows the sub-populations of a population to be represented satisfactorily within a sample. Four hundred ninety teachers in total from the schools selected using the stratified sampling method volunteered to participate in this study.

294 (60%) of the 490 participant teachers are female while 196 (40%) thereof is male. 147 (30%) of the teachers work at primary schools, 180 (39.7%) thereof at middle schools, and 163 (33.3%) thereof at high schools. The length of service of 63 teachers (12.9%) is 5 years or less, that of 92 teachers (18.8%) is 6-10 years, that of 106 teachers (21.6%) is 11-15 years, that of 125 teachers (25.5%) is 16-20 years, and that of 104 teachers (21.2%) is 21 years or above. 422 (86.1%) of the participant teachers have an undergraduate degree while 68 (13.9%) thereof have a graduate degree.

### *Research Instruments*

Two different scales were used in this research. The School Culture Scale (SCS) with 29 items and four sub-dimensions developed by Terzi (2005) was used to determine the teacher's perception of school culture. The School Culture Scale consists of four sub-dimensions, including support culture, success culture, bureaucratic culture, and mission culture. The support culture expresses the commitment in bilateral relationships, honest and open communication and cooperation based on trust, and supports the members of the organization that perform their jobs successfully and fulfill the goals in the success culture. While standards and rules are paid attention in the bureaucratic culture, in the mission culture, on the other hand, organizational goals, rather than individual goals, are paid attention rather than individual goals. In this study, confirmatory factor analysis was performed to test the construct validity of the scale, and it was found that the scale had acceptable fit values according to chi-square and fit indexes [ $\chi^2/df=954.324/360=2.651$ ; RMR=.062; SRMR=.069; GFI=.881; AGFI=.857; NFI=.852; IFI=.902; TLI=.889; CFI=.901; RMSEA=.058] (Cokluk, Sekercioglu, & Buyukozturk, 2018; Hu & Bentler, 1999; Kline, 2016; Ozdamar, 2017; Schermelleh-Engel, Moosbrugger, & Müller, 2003; Schumacker & Lomax, 2010; Tabachnick & Fidell, 2015). The Cronbach's Alpha reliability coefficient of the School Culture Scale in the research was calculated as 0.904.

To identify the teacher's perception of charismatic leadership, the Charismatic Leadership Scale (CLS) with 24 items and six sub-dimensions (articulating a vision, sensitivity to the environment, exhibiting unconventional behaviors, taking personal risk, sensitivity to member needs, not maintaining the status quo) developed by Conger and Kanungo (1994) was used. The scale was adapted by Gül (2003) to Turkish. While adapting the scale, four items were excluded because they disrupted the factor load and distribution. In the study, confirmatory factor analysis was performed to test the construct validity of the scale, and it was found that the scale had good fit values according to chi-square and fit indexes [ $\chi^2/df=423.294/153=2.767$ ; RMR=.066; SRMR=.0574; GFI=.921; AGFI=.891; IFI=.968; NFI=.951; TLI=.961; CFI=.968; RMSEA=.060] (Cokluk et al., 2018; Hu & Bentler, 1999; Kline, 2016; Ozdamar, 2017; Schermelleh-Engel et al., 2003; Schumacker & Lomax, 2010; Tabachnick & Fidell, 2015). The Cronbach's Alpha reliability coefficient of the Charismatic Leadership Scale in the research was calculated as 0.948.

*Data Analysis*

The data obtained were analyzed using SPSS program. For the normality assumption, kurtosis and skewness values were calculated before analyzing the data. According to Morgan, Leech, Gloeckner and Barrett (2004), for the data to show normal distribution, the skewness and kurtosis values must be between -1 and +1. The kurtosis and skewness values of the scales are given in Table 1. Data were analyzed by correlation and regression analyses. The correlation and regression statistical data analysis techniques were applied to investigate the relations between the variables.

**Table 1***Skewness and kurtosis values of the scales*

	Mission culture	Support culture	Success culture	Bureaucratic culture	Charismatic leadership
Skewness	-.263	-.183	-.201	.372	-.273
Kurtosis	-.248	-.385	-.345	.061	-.420

When Table 1 is examined, it is seen that the kurtosis and skewness values of the data are between -1 and +1. According to this criterion, it was decided that the data had a normal distribution. Pearson correlation analysis was conducted to determine the relationship between charismatic leadership and school culture. Simple regression analysis was performed to determine whether the charismatic leadership style predicts school culture.

**Results**

The relationship between charismatic leadership and the school culture sub-dimensions are presented in Table 2 below.

**Table 2***Results of Correlation Analysis Between Charismatic Leadership Style and School Culture*

Variables	N	M	SD	1	2	3	4	5
1-Mission culture	490	3.922	.618	-				
2-Support culture	490	3.580	.692	.608**	-			
3-Success culture	490	3.629	.700	.605**	.835**	-		
4-Bureaucratic culture	490	3.085	.594	.255**	.144**	.163**	-	
5-Charismatic leadership	490	3.511	.742	.543**	.593**	.603**	.235**	-

$p < .01$

According to the correlation analysis in Table 2, there is a low-level relationship between charismatic leadership and bureaucratic culture; medium-level, positive and significant relationship between charismatic leadership, and mission culture support culture and success culture ( $p < .01$ ). While the most significant relationship is between charismatic leadership and success culture ( $r = 0.603$ ;  $p < .01$ ), the least significant relationship is between charismatic leadership and bureaucratic culture ( $r = 0.235$ ;  $p < .01$ ).

The results of the simple regression analysis performed to determine whether or not the charismatic leadership style of school principals perceived by teachers is a predictor of the school culture are presented in Table 3.

**Table 3**

*Results of Regression Analysis on Whether or Not Charismatic Leadership is a Predictor of School Culture*

Independent Variable	Dependent Variable	B	SD	( $\beta$ )	t	p	R	R <sup>2</sup>	F	p
Constant	Mission culture	2.33	.114		20.50	.000				
Charismatic Leadership		.453	.032	.54	14.30	.000	.543	.295	204.52	.000
Constant	Support culture	1.63	.122		13.41	.000				
Charismatic Leadership		.553	.034	.59	16.25	.000	.593	.351	264.07	.000
Constant	Success culture	1.62	.122		13.31	.000				
Charismatic Leadership		.570	.034	.60	16.71	.000	.603	.364	279.26	.000
Constant	Bureaucratic culture	2.42	.126		19.17	.000				
Charismatic Leadership		.188	.035	.23	5.33	.000	.235	.055	28.42	.000

When Table 3 is examined, charismatic leadership is a significant predictor of (respectively from the most significant to the least significant) the success culture ( $R = .603$ ,  $R^2 = .364$ ,  $F = 279.26$ ,  $p < .000$ ), support culture ( $R = .593$ ,  $R^2 = .351$ ,  $F = 264.07$ ,  $p < .000$ ), mission culture ( $R = .543$ ,  $R^2 = .295$ ,  $F = 204.52$ ,  $p < .000$ ) and bureaucratic culture ( $R = .235$ ,  $R^2 = .055$ ,  $F = 28.42$ ,  $p < .000$ ). However, although the charismatic leadership style significantly predicts the bureaucratic school culture, the prediction level is very low. According to the regression analysis, the regression equation (mathematical model) on the prediction by the charismatic leadership style of school principals of mission support, success, and bureaucratic school cultures are presented below.

$$\text{Mission culture} = 2.33 + (.453 \times \text{Charismatic Leadership})$$

$$\text{Support culture} = 1.63 + (.533 \times \text{Charismatic Leadership})$$

$$\text{Success culture} = 1.62 + (.570 \times \text{Charismatic Leadership})$$

$$\text{Bureaucratic culture} = 2.42 + (.188 \times \text{Charismatic Leadership})$$

The charismatic leadership style of school principals perceived by teachers explains 29% of the total variance in mission culture, 35% of the total variance in support culture, 36% of the total variance in success culture and 5% of the total variance in bureaucratic culture. However, although the total variance in bureaucratic culture is significant, it is not considerable. The B coefficient shows that there is a positive relationship between the charismatic leadership style and school cultures. The standardized regression coefficient ( $\beta$ ) shows how much change a one-unit change in the predictor variable charismatic leadership style will lead to in the dependent variable school culture. For example, a 0.453 increase in the charismatic leadership style leads to a 0.543 positive change in the mission culture. In other words, the charismatic leadership style of school principals positively and significantly influences the mission culture, support culture, and success culture.

### **Discussion, Conclusion and Recommendations**

Education is a social process and aims to provide individuals with and improve certain behaviors (Lewin, 1948). Schools have an obligation to fulfill this aim as targeted and in a prescribed quality. Therefore, effective management and effective leadership at schools are essential (Bush, 2018). When the leadership models and styles are examined, although there are different alternative approaches, none of them alone guarantees the effective management and leadership of schools. Although each leadership model or style has virtues and limitations, it must be remembered that it may vary based on the school's environment, employees, administrators, and situational circumstances. According to Bush (2018), since these leadership models enlighten some aspects of the school while keeping some in the dark, some negative consequences may occur to the detriment of both the leader and the organization (Conger, 1990). This is exactly why the school cultures should first be analyzed to investigate the school characteristics. The present research was designed to seek answers to the question, "Who shapes school culture?" (Peterson & Deal, 1998). According to Turner and Crang (1996), the better a school's culture is understood and harmonious, the better it can act in harmony with the ideals it desires to achieve and goals it desires to pursue. Leadership behaviors that support a culture encouraging the student learning to characterize an effective school (Gawrecki, 2004). School principals can shape the changes in school culture by improving their leadership knowledge, skills, and behaviors (Hallinger, 2003). This view is considered valuable as school leaders strive to create an effective school (Gruenert & Valentine, 1998). It is the duty of school leaders to define, shape, and maintain a strong, positive, and student-focused culture. Without such supportive cultures, reforms would be lost, and student learning would not be achieved as targeted (Peterson & Deal, 1998). Gawrecki (2004), in his research, revealed the importance of school leaders for developing a strong and cooperative culture that encouraged an effective learning program and curriculum and stated that such culture affected students' academic success.

Generally, leadership qualities of school principals influence the school culture (Le Clear, 2005; Schein, 2004; Sergiovanni & Corbally, 1984). In this respect, it is assumed that a charismatic leader influences introducing a radical change with beliefs and values different than the established order (House, 1976) and that school principal, as a charismatic leader, can build a culture-specific to the school (Sergiovanni, 1984). The results of the analyses performed in line with the purpose of the research show that there is a significant and low-level relationship between charismatic leadership and bureaucratic school culture and that there is a significant, positive and medium-level relationship between charismatic leadership and success, support and mission cultures. School principals must possess and exhibit charismatic leadership qualities in practice to shape the success, support, and mission cultures. Also, according to the teacher's perceptions, charismatic leadership qualities of school principals are an important and significant predictor of the school, mission, and support cultures except for the bureaucratic school culture. In other words, it has been empirically proved that charismatic leadership qualities of school principals play an important role in shaping the success, mission, and support school cultures. In the literature, Aykanat (2010), Gul and Aykanat (2012) found that charismatic leadership behaviors influenced creating an organizational culture at public organizations. Particularly, there is a stronger relationship between the quality of being sensitive to the environment of the charismatic leaders and the organizational culture, and the charismatic leadership qualities can significantly explain the organizational culture. The charismatic leadership behaviors have been found to influence creating an organizational culture (Sandybayev & Yilmaz, 2015). Again, another research found that there was a relationship between the school culture and the charismatic leadership style of the school principals and that the charismatic leadership style exhibited by the school principals was a predictor of the organizational culture (Cheng, 1993). These findings support the literature on charismatic leadership and culture and are consistent with the other research findings.

When we approach the shaping of the organization culture in the context of school, school leaders play an important role in shaping and implementing a school culture (Britton, 2018) and are a key to shaping the school culture. School leaders, while shaping the culture, first read the culture. Second, they identify the disruptive and constructive aspects of the culture. Lastly, they work to strengthen the positive cultural elements and change the negative and non-functional ones (Peterson & Deal, 1998). The school culture is an invisible power that mobilizes all of the individuals at the school in line with the same goals and is behind all of the actions at the school. The school culture regulates what is important for the school society and how the members must think, feel, and behave (Turner & Crang, 1996). Koni (2017) and Turner and Crang (1996) state that changing a school culture requires patience, flexibility, and adaptability. Therefore, school leaders, while shaping the school culture, must honor employees who serve the students and the school objective and recognize the achievements of the personnel, students and school society (Peterson & Deal, 1998).

The present study does not explain the casual relationship since it is a cross-sectional study. Therefore, it cannot be deduced from this study that "the reason for

school culture is the charismatic leader." The findings support the importance and necessity of the charismatic leader and the school culture for discussions on the school development and school effectiveness. In this context, teachers mostly regard school administrators who articulate a vision, are sensitive to the environmental situations, opposing the status quo and bureaucratic structure, take risks and respond to the member needs as a charismatic leader and think that they positively contribute to creating/managing the school culture. When the results are evaluated together, it can be suggested that charismatic leaders who know, understand and influence the school culture can be successful. School principals must understand that they have significant potential and role in creating, communicating, and changing the school culture. The charismatic leadership role of school principals in shaping the school culture must be emphasized. School principals must spend considerable time, energy, and resources to change and manage the culture. Studies show that a leader on every level can be trained charisma (Bass, 1990). Leadership, also including charisma, can be developed (Fiedler, 1972; Antonakis et al., 2011). As a result, school principals can be offered training in charismatic leadership and school culture.

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## Okul Kültüründe Karizmatik Liderin Rolü

### Atıf:

Ozgenel, M. (2020). The role of charismatic leader in school culture. *Eurasian Journal of Educational Research*, 86, 85-114, DOI: 10.14689/ejer.2020.86.5

### Özet

*Problem Durumu:* Karizmatik liderler, okul kültürü için bir değerdir. Örgütlerin kültürel yapısının değişimini ve gelişimini sağlamada karizmatik liderler önemli bir rol oynayacağı söylenebilir. Bu sebeple daha önce yapılan araştırmaların Millî Eğitim Bakanlığına bağlı eğitim kurumları dışında olması ve bu iki değişkenle yapılan çalışmaların sınırlı sayıda olması sebebiyle okul müdürlerinin karizmatik liderlik stilleri okulların kültürlerini ne düzeyde etkilediğini saptamak amacıyla bu çalışma ortaya çıkmıştır. Bu araştırma, karizmatik liderlerin okul kültürlerinde oynadığı rolün analizine yönelik yapılmıştır. Karizmatik liderin okul kültüründeki rolünün belirlenmesi, okul yönetimi sürecinde uygulayıcılara ve araştırmacılara katkı sunabilir. Bu anlamda *araştırmanın amacı*, okul müdürlerinin öğretmenler tarafından algılanan karizmatik liderlik stiline okul kültürüne etkisini incelemektir. Bu genel amaç doğrultusunda aşağıdaki alt amaçlara cevap aranmıştır.

- i) Okul müdürlerinin öğretmenler tarafından algılanan karizmatik liderlik stili ile okul kültürü arasında anlamlı bir ilişki var mıdır?
- ii) Okul müdürlerinin öğretmenler tarafından algılanan karizmatik liderlik stili, okul kültürünü yordamakta mıdır?

*Araştırmanın Yöntemi:* Bu çalışmada kamu okullarında görev yapan okul müdürlerinin öğretmenler tarafından algılanan karizmatik liderlik tarzı ile okul kültürü algısı arasındaki ilişkinin ve karizmatik liderlik tarzının, okul kültürünü yordayıp-yordamadığının belirlenmesi amaçlandığından nicel araştırma modellerinden ilişkisel tarama modeli kullanılmıştır. Araştırmanın evrenini, 2018-2019 eğitim öğretim yılı İstanbul ili Üsküdar ilçesinde kamu okullarında görev yapan öğretmenler oluşturmaktadır. Araştırmada tabakalı örneklem yöntemi kullanılmıştır. Tabakalı örneklem yöntemi kullanılırken ilk önce okullar ilköğretim, ortaokul ve lise olarak üç tabakaya ayrıldıktan sonra bu okul türlerinden 5'er okul basit seçkisiz örnekleme yöntemi ile belirlenmiştir. Tabakalı örneklem yöntemi kullanılarak belirlenen okullardan toplam 490 öğretmen çalışmaya gönüllü katılmıştır. Katılımcı öğretmenin 294'ü (%60) kadın iken 196'sı (%40) erkektir. Öğretmenlerin 147'si (%30) ilköğretimde, 180'i (%36.7) ortaokullarda ve 163'ü (33.3) liselerde görev yapmaktadır. Bu çalışmada iki farklı ölçek kullanılmıştır. Öğretmenlerin okul kültürü algılarını belirlemek için Terzi (2005) tarafından geliştirilen 29 maddeden ve 4 alt boyuttan oluşan Okul Kültürü Ölçeği (OKÖ) kullanılmıştır. Okul Kültürü Ölçeği, destek kültürü, başarı kültürü, bürokratik kültür ve görev kültürü olarak dört alt boyuttan oluşmaktadır. Okul Kültürü Ölçeğinin bu çalışmada Cronbach Alpha güvenilirlik katsayısı 0.904 olarak hesaplanmıştır. Öğretmenlerin karizmatik liderlik algılarını belirlemek için Conger ve Kanungo (1994) tarafından geliştirilen 24 maddeden ve 6 alt

boyuttan (vizyon belirleme, çevresel duyarlılık, sıra dışı davranışlar sergileme, kişisel risk üstlenme, üye ihtiyaçlarına duyarlılık gösterme, statükoyu sürdürmeme) oluşan Karizmatik Liderlik Ölçeği (KLÖ) kullanılmıştır. Ölçek, Gül (2003) tarafından Türkçe'ye uyarlanmıştır. Ölçek, Karizmatik Liderlik Ölçeğinin bu araştırmada Cronbach Alpha güvenilirlik katsayısı 0.948 olarak hesaplanmıştır. Veriler araştırmacı tarafından toplanmıştır. Araştırmada elde edilen veriler SPSS paket program kullanılarak analiz edilmiştir. Veriler, korelasyon ve regresyon analizleri yapılarak çözümlenmiştir.

*Bulgular:* Korelasyon analizine göre karizmatik liderlik ile bürokratik kültür düşük düzeyde; karizmatik liderlik ile görev kültürü, destek kültür ve başarı kültürü arasında orta düzeyde pozitif ve anlamlı bir ilişki vardır ( $p < .01$ ). En yüksek anlamlı ilişki karizmatik liderlik stili ile başarı kültürü arasında iken ( $r = 0.603$ ;  $p < .01$ ); en düşük anlamlı ilişki ise karizmatik liderlik ile bürokratik kültürü arasında ( $r = 0.235$ ;  $p < .01$ ) olduğu görülmektedir. Karizmatik liderlik stiline, (en yüksekte en düşüğe doğru sırayla) başarı kültürünü ( $R = .603$ ,  $R^2 = .364$ ,  $F = 279.26$ ,  $p < .000$ ), destek kültürünü ( $R = .593$ ,  $R^2 = .351$ ,  $F = 264.07$ ,  $p < .000$ ), görev kültürünü ( $R = .543$ ,  $R^2 = .295$ ,  $F = 204.52$ ,  $p < .000$ ) ve bürokratik kültürü ( $R = .5235$ ,  $R^2 = .055$ ,  $F = 28.42$ ,  $p < .000$ ) anlamlı bir şekilde yordadığı görülmektedir. Ancak karizmatik liderlik stili, bürokratik okulu kültürünü anlamlı bir şekilde yordasa da yordama düzeyi çok düşüktür. Okul müdürlerinin öğretmenler tarafından algılanan karizmatik liderlik stili, görev kültüründeki toplam varyansın %29'unu, destek kültüründeki toplam varyansın %35'ini, başarı kültüründeki toplam varyansın %36'sını ve bürokratik kültürdeki toplam varyansın %5'ini açıklamaktadır. Ancak bürokratik kültürdeki toplam varyans oranı anlamlı olsa da dikkate değer düzeyde değildir. B katsayısı karizmatik liderlik stili ile okul kültürleri arasında pozitif yönlü ilişki olduğunu göstermektedir. Standardize edilmiş regresyon katsayısına ( $\beta$ ) göre yordayıcı değişken karizmatik liderlik stiline bir birimlik değişikliğin bağımlı değişken okul kültürleri üzerinde ne kadar değişiklik meydana getireceğini gösterir. Örneğin karizmatik liderlik stiline 0.453 birimlik artış, görev kültüründe 0.543 birimlik olumlu değişikliğe neden olmakta ve artırmaktadır. Başka bir ifadeyle okul müdürlerinin karizmatik liderlik stili, görev kültürünü, destek kültürünü ve başarı kültürünü olumlu yönde ve önemli düzeyde etkilemektedir.

*Sonuç ve Öneriler:* Bu araştırmanın amacı doğrultusunda yapılan analizler sonucunda karizmatik liderlik ile bürokratik okul kültürü arasında düşük; başarı, destek ve görev kültürleri arasında pozitif yönde ve orta düzeyde anlamlı bir ilişki olduğu tespit edilmiştir. Okul müdürleri başarı, destek ve görev kültürlerini şekillendirmek için karizmatik liderlik özelliklerine sahip olması ve bu özelliklerini uygulamaları ile göstermesi gerektiği söylenebilir. Ayrıca öğretmen algılarına göre okul müdürlerinin karizmatik liderlik özelliklerinin, bürokratik okul kültürü hariç diğer başarı, görev ve destek kültürlerini önemli ve anlamlı düzeyde yordamaktadır. Başka bir ifadeyle okul müdürlerinin karizmatik liderlik özelliklerinin başarı, görev ve destek okul kültürlerini şekillendirirken önemli bir rol oynadığı ampirik olarak kanıtlanmıştır. Sonuçlar birlikte değerlendirildiğinde okul kültürünü tanıyan, anlayan ve etkileyen karizmatik liderlerin başarılı olabileceği söylenebilir. Müdürler, okul kültürünün

oluřturulması, aktarımı ve deęişiminde büyük bir potansiyele ve role sahip olduğunu anlamalıdır. Okul müdürlerinin okul kültürünü şekillendirmedeki karizmatik liderlik rolü vurgulanmalıdır. Müdürler, kültürün deęişiminde ve yönetiminde önemli zaman, enerji ve kaynak harcamalıdır. Sonuç olarak, okul müdürleri için karizmatik liderlik ve okul kültürü alanlarında eğitim önerilebilir.

*Anahtar Kelimeler:* Leadership, charismatic leadership, school culture.



**A Retrospective Study: According to Online News, the Victims, Perpetrators and Characteristics of Sexual Abuse at Schools\***

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**ABSTRACT**

**Purpose:** This study aims to investigate the characteristics of the children exposed to sexual abuse (SA) in the school environment.

**Research Methods:** In this study, the online news which was between 01.01.2014 and 31.03.2018 was screened retrospectively through archive research method. Then, the news was analyzed using content analysis. In this context, qualitative research model was used.

**Findings:** The number of victims varied between 1 and 100 in each incident, 39.3% of the incidents include only one victim; the perpetrators committed abuse once in 13.5% of the SA incidents while they did it more than once. The findings showed that 95.5% of the SA incidents included physical contact,

27.6% included verbal abuse, 6.4% included exposure to pornographic content and 5.8% included exhibitionism. In addition, at least 14.7% of the incidents included cyber SA, 9.2% included video recording, 12.6% included threat and 3.7% included physical violence. 60.7% of perpetrators were teachers, 14.7% were principals or vice-principals, 12.3% were peers or higher grade students, 9.2% were school staff other than teachers and administrators and 3.1% were outsiders, such as school bus drivers. The tactics of the perpetrators were examined according to whether they were teachers and peer, it was found out that perpetrators were exhibited different tactics. The students respectively disclosed SA to family members, counselors, school management or a friend.

**Implications for Research and Practice:** Based on the findings, training aimed to prevent SA may be organized at school for students, teachers, other school staff and parents on a regular basis.

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## Introduction

School environment is considered to be one of the safest places for students, but it can be an unsafe environment due to child sexual abuse (SA) and cause students to have various psychosocial problems (Celik et al., 2012). Although it is pointed out in the literature that SA is less in social venues other than home (Shattuck, Finkelhor, Turner, & Hamby, 2016), the number of studies conducted on SA in the school environment is limited (Benbenishty, Zeira, & Astor, 2002; Gebeyehu, 2012; Shakeshaft & Cohan, 1995). The available studies have revealed very different rates regarding SA in the school environment. The review study conducted by Shakeshaft (2004), which is the most comprehensive study conducted on this subject, revealed that the SA by school staff in America varied between 3.7% and 50.3%. It was determined in a study conducted in Africa on female students at the age of 13-17 that the SA frequency was 49.6% and the victims were exposed to at least one kind of SA (Gebeyehu, 2012). Longobardi et al. (2017) showed in a study they conducted in Italy on 6th and 13th graders that emotional abuse, physical abuse and SA were experienced at schools by 77%, 52% and 24%, respectively. Similarly, in another study conducted on 13052 children at the age of 0-17, verbal abuse was the most common kind of abuse (63.2%) at institutions, such as kindergartens that offered services to children, while SA was 6.4% (Shattuck et al., 2016). Although this SA rate is the lowest rate in the literature, it is estimated to correspond to 36,000 victimized children when compared to the population (Shattuck et al., 2016).

Perpetrators can be peers of children (Gebeyehu, 2012; Longobardi et al., 2017), as well as teachers or other school staff (Benbenishty et al., 2002; Longobardi et al., 2017; Surface, Stader, & Armenta, 2014; Timmerman, 2003; Walter, 2018) in SA incidents taking place at schools. However, a review of the former studies reveals that the number of studies examining both teachers and peers is limited and the peer-teacher ratio differs in existing studies. For example, a quantitative study that involved 2,808 randomly selected adolescents at 22 secondary schools in the Netherlands determined that 9% of the students were SA victims and 27% of the perpetrators in the school environment were school staff, whereas 87% were peers (Timmerman, 2003). Another study conducted by AAUW Educational Foundation (2001) on 2,064 children in the 8th to 11th grades on a face to face and online basis found out that eight out of ten children were exposed to SA, while six out of ten children were victims of SA, including physical contact. SA rate of teachers and other school staff was determined as 38%, the SA rate of peers was determined as 85%, and the rate of children committing SA on others at school was determined as 59%. Shakeshaft (2004) examined the SA rate of school personnel and determined the SA rate of teachers on students in the 8th to 11th grades as 9.6%.

As stated above, different rates were determined in former studies on SA and perpetrators in the school environment. The different SA definitions, methods and sample characteristics in the studies are considered to be the possible causes for this fact (Stranger, 2015). For instance, AAUW Educational Foundation (2001) included sexual jokes in SA while Timmerman (2003) did not take them into the scope of SA.

On the other hand, the SA rate of peers may be higher due to the imbalance between the number of teachers and peers (Timmerman, 2003). In short, it is reported in the literature that it is difficult to determine the actual SA rate at schools due to the methodological differences in studies, the low reporting rate of children or failure of school managements to inform the judicial authorities about the reporting children (Shakeshaft & Cohan, 1995). However, because the media makes more news about teachers committing abuse and/or SA taking place at schools in recent years (Shakeshaft & Cohan, 1995; Stranger, 2015) indicates that this issue must not be underestimated at schools.

The information about individual characteristics of adult perpetrators and victims in SA experienced in the school environment is limited. Teachers committing abuse can be of both sexes (Mototsune, 2015; Moulden, Firestone, Kingston, & Wexler, 2010; Ratliff & Watson, 2014; Shakeshaft & Cohan, 1995; Timmerman, 2003) and the majority consists of male perpetrators (Mototsune, 2015; Timmerman, 2003). Their ages vary between 19 and 69, with an average of 37.28 in a study in Canada (Moulden et al. 2010). Characteristics, such as religious and ethnic origin, are not known (Moulden et al., 2010). They inflict SA both on male and female students (Mototsune, 2015; Shakeshaft & Cohan, 1995), but they usually choose girls and students in the pre-puberty and puberty period (Moulden et al., 2010; Shakeshaft & Cohan, 1995). In addition, a study examining the reasons for license revocations of teachers in the USA revealed that SA towards students was the main reason for license revocation (61%), and it was found out thanks to the data gathered about incidents that teachers from any branch could commit SA, but the branches with the highest number of license revocation were determined as sports (23%), music (12%) and English (11%; Walter, 2018). Shakeshaft (2004) found out that SA was committed most by classroom teachers, and they were followed by sports teachers, school bus drivers and administrators. A study conducted on the news about five female teachers who committed SA revealed that female teachers chose students in pre-puberty, they were successful in their professions, manipulated the victims, and had mental health problems and former abuse stories (Stranger, 2015). When we look at the characteristics of victimized students, we can see that upper-grade students are exposed to SA by peers (Gebeyehu, 2012) or teachers (Mototsune, 2015) more than lower grade students, their age average is 11.8 (Moulden et al., 2010), most of them are older than 12, and they live with both of their parents (Moulden et al., 2010).

Teachers may exhibit SA behaviors that are either mild, such as fondling, or severe, such as penetration or rape. The rate of penetration is less than abuse, and SA is committed most through fondling, kissing and masturbative behaviors (Moulden et al., 2010), and most incidents take place at schools (Mototsune, 2015; Moulden et al., 2010). These types of SA can take place face to face or on cyber platforms, such as the Internet and mobile phones (Mototsune, 2015; Walter, 2018). Therefore, SA is defined as establishing inappropriate teacher-student communication, such as correspondence and texting, through all kinds of technological devices (social media and mobile phone ) or having emotional relationships with students with or without their consent (Walter, 2018). For instance, Mototsune (2015) found out that 47.1% of abusive teachers

established communication using electronic devices, and exposure to cyber SA was higher in female students (40.2%) compared to male students (23.1%).

It is easier for teachers to inflict SA on children as they are figures of authority and in a position where they can establish close relationships with students (Celik et al., 2012; Moulden et al., 2010; Shakeshaft, 2003). Furthermore, abusive teachers use some tactics instead of physical force/violence in SA incidents towards students (Moulden et al., 2010; Shakeshaft, 2018). Although the rate of threat and violence is low, SA behaviors of teachers may cause psychological problems in both male and female students, such as delayed post-traumatic stress disorder (PTSD), depression and alcohol addiction (Burgess, Welner and Willis, 2010) just like in incest incidents (Finkelhor & Hashimma, 2001; as cited in Mototsune, 2015). As for the tactics they employ, some of these tactics include targeting children that are disadvantaged due to familial and psycho-social reasons, obtaining private knowledge about the victims, showing special attention to the victims they are targeting, supporting and rewarding them etc. (Knoll, 2010; Mototsune, 2015; Shakeshaft, 2013; Shakeshaft, 2018). For example, Moulden et al. (2010) determined the rate of teachers using their authorities as 84%, those forming friendly relations as 40%, those offering help to victims as 16% and those offering gifts, such as money, as 14%. It is pointed out in studies that abusive teachers aim to gain the trust of parents so that they can spend more time with underachieving students (e.g., Knoll, 2010; Shakeshaft, 2003). Furthermore, teachers abusing primary school students try to gain the trust of families and their colleagues while those abusing high school students can establish more emotional relationships with students (Kaufman et al., 2016). Shakeshaft (2018) states that adults sexually abusing children in the school environment possess different characteristics; some perpetrators who are sexually aroused by children choose to work at schools to be closer to children and act in a methodical manner while identifying and monitoring children. She states that this kind of perpetrators target students that are looking for adult interaction and attention, have a dysfunctional family, exhibit lagging, angry or self-destructive behaviors; in other words, students who will probably not be believed by the school management if they report. She says that there is another group that targets older students, acts carefully and approaches the victim slowly, forms trust relationships, test before SA whether the victim can keep secrets and establish friendship and emotional relationships with students.

Ruffin (2017) states that the existence of abusive teachers has been resisted for years, and this problem has escaped the attention. Attitudes of school management are considered to be one of the reasons (Shakeshaft & Cohan, 1995). Teachers are suspended following an allegation or they are just fired without performing any judicial transactions to prevent the school from falling into disrepute (Irvine & Tanner, 2007; Sullivan & Beech, 2002). Moreover, it is reported that these perpetrators have letters of recommendation from the school management so that they can find a new job at another school (Shakeshaft, 2004). Walter (2018) states that this attitude towards abusive teachers is has been known for years but not put down on paper in America. Similarly, there are no written sources about the attitudes of school management in Turkey other than the news published in the media.

As pointed out above, studies on SA committed in the school environment are limited in number and only few studies could be reached in Turkey. Three of these studies are case reports revealing exposure of male students to SA by peers (Keser, Yuksel & Calik, 2014; Odabas, Keser & Yuksel, 2012) and teachers (Celik et al., 2012). Another study examined the characteristics of 125 students that attended Ankara Child Advocacy Center from 2010 to 2015 and were determined to have been exposed to SA (Kocturk & Yuksel, 2018). The results of this study indicate that 36% of SA incidents in the school environment are committed by peers or higher grade students and 64% are committed by adults, most of the adult perpetrators are teachers (62.5%) and people coming to school from outside (10%) may abuse students.

As a result, SA incidents taking place in school and committed by teachers must be addressed from an educational point of view considering that children spend most of their times at schools after their families, SA may cause many psychological and social problems related to school (e.g., school phobia, school leaving) (Blakemore, Herbert, Arney, & Parkinson, 2017; Burgess et al., 2010; Celik et al., 2012; Kocturk & Bilge, 2018) and school counseling services are important for detecting and preventing SA. As there is a limited number of studies in the literature, characteristics of SA taking place in the school environment, as well as victims and abusive teachers are not known for sure, it is not possible to reach out to victims for study for ethical and other reasons, SA incidents at schools can be learned from the news (Celik et al., 2012) and the Turkish society uses the Internet and television most as a source of learning the news (Olkun, 2017), this study aims to examine news about SA taking place in the school environment published at news websites and to determine the nature of SA incidents, as well as individual characteristics of perpetrators and victims. The study tries to answer the following questions for this purpose:

1. What are the characteristics of SA incidents taking place in the school environment (e.g., number of victims, gender, grades, number of abuse, type of abuse, cyber SA, the part of the school where the incident takes place, videotaping, threat and battering)?
2. What are the characteristics of perpetrators (victim-perpetrator relationship, sex, marital status, criminal history, the branch of the perpetrator if s/he is a teacher, tactics and methods and amount of punishment) in SA taking place in the school environment?
3. Who do the victims report the incidents first, and what happens after reporting (the attitude of the school management and legal notification status)?

## **Method**

### *Research Design*

In this study, the online news has been screened retrospectively through the archive research method. Then, the news was analyzed through content analysis. In this context, a qualitative research model was used in this study.

### Research Sample

One hundred sixty-three news reports examined during this study were about SA incidents in 48 cities and most of the news are from: İstanbul (10.4%), Antalya (8.6%), Kayseri (6.1%), Ankara (4.3%), İzmir (4.3%), Aydın (4.3%) and Diyarbakır (4.3%). 55.2% ( $n = 90$ ) of the incidents reported in the news took place in city centers, while 44.8% ( $n = 73$ ) took place in the country.

The number of victims was given in 147 out of the 163 news reports included in this study while 17 news reports did not mention the names of the victims clearly and there was more than one victim. Accordingly, we understand that there was a minimum of 732 victims in the 163 news about SA in the school environment. 89% ( $n = 145$ ) of the news mentioned the victims as only female students, 6.7% ( $n = 11$ ) mentioned only males and 4.3% ( $n = 7$ ) mentioned both male and female students. The ages of the victims vary between 6 and 17 and the age average is 12.89 ( $SD = 2.99$ ). Moreover, it is reported in 4.3% of the news that the victims had a physical disability.

The 163 SA incidents took place at primary schools, secondary schools and high schools respectively by 30.7% ( $n = 50$ ), 26.4% ( $n = 43$ ) and 42.9% ( $n = 70$ ). As for the school type, it was found out that one incident (0.7%) was experienced by a student getting home education from the state, seven (4.6%) incidents took place at private schools while 140 (92.1%) incidents took place at state schools. Five incidents (3.1%) happened at boarding schools, and the high schools were determined to be of different kinds, such as Anatolian Vocational High School, Imam-Hatip High School and Vocational and Technical Anatolian High School.

### Research Instruments and Procedures

SA news at the websites of newspapers, such as Hurriyet, Milliyet, Haberturk, Yenisiasir, and news agencies, such the Anatolian Agency, CNN Turk and Ihlas News Agency between 01.01.2014 to 31.03.2018 were examined using the Google search engine, as it is the most commonly used search engine (Cromer & Goldsmith, 2010). The time interval was kept short to prevent data loss. Various possible news topics, such as "abuse at school", "sexual ... at primary school", "sexual ... at secondary school", "sexual ... at high school", "sexual abuse/harassment at primary school", "sexual abuse/harassment at secondary school", "sexual abuse/harassment at high school" and "abusive teacher", were separately searched in these news sources and more than 1000 news reports were achieved. News containing the date and the name of the news reporter were included in this study as the same news were published at different websites and the aim was to include highly reliable news in the study. Therefore, the SA news were listed by place (the cities where the incidents took place), time (date of the news) and case details (e.g., number of victims, initials of the perpetrator), repeating news were eliminated, and a total of 163 different news reports were determined.

### Data Analysis

The contents of these 163 news reports were analyzed in parallel with the research questions and the information about the characteristics of the SA incidents, and the information obtained from the news about the perpetrators and reports was grouped using Microsoft Word. Then the data were entered into the SPSS program to obtain descriptive statistics, such as frequency and percentage, and analyses were performed using SPSS.

### Results

Research findings indicated that the number of victims varied between one and 100 in each incident, 39.3% ( $n = 64$ ) of the incidents included only one victim while 60.7% ( $n = 99$ ) include multiple victims; the perpetrators committed abuse once in 13.5% ( $n = 22$ ) of the SA incidents, while they did it more than once (multiple), in other words, the victims were abused more than once by the same perpetrator in 63.8% ( $n = 104$ ) of the incidents. It was observed that 79.1% ( $n = 129$ ) of the incidents included harassment, 16.6% ( $n = 27$ ) included rape and there was no clear information about the type of SA. Thus, the incidents were just defined as "sexual abuse" in 4.3% ( $n = 7$ ). In 156 news reports where the types of abuse were stated, it was determined that 95.5% ( $n = 149$ ) of the SA incidents included physical contact, 27.6% ( $n = 43$ ) included verbal abuse, 6.4% ( $n = 10$ ) included exposure to pornographic content and 5.8% ( $n = 9$ ) included exhibitionism (see Table 1). In addition, it was determined that at least 14.7% ( $n = 24$ ) of the incidents included cyber SA (through the Internet or mobile phone), 9.2% ( $n = 15$ ) included video recording, 12.6% ( $n = 20$ ) included threat and 3.7% ( $n = 6$ ) included physical violence (see Table 1). As for the SA environment, it was determined that at least 31.9% ( $n = 52$ ) took place in classroom environment, 33.1% ( $n = 54$ ) took place in an isolated/private environment outside the classroom (e.g., private room, gymnasium, boiler room) and 20.2% ( $n = 33$ ) took place outside the school (e.g., inside a vehicle, perpetrator's house).

The examination of perpetrator characteristics within the scope of the second research question revealed that the total number of perpetrators in 163 news reports was 208, approximately 1% ( $n = 2$ ) of the perpetrators were female and 99% ( $n = 206$ ) were male. 92% ( $n = 150$ ) of the SA incidents were committed by one person, while 8% were committed by more than one person. It was determined that 18 people sexually abused the victim in one incident.

**Table 1***Descriptive Statistics for the Sexual Abuse Cases*

Variable	Victim	
	N	%
Incident		
Once	22	13.5
Multiple	104	63.8
Not known	37	22.7
Type of SA		
Penetration	27	16.6
Harassment	129	79.1
Physical contact	149	95.5
Verbal abuse	43	27.6
Pornographic content	10	6.4
Exhibitionism	9	5.8
Cyber SA	24	14.7
Video recording	15	9.2
Threat	20	12.6
Physical violence	6	3.7
Perpetrator		
Teacher	99	60.7
Administrator	24	14.7
Peer or higher grade student	20	12.3
Other school staff (e.g., janitor, officer, canteen worker)	15	9.2
Outsider	5	3.1
Perpetrator under 18 years old	21	12.9

In this study, 60.7% of perpetrators were teachers, 14.7% were principals or vice-principals, 12.3% were peers or higher grade students, 9.2% were school staff other than teachers and administrators (e.g., janitor, officer, canteen worker) and 3.1% were outsiders, such as school bus drivers. Information was gathered about the marital status of seventy perpetrators, and 57.1% ( $n = 40$ ) of them were married, 38.6% ( $n = 27$ ) were single and 4.3% ( $n = 3$ ) were divorced, and 60.3% ( $n = 38$ ) of 63 perpetrators had

children. Furthermore, it was found out that some perpetrators ( $n = 10$ ) had criminal histories and the crimes of and allegations about 80% ( $n = 8$ ) of those with a criminal history were about SA. News reports indicated that eight perpetrators with a criminal history related to SA were teachers and decisions of non-prosecution were made for two of them, one of them was acquitted, trials were in progress for two, the investigator appointed by the Ministry of Education did not believe the allegation about one of them, two teachers were appointed to different schools and committed crimes at those schools as well. One of the remaining perpetrators was a teacher and had received punishment for being a member of a terrorist organization, while the other teacher was a janitor performing free community service within the scope of probation and committed SA on children on the first workday. Moreover, it was determined that SA was committed by another teacher for the second time at two schools (1.2%) where the students had suffered SA in the past.

As for the branches of abusive teachers, it was determined that abusive teachers could be from various branches, and the branches with the highest number of incidents were classroom teacher (29.3%) and physical education (13%) branches (see Table 2). The tactics of the perpetrators were examined according to whether they were teachers and administrators and it was found out that perpetrators that were administrators exhibited extremely friendly behaviors or behaviors not expected from authority figures ( $n = 13$ ), deceptive behaviors, such as attending social activities and giving or receiving a massage ( $n = 10$ ), offered bribes or reinforcers, such as money, a private lesson and not being expelled, to the victims ( $n = 11$ ), used different tactics, such as games, so that the other students in the class would not figure out what was going on ( $n = 6$ ), committed SA through emotional attachment/flirt saying they were in love with the students ( $n = 6$ ), locked the doors of their rooms ( $n = 6$ ), took the students home with excuses, such as cleaning, wanted them to keep the incident as a secret ( $n = 3$ ), frightened the victims threatening that nobody would believe the students if they reported the incident. They would sue the students ( $n = 3$ ), exhibited violent behaviors, such as battering if refused by the student ( $n = 2$ ), took the students from the class during lessons and exposed them to SA ( $n = 2$ ). On the other hand, if the perpetrator was a peer or higher grade student, the perpetrators threatened and blackmailed the victims mostly through video recording and photographs ( $n = 7$ ), deceived the victims ( $n = 4$ ) and sexually abused them by flirting ( $n = 4$ ). The examination of the judicial processes of perpetrators revealed that 52.1% ( $n = 85$ ) were arrested, 26.4% ( $n = 43$ ) were convicted, 13.5% ( $n = 22$ ) were released pending trial and 1.8% ( $n = 3$ ) were acquitted. It was found out that the highest amounts of punishment inflicted on the perpetrators were 10-20 years (7.4%), over 80 years (5.5%) and 0-5 years (3.7%).

**Table 2***Descriptive Statistics for the Branches of Abusive Teachers*

Branch	N	%
Classroom teacher	36	29.3
Physical education teacher	16	13
Assistant principal	15	12.2
Mathematics teacher	10	8.1
Principal	9	7.3
Turkish language and literature teacher	4	3.3
Turkish teacher	4	3.3
Social studies teacher	4	3.3
Science teacher	4	3.3
Religious culture and moral knowledge teacher	3	2.4
English teacher	3	2.4
Counselor	2	1.6
Arabic language teacher	2	1.6
Music teacher	1	.8
History teacher	1	.8
Painting teacher	1	.8
Geography teacher	1	.8
Biological teacher	1	.8
Teacher unknown his branch	6	4.8

Note. N = 123

The people students reported the incidents first, and what they went through after reporting were examined within the scope of another research question. It was found out that 63.8% ( $n = 104$ ) of the students told family members, the school counselor, school management or a friend about the incident, 11.7% ( $n = 19$ ) reported the incident upon being suspected to be the victim of SA, 6.1% of the incidents were discovered after another teacher, parent or student witnessed the SA, and the reporting stories of 18.4% ( $n = 30$ ) were not included in the news. In 41 news reports (25.2%), the school management or the Ministry of National Education officials exhibited negative attitudes after reporting. The most common negative attitudes were reported as failing to make legal notification and take administrative action ( $n = 18$ ), refusal of the school management to believe the SA reporting and defending the perpetrator ( $n = 8$ ). On the

other hand, the examination of people who informed the judicial authorities revealed that parents of students reported in 44.2% of the incidents, the school staff reported in 31.9%, the Ministry of National Education reported in 2.5%, hospitals reported in 1.8%, the Prime Ministry Communication Center (BIMER) reported in 0.6 and women's organizations reported in 0.6%.

### **Discussion, Conclusion and Recommendations**

This study examined news about SA taking place in the school environment and a total of 163 different new reports about SA were assessed. The findings indicate that most of the students in SA incidents taking place in the school environment were female students, but male students were also exposed to individual and multiple SA in the school environment; the most common kind of SA was harassment, most SA incidents took place at high schools and primary schools, SA could happen at every type of school, there was more than one victim in most cases, perpetrators committed SA more than once on the same victim and SA incidents took place mostly in an intramural environment. SA inside schools took place mostly in classrooms, private rooms, gymnasiums, non-class environments, such as boiler rooms, while it could happen in out-of-school environments, such as vehicles, perpetrator houses and public areas. In addition, SA experienced by students mostly included physical contact and students were exposed to exhibitionism, rape, verbal and/or cyber SA. When we compare these findings with the literature, we can see that information about findings, such as SA venue, is limited, but it is stated in the literature that female students are exposed to SA more than male students in the school environments (Mototsune, 2015; Ratliff & Watson, 2014; Shakeshaft & Cohan, 1995), SA takes place in and out of school environment (Knoll, 2010; Mototsune, 2015; Shakeshaft & Cohan, 1995), SA takes place at state, religious and private schools and it takes place most at state schools (Mototsune, 2015). According to the research findings of Mototsune (2015), male teachers mostly chose school environments in parallel with this study while female teachers commit SA on students mostly in out-of-school environments. However, given that the number of female teachers in this study is limited ( $n = 2$ ) and one of them committed SA in the classroom while the other one committed it on the Internet prevents us from having a clear opinion.

Findings of perpetrator characteristics indicate that teachers, school management, peers as well as people offering services to students, such as janitors, officers, canteen workers and school bus drivers, committed SA in the school environment and teachers committed the highest amount of SA at schools. Although the literature states that both peers and adults can commit SA in the school environment (Shakeshaft, 2004; Timmerman, 2003), Timmerman (2003) and AAUW Educational Foundation (2001) found out that peers committed more SA. This is considered to arise from the differences in the definition of SA or research methods. These studies were not conducted on face to face basis with students as in this study and behaviors, such as sexual jokes, were not considered SA due to the research method. As the source of data in this study is based on the news published in the media, it is thought that students

did not report such mild behaviors exhibited by peers and even if they did, the journalists might not have found them important enough to be published in the media. The study of AAUW Educational Foundation (2001) determined that most of the students did not report such mild SA behaviors to an adult, which supports this view. On the other hand, because peers have a higher rate of SA is expected as the number of peers at schools is higher than the number of teachers (Timmerman, 2003). Therefore, it is thought that assessing the rate of perpetrators according to the number of teachers and students at schools may provide healthier results. Furthermore, limited information could be reached about individual characteristics of abusive teachers in this study and it was determined that most of them were married, at least 7% of them had former SA allegations about them and no judicial (e.g., the decision of non-prosecution) or administrative (e.g., informing judicial bodies or appointing to another school) precautions were taken against those teachers with a history of abuse. It is pointed out in previous studies that the number of studies on SA in the school environment is limited and there is limited information about characteristics of perpetrators as most studies are based on past events (Mototsune, 2015; Moulden et al., 2010; Shakeshaft, 2018; Walter, 2018). Given that the majority of the perpetrators were determined to be married and have children suggests that people with pedophilic tendencies may try to camouflage themselves with such socially accepted roles to hide themselves or the majority of abusive teachers may be a part of the pedophilic group that is affected by both children and adults (Hall & Hall, 2007). In addition, the literature indicates in parallel with this study that school management act in a way that is protective of perpetrators and refrain from taking judicial action (Mawdsley, 2010; Shakeshaft & Cohan, 1995; Shakeshaft, 2004). The findings of this study show that this problem exists in Turkey just like in the previous work conducted in United States of America (Walter, 2018), but it has not been written down, suggesting that the majority of people informing the judicial bodies consists of parents of victims whereas it must be the schools.

One of the significant findings of this study is that abusive teachers in Turkey can be from almost every branch and the branches where they can be encountered most are a classroom teacher and physical education branches. This finding is supported by many studies (Shakeshaft, 2004; Walter, 2018) and this may arise from that teachers with pedophilic tendencies especially choose these professions, there are more classroom teachers than others, students taking classes from teachers especially in these branches spend more time with their teachers, or they are more vulnerable as the classes include physical contact.

Another important finding of the study is that the tactics used by abusive teachers and administrators on victims were determined. In line with the literature, it is observed in this study that perpetrators who are peers or higher grade students threaten and blackmail using footage more compared to teachers, while abusive teachers and administrators prefer friendly attitudes and behaviors not expected from authority figures instead of physical violence and threats, they offer rewards to victims, such as money, private lessons, not expelling from school, attend social activities together with adolescent students, and exhibit flirting behaviors (Knoll, 2010;

Mototsune, 2015; Moulden et al., 2010; Shakeshaft, 2018). Moreover, because abusive teachers use tactics, such as giving or receiving a massage from older students, playing games, such as night and day, not raising heads from books, having the victim sit in the back. Thus, the other students would not understand what is going on in SA incidents exposed by primary school students is an important finding of this study that can be used for education against SA.

The judicial processes about perpetrators in the school environment indicate that most of the perpetrators received a prison sentence for more than 10 years, which suggests that incidents, including judicial action, may have been reflected in the media more or the judicial processes may have been attached more importance as they were reflected in the media, thus forming public opinion about the incidents. Furthermore, the punishment increases when a person teaching the child commits abuse according to Turkish Penal Code No 5237 (TCK 103, 2004). This may be the main reason why the perpetrators committing abuse received more severe punishments although there were more harassment incidents in the study.

Another striking finding of the study is that not every victim told someone about the SA in the school environment, some victims reported after someone (another teacher, parent or student) witnessed the incident or someone (e.g., parents or teacher) suspected SA; family members, school counselors, school management and people defined as friends are the ones to whom they reported the incidents most. Although the number of studies on this subject is limited, it is pointed out in one study in the USA that friends (61%), family (24%) and teachers (11%) are the people to whom the incidents are reported first and the rate of students reporting abuse by teachers maybe 71% (AAUW Educational Foundation). This is considered to be caused by differences in the research methods or cultural features of populations.

Despite the important contributions of the present study noted above, this study has a few limitations. One of them is that the source of information for the study is based on the news on the Internet. Therefore, only the incidents reflected in the media were found out and the nature of SA incidents that were not reported or published in the media is not known. Moreover, as this study is based on online news, it was not possible to obtain the same amount of information about the incident story, perpetrator and victim in each SA news. Finally, some news might have been removed from the press by the publishing newspapers or agencies as the news published on the Internet for more than four years were retrospectively scanned. Thus, future studies on this subject can be planned in a prospective manner.

In conclusion, a lot of information was obtained about characteristics of the SA taking place in the school environment, the victims and perpetrators through this study examining the news published in the media. Based on the findings, the training aimed to prevent SA may be organized at school for students, teachers, other school staff and parents on a regular basis. Information about perpetrator and victim profiles, behaviors that constitute abuse, behaviors (e.g., the school administrator closes the door of his/her private room when there is a student inside) that must create a suspicion of SA and the importance of reporting (e.g., mentioning school management

and teachers that received punishment because of failure to inform judicial authorities) can be explained at these training. On the other hand, an open policy regarding SA allegations at schools can be established within the Ministry of National Education considering that school administrators may also be perpetrators or protect abusive teachers or other school staff. Furthermore, as it was observed in this study that teachers with previous SA allegations committed SA at other schools to which they were appointed, even if there is only an allegation, preventing abusive teachers and other school staff from establishing direct communication with children until they are found innocent must be considered. On the other hand, safety measures (e.g., camera) can be taken in isolated areas inside schools that are determined in this study and where SA may take place, and these measures may be used to deter perpetrators.

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### **Retrospektif Bir Çalışma: Çevrimiçi Haberlere Göre Okulda Yaşanan Cinsel İstismar Olaylarında Mağdurlar, Failler ve Olayın Özellikleri**

#### **Atf:**

Koçturk, N. (2020). A retrospective study: According to online news, the victims, perpetrators and characteristics of sexual abuse at schools. *Eurasian Journal of Educational Research*, 86, 115-134, DOI: 10.14689/ejer.2020.86.6

#### **Özet**

*Problem Durumu:* Öğrenciler için en güvenli yerlerden biri olması gereken okul ortamı yaşanan çocukluk dönemi cinsel istismarı (Cİ) ile güvensiz bir ortam olabilmekte ve öğrencilerde çeşitli psiko-sosyal sorunlara yol açabilmektedir (Çelik vd., 2012). Her ne kadar ev dışı sosyal alanlarda Cİ mağduriyetlerinin daha az olabildiği (Shattuck, Finkelhor, Turner ve Hamby, 2016) alanyazında vurgulansa da okul ortamında yaşanan Cİ'ye yönelik çalışmalar kısıtlı sayıdadır (Gebeyehu, 2012; Shakeshaft ve Cohan, 1995). Var olan çalışmalarda da okul ortamında yaşanan Cİ'ye yönelik çok farklı oranların saptandığı görülmektedir.

*Araştırmanın Amacı:* Alanyazında kısıtlı sayıda araştırmanın olması ve okul ortamında gerçekleşen Cİ'nin, mağdurların ve istismarcı öğretmenlerin özelliklerinin tam olarak bilinmemesi, araştırma yapmak için bu mağdurlara ulaşamaması, okul Cİ olaylarının haberlerden öğrenilebilmesi (Çelik vd., 2012) ve Türkiye'de toplumun haber alma kaynağı olarak en çok interneti ve televizyonu kullanmaları (Olkun, 2017) sebebiyle, bu çalışmanın amacı internetteki haber sitelerinde yer alan okul ortamında yaşanan Cİ'lere yönelik haberlerin incelenerek Cİ olaylarının niteliğinin, istismarcılara ve mağdurlara dair bireysel özelliklerin belirlenmesidir.

*Araştırmanın Yöntemi:* Bu çalışmada arşiv araştırma yöntemi kullanılarak çevrim-içi basında yer alan Cİ haberleri geriye dönük olarak taranmıştır. Bu bağlamda çalışma, nitel araştırma modelindedir.

*Araştırmanın Bulguları:* Okul ortamında veya okul ortamından bir kişi tarafından Cİ'ye maruz kalmış olan öğrencilerin çevrimiçi basında yer alan haberlerinin incelendiği bu çalışmada konuyla ilgili 163 habere ulaşılmıştır. Belirlenen 163 Cİ olayının %30.7'si ( $n = 50$ ) ilkokulda, %26.4'ü ( $n = 43$ ) ortaokulda, %42.9'u ( $n = 70$ ) lisede geçmekte olup mağdurların sınıf düzeyi 1. sınıf ile 12. sınıf arasında değişmektedir.

Çalışmanın bulgularına göre mağdur sayısının her bir olayda 1-100 arasında değiştiği, olayların %60.7'sinde ( $n = 99$ ) birden fazla mağdurun olduğu; %63.8'inde ( $n = 104$ ) istismarcının birden fazla kez (çoklu) istismarda bulunduğu öğrenilmiştir. Olayların %79.1'inin ( $n = 129$ ) taciz, %16.6'sının ( $n = 27$ ) tecavüz vakası olduğu, %4.3'ünde ( $n = 7$ ) Cİ türünün ne olduğuna dair net bir bilginin olmadığı saptanmıştır. Cİ olaylarının yaşandığı ortam incelendiğinde de en az %31.9'unun ( $n = 52$ ) sınıf ortamında, %33.1'inin ( $n = 54$ ) okulda sınıf dışı ıssız/özel bir ortamda, %20.2'sinin ( $n = 33$ ) okul dışında gerçekleştiği saptanmıştır.

Çalışmanın ikinci sorusuna yönelik istismarcıların özelliği incelendiğinde ise 163 istismar haberinde istismarcı sayısı toplam 208 olup istismarcıların yaklaşık %1'i ( $n = 2$ ) kadın %99'u ( $n = 206$ ) erkektir. İstismarcıların %60.7'si öğretmen, %14.7'si müdür veya müdür yardımcısı, %12.3'ü akran veya üst sınıftan bir öğrenci, %9.2'sinde öğretmen ve idareci dışındaki okul personeli (örn., temizlik görevlisi, memur, kantinci) ve %3.1'inde servis şoförü gibi okul dışından bir kişidir.

İstismarda bulunan öğretmenlerin branşları incelendiğinde ise öğretmenlerin her branştan olabildiği, en çok sınıf öğretmenliği (%29.3) ve beden eğitimi öğretmenliği (%13) branşlarından oldukları belirlenmiştir. İstismarcıların öğretmen ve idareci olup olmamalarına göre taktikleri incelendiğinde ise öğretmen ve idareci olanların öğrencilere aşırı derecede arkadaşça tutum veya otorite figürü harici davranışlar sergiledikleri ( $n = 13$ ), sosyal faaliyetlere gitme ve masaj yapma/yaptırma gibi kandırma davranışlarında buldukları ( $n = 10$ ), mağdurlara para, özel ders, okuldan atılmama gibi rüşvet veya pekiştireç teklif ettikleri ( $n = 11$ ), sınıf içinde diğer öğrencilerin olayı anlamaması için oyun vb. farklı taktikler kullandıkları ( $n = 6$ ), öğrenciye âşık olduklarını belirtip duygusal yakınlık/flört ilişkisi aracılığıyla Cİ'de buldukları ( $n = 6$ ), kendi odalarının kapısını kilitledikleri ( $n = 6$ ), öğrencileri çeşitli bahanelerle eve götürdükleri ( $n = 4$ ), olayın aralarında sır olarak kalmasını istedikleri ( $n = 3$ ), olayı anlatırsa inanılmayacağına ve dava açacağına dair tehdit ile mağdurları korkutabildikleri ( $n = 3$ ), öğrenci kabul etmediğinde darp etme gibi şiddet davranışları sergiledikleri ( $n = 2$ ) ve ders saatinde öğrenciyi sınıftan alarak odalarında Cİ'de buldukları ( $n = 2$ ) belirlenmiştir. Buna karşın, istismarcının akran veya üst sınıftan bir öğrenci olması durumunda istismarcıların daha çok video, fotoğraf gibi görüntü çekimi ile mağdurlara tehditte ve şantajda buldukları ( $n = 7$ ), kandırma davranışları sergiledikleri ( $n = 4$ ) ve flört ilişkisinden yararlanarak Cİ'de buldukları ( $n = 2$ ) saptanmıştır.

Öğrencilerin %63.8'inin ( $n = 104$ ) sırasıyla aile üyesi, rehber öğretmen, okul yönetimi ve arkadaş gibi bir kişiye olayı anlattığı saptanmıştır. Bildirim sonrası ise okul yönetiminin veya MEB yetkililerinin olumsuz tutum sergilediği 41 haberde (%25.2) belirtilmiş olup, en çok görülen olumsuz tutumun ise adli bildirimde ve idari

işlemlerde bulunmama ( $n = 18$ ) ile okul yönetiminin Cİ bildirimine inanmaması ve istismarcıyı savunması ( $n = 8$ ) olarak aktarılmaktadır.

*Araştırmanın Sonuçları ve Önerileri:* Bu çalışmada okul ortamında yaşanan Cİ olaylarında mağdurların çoğunluğunun kız öğrenciler olmakla birlikte erkek öğrencilerin de bireysel ve çoklu Cİ'ye maruz kaldıkları, en çok görülen Cİ türünün taciz olduğu, Cİ olaylarının en çok lisede ve ilkokulda yaşandığı, her tür lisede/okul türünde Cİ'nin görülebildiği, olayların çoğunluğunda mağdurların birden fazla olduğu, istismarcıların da aynı mağdura çoğunlukla birden fazla kez istismarda bulunduğu ve Cİ olaylarının en çok okul-İçi bir ortamda yaşandığı belirlenmiştir. Okul-İçi ortamda ise Cİ en çok, sınıfta, kişisel oda, spor salonu, kalorifer dairesi gibi sınıf dışı ıssız/özel bir ortamda meydana gelirken, araç İçi, istismarcının evi, açık alan gibi okul dışı alanlarda da yaşanabilmektedir. Bunlara ek olarak, öğrencilerin yaşadığı Cİ türünün çoğunlukla fiziksel temas içerdiği ve öğrencilerin teşhirciliğe, tecavüze, sözel ve/veya sanal Cİ'ye de maruz kaldıkları belirlenmiştir. Elde edilen bu bilgiler alanyazınla karşılaştırıldığında, Cİ'nin meydana geldiği yer gibi bulgulara dair bilgilerin kısıtlı olduğu; ancak alanyazında da kızların erkeklere göre okul ortamında daha fazla Cİ'ye maruz kaldıklarının (Mototsune, 2015; Ratliff ve Watson, 2014; Shakeshaft ve Cohan, 1995), Cİ'nin okul-İçi ve okul-dışı ortamda meydana geldiğinin (Knoll, 2010; Mototsune, 2015; Shakeshaft ve Cohan, 1995), Cİ'nin devlet, dini ve özel okullarda gerçekleştiğinin ve en çok devlet okullarında yaşandığının (Mototsune, 2015) belirlendiği görülmektedir.

Sonuç olarak, medyada yer alan haberlerinin incelendiği bu çalışma ile okul ortamında yaşanan Cİ'lerin, mağdurlarının ve istismarcılarının özelliğine dair birçok bilgi elde edilmiştir. Elde edilen bulgulara dayanarak okullarda öğrencilere, öğretmenlere, diğer okul personeline ve ebeveynlere yönelik düzenli aralıklarla Cİ'yi önleme konusunda eğitimler gerçekleştirilebilir. Bu eğitimlerde istismarcı ve mağdur profiline dair bilgiler, hangi davranışların istismar olduğu, hangi davranışların gözlenmesi durumunda Cİ'den şüphelenilmesi gerektiği (örn., öğrenci içeride iken okul yöneticisinin kişisel odasının kapısını kilitlemesi) ve bildirim yapmanın önemi (örn., adli bildirimde bulunmadığı için hapis cezası alan olgular belirtilerek) anlatılabilir. Bununla birlikte, okul yönetiminde bulunan kişilerin de istismarcı olabileceği veya istismarcı öğretmeni veya diğer okul personelini koruyabileceği göz önüne alınarak, MEB bünyesinde okulda yaşanan Cİ iddialarına yönelik açık bir politika oluşturulması sağlanabilir. Ayrıca, bu çalışmada geçmişte Cİ iddiası olan öğretmenlerin yeni atandıkları okulda da Cİ davranışı sergiledikleri görüldüğünden, iddia dahi olsa adli yönden suçsuz bulunana kadar istismarcı öğretmenlerin ve diğer okul personelinin çocuklarla birebir iletişim halinde olmasının engellenmesi gerektiği düşünülmektedir. Bir diğer yönden, bu çalışmada belirlenen ve Cİ'nin gerçekleşebileceği okul içindeki ıssız alanlarda güvenlik önlemleri (örn., kamera) alınabilir ve bu önlemlerin istismarcılar için caydırıcılık oluşturması sağlanabilir.

*Anahtar Kelimeler:* Okul, cinsel istismar, çocukluk dönemi cinsel istismarı, öğretmenin cinsel istismarı, akran cinsel istismarı, okul güvenliği.





## Spiritual Leaders for Building Trust in the School Context

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### ABSTRACT

**Purpose:** The purpose of this study was to analyze the impact of spiritual leadership on organizational trust and examine the relationship between both concepts.

**Research Method:** A multiple regression analysis was carried out using the data collected through spiritual leadership and organizational trust scales from 343 teachers.

**Findings:** The result of the study revealed that the dimensions of spiritual leadership have varying relationships with organizational trust, which is significantly predicted by altruistic love, hope/faith, and organizational commitment.

**Implications for Research and Practice:** Leaders' role in enabling trust is a priority as they mainly decide and lead the value system of the organizations. Leaders in school contexts fulfill key roles in sustaining and developing organizational trust as they establish and support core values and truly accept members in schools. Spirituality is one of the concepts, which has been thought to have effects on trust in the organization.

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## Introduction

Spirituality is one of the ways through which persons build transcendental knowledge and meaning. It includes emotional, rational, or cognitive, unconscious, and symbolic areas, as well as supernatural associations. Ignoring spirituality in human life means ignoring personal and social transformation of inner self, which is a vital aspect of human being. Thus, it is required for leaders to adopt a holistic approach in that intelligence, body, and soul are valued (Smith & Rayment, 2007). Today's successful leaders should follow this approach to achieve new depths of learning with active involvement of all members of the community (Malone & Fry, 2003) and also form a culture of trust in their followers to enable reliable relationships horizontally and vertically in the organization. In this study, based on the need of spirituality and trust in the organization, we will explore to what extent spiritual leadership can predict the organizational trust.

### *Spiritual Leadership*

Crossman (2010) mentions SL as having potential to be a powerful and courageous innovative management paradigm in the 21<sup>st</sup> century. Interest in SL has been growing since 1990 (Duchon & Plowman, 2005; Giacalone & Jurkiewicz, 2003; Gocen & Terzi, 2019; Hill, Jurkiewicz, Giacalone, & Fry, 2013). Dent, Higgins, and Wharff (2005) mentions Fairholm (1996) as one of the first researchers to use the concepts of spirituality and leadership in workplace leadership context. Fry (2003, 2008) being another pioneering scientist in the field of SL put forward a leadership model in which the source of SL is inner life positively influencing SL, which is composed of altruistic love, hope/faith, and vision. According to Fry, Latham, Clinebell, and Krahnke (2016), an inner life practice empowers hope/faith, vision, and altruistic love, giving room for spiritual well-being by means of calling and membership. This affects individual and organizational outcomes positively, some of which are life satisfaction, unit productivity, and organizational commitment.

Spiritual leaders lead from within (Houston, Blankstein, & Cole, 2007). Fry (2003) states the purpose of SL as creating vision and value congruence in individuals and empowering teams to advance higher levels of productivity and organizational commitment. Perkins, Wellman, and Wellman (2009) found that a meaningful relationship between spirituality and leadership practices is generally faced. They also claimed that strengthening this dimension will also strengthen leadership practices. Among those who adopt spirituality, there are common features in leadership roles such as caring, morality, interest, and human values (Hill, 2009)

According to Fry et al. (2016, p.3), there are two issues essential to SL: (1) Forming a vision in which leaders and followers experience a sense of calling so that they experience meaning and purpose in their life; (2) if leaders and followers feel a sense of belonging, appreciation, and being understood, organizational culture based on the values of altruistic love can be created. Generally studied in the context of business, SL now extends into schools and teachers (Gocen & Terzi, 2019; Kaya, 2015; Malone & Fry, 2003). According to Gibson (2011), examinations of spirituality as a dimension of leadership by school principals help them better understand school learning

communities. A desirable leader is the one who can integrate the spiritual dimensions into the school, but the voice of spirituality is turned down in the school system and the time has come to free the spiritual dimensions in schools (Riaz, 2012). However, Malone and Fry (2003) claim that learning groups in which students can think, apply, and extend their knowledge are waning as the public school system is urged to meet altering accountability and expectations.

In recent years, researchers started to study spirituality and its effects on student and teacher (Cook, 2017). The number of researchers who emphasize that spirituality has significant influence on effective learning, teacher leadership, and its contribution to dynamic organizational life is not a few (Boone, Fite, & Reardon, 2010). Taking Patch Adams, a renowned film on unconventional ways of treatment, as an example, it is easy to understand the message about strengthening the spirit instead of giving pills. Actually, schools should be free places that should offer opportunities for "reflecting" the experiences, feelings, and beliefs of students (Boone et al. 2010), which entrust important tasks with school leaders and teachers. According to Malone and Fry (2003), schools must establish a broader foundation for students to meet the 21st century challenges, for which altruistic love is the building block.

#### *Spiritual Leadership Dimensions*

Based on Fry's (2003) scale, Spiritual Leadership (SL) consists of 9 dimensions. These dimensions can be briefly explained as follows (Espinosa et al, 2017; Fry, 2003, 2005, 2008; Fry et al, 2016):

- **Hope/Faith (H):** The belief in organization's goal, vision and mission which will be achieved. It is a firm belief that the desired is true, even if there is no physical evidence. The conviction that what is desired will happen.
- **Vision (V):** It interrogates why the person has started his journey and tells the way organization follows. Vision defines the general direction of change, simplifies the detailed decisions, and helps leaders coordinate many different people's actions.
- **Altruistic Love (AL):** A sense of harmony, wholeness and well-being produced through concern, care, and appreciation for self and others.
- **Meaning/Calling (M):** Perception that life is meaningful, valuable, and creates a difference. It is about a transcendental experience or deeds of one who makes a difference through service to others.
- **Membership (MS):** Feeling of being understood and appreciated in a group. Being understood and appreciated covers important place in the feeling of membership.
- **Organizational Commitment (OC):** Willingness to maintain the relationship with the organization based on the values of altruistic love. People with calling/seeking and membership are more likely to be loyal to their organization.

- **Productivity (P):** To produce high quality products and services. People who have a sense of calling and membership will be motivated in fostering productivity to help the organization go up.
- **Life Satisfaction (LS):** Perceiving the life richer and with higher quality. People with a sense of calling and membership will feel more fulfilled when they have a sense of purpose and belonging.
- **Inner Life (IL):** It means how aware a person is about who she or he is. It is more about the feelings which individuals have about themselves.

### *Spirituality and Trust*

Trust is of utmost importance for the economic outputs because it plays a fundamental role in any sustainable inter-organizational and intangible relations (Juceviciene & Jucevicius, 2014). The notions that were accepted as antecedents to spirituality included religious beliefs, faith, and trust (Mahlungulu & Uys, 2004) as spirituality first requires the trust between known and unreachable entities. In a study, Hassan, Nadeem, and Akhter (2016) found a significant positive relationship between spirit at work and trust which significantly mediates the impact of workplace spirituality on job satisfaction. Kurt et al. (2016) empirically asserted that spirituality functions as a significant antecedent of network commitment and trust in sampled business ventures. González (2018) mentions Santiago (2007)'s study in which encouraging spirituality at work is suggested to get benefits such as trust, commitment creativity, honesty, and self-fulfillment.

### *Organizational Trust*

Trust starts with the person himself or herself. By trusting in yourself and others, trust naturally occurs in the process, which may be followed by mutual trust in working process together with others (Kelly, 2017). In general terms, trust can be described as the notion that people or organizations may be relied upon and poses no harm to the mutual relationship in a case of gain or losses. Trust can help organizations stand against negative effects of competitive world when perceived in similar ways by all employees in an organization. For Whitener, Brodt, Korsgaard, and Werner (1998), Organizational Trust (OT) can be explained in three facets. First, trust in another person means a belief or an expectation that the other person will act in benevolent way. Second, one cannot fully expect or guarantee other person to meet this expectation because trust means willingness to be vulnerable and assume some risks. Third, trust has the feature of having some level of dependency on the other person and is influenced by the actions of others.

There are increasing numbers of studies which show trust in the workplace as an important factor, having potential in leading organization and members to an enhanced organizational performance and being a source of competitive advantages in a long term (Lämsä & Pučėtaitė, 2006). Competitiveness in today's work context is more dependent on the ability to develop trusting relationships among employees and in organizations based on the premise of being trustworthy and trusting (Huff & Kelley, 2003). Trust in this sense needs to be studied more in the context of competitive

organizations where employees are expected to better perform than others to secure their organization positions in respect to others. In a case study on the management of paradox of efficiency and flexibility by the Toyota Production System, four organizational mechanisms such as metaroutines, partitioning, switching, and ambidexterity were explained, which were supported by two contextual factors: training and trust (Adler, Goldoftas, & Levine, 1999). The lack of training and trust could impede the well-functioning in four organizational mechanisms. Similarly, Du and Williams (2017) attract attention to the concept of trust in a case of multinational companies. OT in these companies helps the establishment of smooth exchange relationships and management of innovative projects with the potential for future growth. To better prepare the organization for changes and a good atmosphere, management plays an important role with the managerial challenge of initiating trust; thus, development of ethics in workplace, support for employees, and better provision and flow of information by the leading personnel in the organization have a positive impact on employees' trust at work (Lämsä & Pučėtaitė, 2006).

#### *Trust in Schools*

Leaders' role in enabling trust is a priority as they mainly decide and lead the value system of organizations. According to Bryk and Schnieder (2003), school managers' actions have a key role in sustaining and developing relational trust as they build respect and personal regard when they truly accept the teachers or staff in the schools. Bruce (2000) pointed out that 74% of a group, most of whom defined them as spiritual in the study, indicated that they were afraid of an imposition of a dominant worldview or belief system in their work environment by their leaders, which is an obstacle in the way of a true spiritual organization. Similarly, a trust system built on leaders' own understanding could be a great obstacle in forming OT.

There are emerging studies to confirm the trust as one of the key elements for interpersonal communication and organizational effectiveness (Smith, Hoy, & Sweetland, 2014). Studies in the field suggest several ways in which trust improve individuals' levels of performance in exchange relationships (Gulati & Sych, 2007). First, relationships with trust serve as a counter to moral problems, which reduce need for contractual safeguards. Second, individuals or organizations with a higher level of trust become more open and less defensive to each other and value their counterparts more in their decisions. Third, there is a relinquishment of fear that demands others or the person be illegitimate, giving way to flexible and trusted communication. In contrast, the absence of trust, as seen by Bryk and Schnieder (2003) in their study, causes controversy around resolving even the simplest problems like the arrangements of graduation ceremony for a kindergarten. Researchers in educational field have defined a positive relationship between social trust and teaching success. Teachers who seek and collaborate with other teachers or administrators experience higher levels of success in classrooms and thus have higher efficacy beliefs (Fisler & Firestone, 2006). Hoy and Tschannen-Moran (1999) also found a positive relationship between trust and teacher efficacy.

Bryk and Schnieder (2003) spending nearly a decade for an intensive case study with longitudinal statistical results from more than 400 Chicago elementary schools observed school meetings, conducted interviews and focus groups, which demonstrated the central role of relational trust in building effective education communities. They had the chance of documenting the powerful influence of trust, which plays as a resource for schools and in reforming educational policy.

If we are to address the inequality in society due to growing individualism, materialism, and mistrust, we need to start with schools where OT needs to pervade among not only teachers, but also students and families. Schools with increasing demand and accountability to raise graduates with the required skills in competing for the digital era, schools necessarily resort to a variety of structures and mechanisms to meet these needs. These practices are more possible to be seen when the leaders of school display a professional leadership style grounded in trust (Tschannen-Moran, 2009).

People need to trust others to manage their own roles as organizational tasks can be completed by the expected contribution of others in the group. In schools, there are obligations and expectations of all parties regarding their roles in school, where trust plays mediating role between these expectations and obligations among the school members (Demir, 2015). Without trust in the system, nobody should expect an efficient realization of organizational tasks. In order to avoid the bad scenario, leaders must instill confidence and trust in people and in their works as people in today's complex society are looking for leaders they can carefully trust (Korkut, 2012). Accordingly, Turkish Ministry of National Education (2018, p. 22) in Turkey's Education Vision 2023 states *"a school can succeed as much as its administrator succeeds. For this reason, it is not a higher authority that determines the role of school administrators, but the influence they exert, which in turn is based on their specialized skills and trust among students and parents"*. Besides that, Turkish society is based on the notion that *"let the people live so that the state lives"*. In this context, Turkish education philosophy prioritizes the spiritual development among all parties by instilling them *"people and the state are spiritually bound to each other and requires its people's commitment and trust to maintain the state"*. In order to empower this trust and spiritual bonding in the schools and society, it is important to know what type of leadership models can contribute into trust in schools. Erturk and Donmez (2017) highlight that spiritual leaders trust in others and motivate employees to trust each other. It may be beneficial for educational institutions to follow a healthy spiritual leadership style in order to establish a trusted relationship. Thus, the researchers examined spiritual leadership as one of the leadership types that can benefit in the schools.

In line with the aforementioned literature, the purpose of this study was to examine the relationship between both concepts to learn to what degree the dimensions of SL can predict OT. Thus, the researchers tried to answer; to what extent does the spiritual leadership perceptions of teachers predict their organizational trust?

## Method

### *Research Design*

This quantitative study was based on a multiple regression model, which aimed to define the presence and degree of changes in an outcome variable as a result of changes in multiple predictors. In this study, the impact of SL dimensions on OT (one factor) has been examined. For the purpose of this study with 9 predictors and at least 20 cases per predictor, multiple linear regression analysis was implemented. These 9 predictors in SL were used to estimate significant changes that could occur in OT due to a single predictor after controlling other significant predictors.

### *Research Sample*

359 teachers volunteered in this study in the academic year of 2016-2017. Teachers were selected according to convenience sampling in Sanliurfa City, in which there are more than 2,000 public educational institutions for different age groups. Some missing data (34.7%) were observed, and among them, responses from 16 teachers (4.5%) were deleted because they did not answer more than half of the items. The rest of the missing data (30.2%) was handled by a series mean method in SPSS version 22.0 (IBM Corp, 2013).

**Table 1**

*The Sample in the Study and Their Demographic Information*

Variable	Groups	N	%
Gender	Women	10	30.3
	Men	23	69.4
Marital Status	Married	26	77.3
	Single	74	21.6
Age	30 and below	10	29.7
	31- 40 aged	17	51.9
	41-50 aged	51	14.9
	51 and above	8	2.3
Teaching Branch	Pre-school teacher	21	6.1
	Class teacher	12	36.7
	Branch teacher	19	56.0

The participants' demographic information can be seen in Table 1. That is, 30.3% (N=104) of the group was women while 69.4% (N=238) was men. 21.6% (N=74) of the group was single while the rest was married. Nearly half (N=178) of the group was aged from 31 to 40 and just 2.3% of them were older than 51. Branch teachers held the largest group (N = 192) in the study by 56%.

*Research Instruments and Procedures*

There are three forms employed in the study to collect the data from the volunteering teachers. The first form was for collecting demographic information of the participants. The second and third forms were scales about trust and SL. The second one was “Organizational Trust Scale”, which was developed by Daboval, Comish, Swindle, and Gaster (1994), adapted to Turkish by Kamer (2001), and re-adapted by Yilmaz (2005) for schools. Its reliability and validity were tested for schools and educational institutions. The scale employed in our study has four sub-dimensions named “sensibility to employees”, “trust to administrator”, “openness to modernity”, “communication climate”. The reliability of the scale was found to be 0.97, and for the dimensions 0.95, 0.95, 0.75, and 0.92, respectively.

OT scale has 40 items with 4 subscales and details are given in Table 2 below. These items are collected under four factors; sensibility to workers (15 items), trust to administrator (12 items), openness to modernity (4 items), and communication climate (9 items).

**Table 2***Dimensions of OT and Corresponding Items*

<b>Dimensions</b>	<b>Items</b>
Sensibility to workers (15 items)	1-13, 20, 29
Trust to administrator (12 items)	14-17, 21-27, 40
Openness to modernity (4 items)	18, 19, 32, 39
Communication climate (9 items)	28, 30, 31, 33-38

The third one was the scale of SL which has 40 items. This scale was developed by Fry et al. (2007), and adapted into Turkish by Kurtar (2009). This scale composed of nine dimensions, *vision* (V), *hope/faith* (H), *altruistic love* (AL), *meaning* (M), *membership* (MS), *inner life* (IL), *organizational commitment* (OC), *productivity* (P), and *satisfaction with life* (SL) whose Cronbach Alpha reliability coefficients range from 0.80 to 0.97. The total reliability coefficient was 0.95 (Kurtar, 2009). Table 3 shows those 9 dimensions of SL developed by Fry et al. (2007). These are vision (4 items), hope/faith (4 items), altruistic love (5 items), meaning (4 items), membership (4 items), inner life (5 items), organizational commitment (5 items), productivity (4 items), and satisfaction with life (5 items).

**Table 3**

*Dimensions of SL and Corresponding Items*

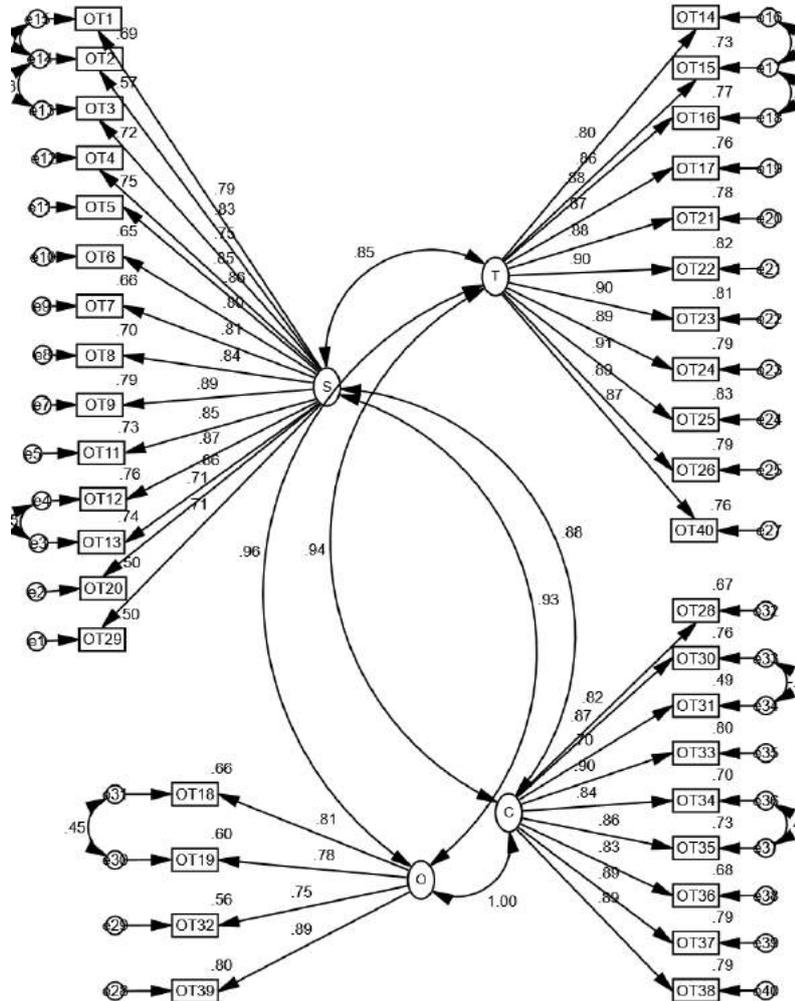
<b>Dimensions</b>	<b>Items</b>
Vision (4 items)	18, 26, 28, 30
Hope/Faith (4 items)	8, 15, 16, 36
Altruistic Love (5 items)	1, 10, 12, 22, 31
Meaning (4 items)	2, 4, 17, 23
Membership (4 items)	3, 9, 21, 32
Inner Life (5 items)	5, 25, 13, 34, 38
Organizational Commitment (5 items)	4, 7, 11, 37, 39
Productivity (4 items)	19, 20, 29, 33
Satisfaction with Life (5 items)	6, 24, 27, 35, 40

*Data Analysis*

Before analyzing the data obtained based on the two scales, confirmatory factor analyses (CFA) were implemented to check how well constructs (latent variables) can be represented by the measured variables of the scales (Suhr, 2006). For CFA, AMOS version 23.0 was used (Arbuckle, 2014). After CFA, multiple linear regression analysis was carried out for defining the presence and degree of changes in OT based on SL dimensions.

**Results**

Figure 1 and Figure 2 display CFA for OT and SL, respectively. Some items and latent variables were found non-significant and excluded from further analyses because of low factor loadings flagged by modification indices. For example, items 10 and 27 were removed from OT; whereas, 18 items were removed from SL including three dimensions, which are *meaning*, *inner life*, and *satisfaction with life*. Removing those non-significant dimensions and items has led to four dimensions with 38 items for OT and six dimensions with 22 items for SL. Given significant indicators and dimensions by CFA, measured variables of OT were averaged into a single outcome variable for the purpose of this study. For each dimension of SL, measured variables of each dimension were averaged into each dimension (i.e., AL, V, H, MS, OC, and P).



**Figure 1.** Confirmatory Factor Analysis for Organizational Trust

*Note.* S = sensibility to workers; T = trust to administrator; O = openness to modernity; C = communication climate.

$$(\chi^2 = 2155; df = 651; IFI = .91; TLI = .90; CFI = .91; RMSE = .08)$$

For the two scales, chi-square values were found significant ( $p < 0.05$ ) due to the large number of degrees of freedom along with the sample size. However, as an alternative criterion for overall model fit, the chi-square test statistics were divided by the corresponding degrees of freedom (Schreiber, Nora, Stage, Barlow, & King, 2006; Wheaton, Muthén, Alwin, & Summers, 1977). The ratios for a good fit were observed

within the acceptable cut-off points of three (Bollen & Long, 1992). That is, ratios of 3.31 and 3.29 were found for OT and SL, respectively.

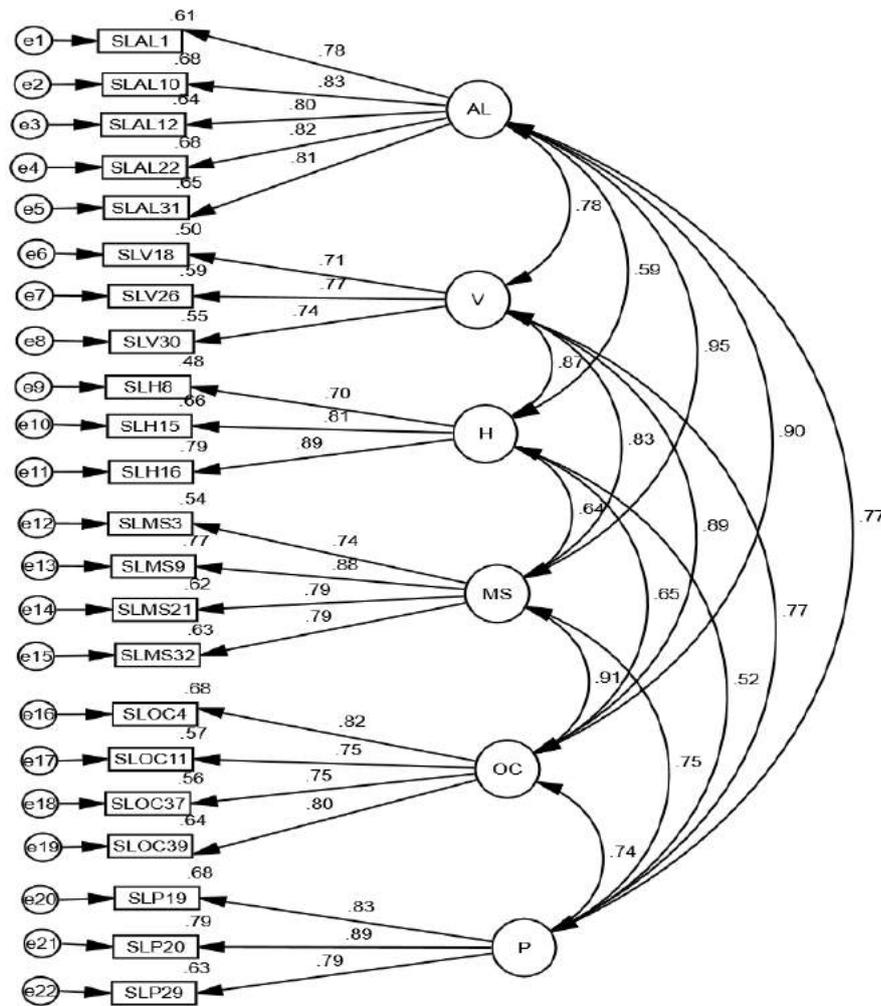


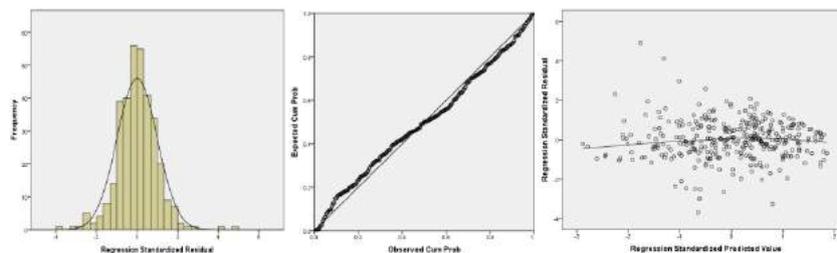
Figure 2. Confirmatory Factor Analysis for Spiritual Leadership

Note. SL= spiritual leadership; AL = altruistic love; V= vision; H = hope/faith; MS = membership; OC= organizational commitment; P = productivity.

$$(\chi^2 = 673.7; df = 194; IFI = .90; TLI = .89; CFI = .90; RMSE = .09)$$

Furthermore, the Tucker-Lewis index (TLI; Tucker & Lewis, 1973), the incremental fit index (IFI; Bollen, 1989), and the comparative fit index (CFI; Bentler, 1990) were reported to test how well constructs can be represented by the measured variables of the scales. For both scales, acceptable values around 0.90 were observed based on these indices (Bentler & Hu, 1995). Moreover, the root mean square error of approximation (RMSEA; Browne & Cudeck, 1993) values, .08 and .09 for OT and SL, respectively, correspond to “acceptable” fits.

After carrying out CFA, several key assumptions (i.e., *multivariate normality*, *multicollinearity*, and *homoscedasticity*) were investigated (Garson, 2012). For multivariate normality, multiple regression analysis assumes that the residuals of the regression are normally distributed. We can conclude that the normality of the residuals was observed based on the histogram and the normal P-P plot of regression standardized residuals in Figure 3. In terms of multicollinearity assumption, multiple regression analysis assumes that predictors are not highly correlated (less than 0.80) with each other (Garson, 2012). Even though there is a significant relationship among predictors at varying degrees, all of them are lower than 0.80. Even though only one exception with the highest correlation was observed between AL and MS ( $R = 0.85$ ), MS was excluded from the model due to a larger correlation between AL and OT (.773) than between MS and OT (.695). Moreover, multicollinearity assumption was also tested using Variance Inflation Factor (VIF) values, which were lower than the critical values of 10.00, ranging from 2.12 to 4.52, which are displayed in Table 5. Last, homoscedasticity is that the variance of error terms should not be highly inflated across the values of predictors. This assumption was investigated by a scatterplot of standardized residuals and predicted values whether the data are equally distributed across all values of predictors. Figure 3 also shows that homoscedasticity assumption was met.



**Figure 3.** Histogram, Normal P-P Plot of Regression Standardized Residual, and Scatterplot from Left to Right

**Table 4**

*Pearson Product-Moment Correlation Results for SL Dimensions and OT*

Variables	2	3	4	5	6	7
1. OT	.773**	.579**	.530**	.695**	.719**	.521**
2. AL		.665**	.558**	.848**	.789**	.679**
3. V			.731**	.679**	.722**	.636**
4. H				.589**	.556**	.471**
5. MS					.775**	.646**
6. OC						.618**
7. P						1

\*\*  $p < 0.01$

Table 4 shows the correlation among the dimensions of SL. It is seen that predictors were not highly correlated. They were generally between the values of .47 and .85. With a significant relationship between SL dimensions and OT, the lowest correlation between P and OT was .52 while the highest correlation between AL and OT was .77.

**Table 5**

*Multiple Regression Analysis Results for SL Dimensions in Predicting Overall OT*

Variables	B	SE (B)	$\beta$	t	p	VIF
Constant	.856	.153		5.58	.000	
AL	.489	.064	<b>.534</b>	7.66	<b>.000</b>	4.515
V	-.055	.064	-.052	-.86	.393	3.416
H	.142	.055	<b>.127</b>	2.58	<b>.010</b>	2.245
MS	.019	.066	.019	.279	.780	4.212
OC	.254	.055	<b>.284</b>	4.66	<b>.000</b>	3.453
P	-.053	.046	-.056	-1.17	.244	2.120
$R = .799$	$R^2 = .638$	$F_{(6,342)} = 98.695$		$p = 0.00$		

$$OT = .86 + .49 \times AL + .14 \times H + .25 \times OC \quad (1)$$

After ensuring the assumptions met by the data, the results of multiple regression analysis of SL dimensions on OT were examined. A positive moderate relationship in the model ( $R = 0.799$ ,  $R^2 = 0.638$ ,  $F = 98.695$ ,  $p < 0.01$ ) was observed. Table 5 shows 64%

of variance in OT accounted for by the SL's dimensions. The B values in Table 5 display unstandardized coefficients for the statistically significant and non-significant dimensions of SL that predict OT. H, AL, and OC were found significant predictors among the dimensions of SL as seen in Table 5 ( $p < 0.05$ ). As shown in Equation 1, one explanation of the coefficients of significant predictors, for example, is such that each one point increase in AL can lead to a 0.49 point increase on average in SL when all of the other predictors are fixed. Similar interpretations can be made for H and OC. That is, each one point change in H and OC can result in a 0.14 and 0.25 point change on average in OT, respectively, while all other predictors remain constant. Moreover, the beta ( $\beta$ ) values in Table 5 also display standardized coefficients for the statistically significant and non-significant dimensions of SL that predict OT. In comparing these values, AL (.534) is the most influential predictor of SL, followed by OC (.284) and H (.127) dimensions.

### Discussion, Conclusion and Recommendations

Based on the findings of the data, this study provided that organizational trust has significant correlations and relationship with spiritual leadership constructs ranging from low to high levels. Esfahani and Sedaghat (2015) also found significant correlations between some of Fry's spiritual leadership subscales and organizational trust. Reave (2005) summarized that spiritual values and practices are directly related to trust among other variables. From this perspective, spirituality can be considered as an important concept in organizational trust, which foresees many positive outcomes for the organization. That being said, Jurkiewicz and Giacalone (2004) cite studies which show that trust among employees is essential for productive work relationships, and organizations fulfilled with trust are more productive than others, have a greater sense of professional and personal security enhancing performance and loyalty, exhibit reduced political behaviors, more cooperative and supportive peer interactions, and have a greater employee commitment.

This study also showed that the SL constructs - altruistic love, hope/faith and organizational commitment - had significant effects in predicting overall organizational trust of teachers. Similarly, Fry (2003) mentions trust/loyalty connected to altruistic love, one of the main constructs of SL. Altruistic love forms trust among people, acting as a source for hope and faith in completing the work (Arshad & Abbasi, 2014). Hamed, Mojgan, Hatam, Khalil, and Mahdi (2015) asserted at the end of their study about nurses that creating altruistic behaviors, providing proper performance feedback, improving sense of belonging and valuing managers would improve organizational trust. Celep and Yilmazturk (2012) also stated that trust for leaders and colleagues in the organization result in organizational citizenship behaviors, corporate commitment, and low capital objectives. Thus, it is concluded that managers should earn the trust of employees to increase its organizational commitment (Alijanpour, Dousti, & Alijanpour, 2013). Another implication was the effect of hope/faith on organizational trust. Lewicki, McAllister, and Bies (1998) stated that while high trust is characterized by hope, faith, assurance, confidence, and initiative, low trust is

characterized by hopelessness, faithlessness, uncertainty, passivity, and hesitance. These findings in general correlate with our findings on altruistic love, hope/faith, and organizational commitment in regard to organizational trust. Moreover, according to the studies, leaders exhibiting spiritual leadership behaviors motivate employees while they are self-motivating themselves (Karadag, 2016), which could help leaders foster trust in organization with this motivation.

The literature generally supports the relationship between spiritual leadership and organizational trust. Taboli and Abdollahzadeh (2016) who found a significant relationship between spiritual leadership and trust in managers stated that it is obvious spiritual leadership style in management lead to mutual trust between supervisors and staff. Added to that, Barekat and Sabbaghi (2017) found a significant and moderate relationship between overall SL and OT. Rego and Cunha (2007) mentioned spirituality at work as a way to rebuild the trust between employer and employees. For educational organizations to lead a trusted relationship in the work and interactions among teachers, a healthy spiritual leadership could be an effective way to follow.

When study findings are evaluated in general, they have some implications for the practitioners, leaders and policy makers in school context. School managers and teachers need to earn each other's respect, trust and consent for creating better school environment, so they need to pay attention to the qualities of altruistic love, hope/faith and organizational commitment they have. They can run school-wide programs like that of Gocen and Ozgan (2018) in order to form a spiritual school culture where sacrifice, team spirit and meaning is embedded into school relationships. In this way, schools may build an atmosphere with spiritual qualities which can lead to organizational trust.

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## Okul Bağlamında Güven Oluşturmada Ruhsal Liderlik

### Atıf:

Terzi, R., Gocen, A., & Kaya, A. (2020). Spiritual leaders for building trust in the school context. *Eurasian Journal of Educational Research*, 86, 135-156, DOI: 10.14689/ejer.2020.86.7

### Özet

*Problem Durumu:* Ruhsallık, insanların aşkın bilgi ve anlam inşa ettiği yollardan biridir. Ruhsallık olgusu metafizik hislerin yanı sıra insanların duygusal, rasyonel veya bilişsel, bilinçdışı ve sembolik alanlarını içerir. Bu açıdan insan yaşamındaki ruhsallığın göz ardı edilmesi, insan içsel benliğini, kişisel ve toplumsal dönüşümünü göz ardı etmek anlamına gelebilir. Son yıllarda ruhsallığın önemi ve kişilere etkisi öğretmen ve okul açısından tartışılmaya başlanmıştır. Eğitim örgütlerinde ruhsallığın ve içsel motivasyon kaynaklarının yönünü araştıran çalışmaların sayısı giderek de artmaktadır. Bu kapsamda incelenen alanların başında işyeri ruhsallığı, ruhsal liderlik, anlamlı iş ortamı gelmektedir. Bu konular iş ortamında önemli kabul edilen aidiyet, güven, üretkenlik vb. gibi çıktılar üzerinde belirgin etkilere sahip olabilir.

Türk eğitim sistemi yönetim felsefesi açısından bakıldığında “insani yaşat ki devlet yaşasın” ilkesi aidiyet, güven, üretkenlik vb. çıktılara yönelik önemli bir mesaj içermektedir. Bu mesaj toplum ve devlet arasındaki ruhsal bağ ve paylaşılmış güvene işaret ederken araştırmacılar için ruhsallık, liderlik ve güven kavramları konusundaki çalışmaları da gerekli kılmaktadır. Bu çalışmada bu durumdan hareketle ruhsal liderliğin örgütsel güven üzerinde yordayıcı bir etkisinin olduğu hipoteziyle yola çıkılmıştır. Çalışmada katılımcı görüşlerine göre ruhsal liderliğin/boyutlarının örgütsel güveni ne düzeyde yordadığı cevaplanmaya çalışılmıştır.

*Araştırmanın Amacı:* Bu çalışmada ise öğretmenlerin algıları doğrultusunda “ruhsal liderlik” ve önemli bir örgütsel değer olan “güven” arasındaki ilişkinin incelenmesi amaçlanmıştır. Nitekim liderlerin kendi değerleri ışığındaki kararları örgütsel yapıyı etkileyen en belirgin unsurların başında gelmektedir.

*Araştırmanın Yöntemi:* Çalışmaya 2016-2017 öğretim yılında Şanlıurfa’da görev yapan 343 öğretmen katılmıştır. Katılımcı öğretmenler Şanlıurfa ilindeki okullardan uygun örnekleme göre seçilmiştir. Çalışmada veri toplamak için kişisel bilgi formu ve iki ölçekten faydalanılmıştır. Fry vd. (2007) tarafından geliştirilen Ruhsal Liderlik ölçeği öğretmenlerin ruhsal liderlik algılarını ölçmek için kullanılmıştır. Güven olgusuna ilişkin algıları ölçmek için de Daboval, Comish, Swindle ve Gaster’in (1994) geliştirdiği ve Kamer’in (2001) Türkçe’ye uyarladığı ve Yılmaz (2005) tarafından Türkçeye yeniden adapte edilen Örgütsel Güven Ölçeği kullanılmıştır. Ruhsal Liderlik Ölçeği 9 boyuttan oluşmakta olup boyutlar sırasıyla Vizyon, Umut/Çaba, Özveri/ Fedakârlık Sevgesi, Anlam, Üyelik- Aitlik, Ruhsal Yaşam, Kurumsal Bağlılık, Verimlilik, Yaşamsal Memnuniyet şeklinde sırlanabilir. Örgütsel Güven Ölçeği 4 boyutu ile Çalışanlara Duyarlılık, Yöneticiye Güven, Yeniliğe Açıklık ve İletişim Ortamı alt boyutlarından

oluşmaktadır. Ruhsal Liderlik ve Örgütsel Güven arasındaki ilişkiyi incelemeden önce araştırmacılar ilk önce AMOS üzerinden CFA ile tüm ölçek ve boyutları analiz etmiş ve sonrasında mevcut veriler ışığında çoklu doğrusal regresyon analizine ilişkin varsayımları kontrol etmiştir, çalışmadaki veri setlerinin tüm varsayımları karşıladığı SPSS 20.0 programı doğrulanmıştır (Örn, Normallik, doğrusallık, eşvaryanslılık vb). Çalışmada Örgütsel Güven bir boyut olarak ele alınırken, CFA sonrası Ruhsal Liderlik; diğergâmlık, vizyon, umut/inanç, üyelik, örgütsel bağlılık ve verimlilik şeklinde 6 boyut olarak ele alınmıştır.

*Araştırmanın Bulguları:* Çalışma sonucunda ruhsal liderlik ve örgütsel güven arasında orta düzeyde anlamlı bir ilişki tespit edilmiştir. Öğretmenlerin Ruhsal Liderlik algıları Örgütsel Güven'in %64'ünü açıklamakta olup Ruhsal Liderliğin "Özveri/ Fedakârlık Sevgisi, Umut/Çaba ve Kurumsal Bağlılık" boyutları örgütsel güven üzerinde anlamlı etkiye sahiptir. Çalışmadaki verilerin bulgularına dayanarak, bu çalışma örgütsel güvenin ruhsal liderlik boyutları ile düşük ve yüksek düzeyler arasında değişen anlamlı korelasyonlara ve ilişkilere sahip olduğunu göstermiştir.

*Araştırmanın Sonuç ve Önerileri:* Esfahani ve Sedaghat (2015) da Fry'ın bazı ruhsal liderlik boyutları ve örgütsel güven arasında da anlamlı korelasyonlar bulmuştur. Reave (2005) ruhsal değerlerin ve uygulamaların güven olgusunu doğrudan etkilediğini özetlemiştir. Bu açıdan bakıldığında, ruhsallık olgusu örgütsel güven açısından önemli bir kavram olarak düşünülebilir. Jurkiewicz ve Giacalone (2004) güvenin, iş ilişkileri için gerekli olduğunu vurgularken güvenin hissedildiği kurumların diğerlerine göre daha üretken, azaltılmış politik davranışlar, daha işbirlikçi ve destekleyici iş ortamı sunduğunu belirtmiştir. Alanyazın genellikle ruhsal liderlik ve örgütsel güven arasındaki ilişkiyi destekler sonuçlar sunmaktadır. Ruhsal liderlik ve güven arasındaki anlamlı bir ilişki olduğunu ifade eden Taboli ve Abdollahzadeh (2016) yöneticilerin ruhsal liderlik yönetim stillerinin yönetici ve personel arasında karşılıklı güvene neden olduğunu belirtmiştir. Buna ek olarak, Barekat ve Sabbaghi (2017) genel olarak Ruhsal Liderlik ve Örgütsel Güven arasında orta seviyede anlamlı bir ilişki bulmuştur. Rego ve Cunha (2007) işyerinde ve çalışanlar arasındaki güveni yeniden inşa etmenin bir yolu olarak işyeri ruhsallığından bahsetmişlerdir. Eğitim kurumlarının çalışmalarında ve öğretmenler arası etkileşimlerinde güvenilir bir ilişki kurmaları için sağlıklı bir ruhsal liderlik stilini takip etmeleri gerekli olabilir.

*Anahtar Kelimeler:* Örgütsel güven, ruhsal liderlik, okullar, öğretmenler, yöneticiler.



## Analyzing the Dimensionality of Academic Motivation Scale Based on the Item Response Theory Models\*

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### ABSTRACT

**Purpose:** This study aims to investigate the dimensionality of the Academic Motivation Scale items by depending on the graded response model, the generalized graded unfolding model, the bifactor model and the DIMTEST.

**Research Methods:** The Academic Motivation Scale was implemented on 1858 students who were studying at Ankara University. The fit of models was examined based on the general, person and item level model data fit statistics that were produced by the models.

**Findings:** It was found out that the bifactor model provided the most consistent results with the theoretical foundation underlying the items. The findings revealed that the generalized graded unfolding model and the bifactor model enabled

better results than the graded response model concerning to the general model data fit. About item fit statistics, the models that provided the best fit were the bifactor model, the generalized graded unfolding model and the graded response model, respectively. The index values obtained based on the bifactor model also brought out the existence of a strong general dimension on which the scale items could be ordered. The results of DIMTEST analysis also supported that the scale items are multidimensional.

**Implications for Research and Practice:** Researchers are recommended to estimate item parameters both on the general dimension and subscales of the Academic Motivation Scale by utilizing the bifactor model to obtain more reliable and valid item parameter estimations. In future studies, researchers can compare the models about dimensionality and monotonicity assumptions based on scales developed to measure different affective traits.

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## Introduction

One of the fundamental aims of tests applied in the fields of education and psychology is to make deductions regarding the level of individuals' latent trait measured by the test (Lord, 1980; DeMars, 2010). To be able to make deductions regarding test-takers' trait levels, it is necessary to analyze the interaction between the level of the latent trait that the individual has and individual's responses to test items based on the mathematical models. The primary mathematical models that are used in the fields of education and psychology are developed based on the classical test theory (CTT) or the item response theory (IRT) under some assumptions such as dimensionality (Tate, 2002; Reckase, 2009; De Ayala, 2009). The statistical dimensionality indicates the minimum number of latent variables that is needed in order to summarize a matrix of item response data (Reckase, 1990). It means the necessary dimensionality to describe the interaction between individuals and items observed in the data matrix. The methods that are utilized to analyze the dimensionality of data and their assumptions determine the accuracy of the results regarding dimensionality. According to Tay and Drasgow (2012), when measurement models used to analyze the dimensionality of test data do not fit nature of the targeted latent trait, contradictory inferences are made regarding the dimensionality of data obtained from the application of an instrument tool. One of the measurement tools that conflicting deductions are made regarding its dimensionality is the Academic Motivation Scale (AMS), which is the focus of this study.

The Academic Motivation Scale (Vallerand, Pelletier, Blais, Brière, Senécal, & Vallières 1992) includes seven factors: three are related with intrinsic motivation, three are related with extrinsic motivation, and one measures amotivation. Each dimension has four items; therefore the scale includes 28 items. The Academic Motivation Scale builds upon the Self-Regulation Questionnaire, a well-known measure published for the first time by Ryan and Connell (1989) and the Self-Determination Theory. Since then, the measure has been adopted by researches exploring varied domains, including work motivation and academics. The Academic Motivation Scale is one example of the adaptation of the Self-regulation Questionnaire in the academic domain.

In the Self-Determination Theory, motivation is defined on the basis of three psychological needs as follows: competence, relatedness and autonomy. The theory argues different motivation forms of intrinsic or extrinsic motivation depending on these fundamental needs (Ryan & Deci, 2000a; 2000b). Motivation types differ from each other concerning the level of autonomy that they reflect. Therefore, different motivation types are regulated on a general continuum so that they can reflect various levels of autonomy (Deci & Ryan 2000; Viau 2009). For example, extrinsic motivation types locate on the left side, while intrinsic motivation types locate on the right side of the continuum. The level of autonomy that an individual has increases through the positive end of the continuum. Therefore, the theory suggests the existence of a one-dimensional continuum along which different motivation forms and items measuring these forms can lie from the negative end to the positive end of the continuum (Ryan & Deci, 2000a; Ryan, Rigby, & Przbylski, 2006).

The motivation structure defined in the Self-Determination Theory has been statistically examined by researchers, and the existence of the general dimension representing the autonomy continuum has been mostly supported by the studies based on the correlation analysis (Ryan & Connell, 1989; Vallerand et al., 1993; Fairchild, Horst, Finney, & Barron, 2005; Howard, Gagne, & Bureau, 2017). On the other hand, the studies in which dimensionality of the item response data was analyzed depending on the factor analytic methods revealed that seven-factor model better fit the data than one-factor model did (Vallerand et al., 1992; Fairchild, Horst, Finney, & Barron, 2005; Karagüven, 2012). The relationships pattern among subscales of the AMS providing results supporting one-dimensionality and factor analytic studies providing results supporting multi-dimensionality lead researchers to utilize more sophisticated statistical techniques to examine the motivation structure defined in the Self-Determination Theory.

More recent studies that analyze and examine the factorial structure of motivation were conducted based on the generalized graded unfolding model and bifactor modeling. The generalized graded unfolding model does not require the monotonicity assumption, which means that the probability of endorsing an item increases, or at least does not decrease, as the location of examinees increases on the latent trait dimension (Reckase, 2009). The bifactor model considers the possible multi-dimensionality that may be observed in the data, and allows for modeling both one and multidimensionality simultaneously. The studies in which the bifactor model was utilized evidenced the existence of a multidimensional motivation structure including both the general motivation factor and the group (or specific) factors reflecting different motivation types. In addition, it was found that factor loadings of items on the general motivation factor support the existence of the one-dimensional latent autonomy continuum (Gunnell & Gaudreau, 2015; Howard, Gagne, Morin, & Forest, 2016; Litalien, Morin, Gagne, Vallerand, Losier, & Ryan, 2017). The study utilizing the generalized graded unfolding model revealed that 18 items out of 28 items of the AMS fit the one-dimensional non-monotonic model (Miller, 2007).

The assumptions of the model may affect the results regarding the dimensionality of the data matrix. Therefore, it is very important to identify an appropriate measurement model allowing for considering different factors that may affect item responses of individuals, when analyzing dimensionality of a data matrix. For example, it was found that the monotonicity assumption might cause making incorrect inferences regarding the factor structure of measurement tools by negatively affecting dimensionality results (Tay & Drasgow, 2012). In addition, the related studies evidenced that item response models holding the monotonicity assumption are not always suitable to the nature of affective traits like academic motivation (Van Schuur & Kiers, 1994; Spector, Katwyk, Brannick, & Chen, 1997; Chernyshenko, Stark, Chan, Drasgow, & Williams, 2001; Chernyshenko, 2003; Chernyshenko, Stark, Drasgow, & Roberts, 2007; Tay, Drasgow, Rounds, & Williams, 2009; Carter & Dalal, 2010; Tay & Drasgow, 2012; Cao, Drasgow, & Cho, 2015).

As explained before, the results of the studies utilizing the bifactor model indicated the existence of multidimensionality in the data obtained from answers provided by

students to the AMS. According to Tay and Drasgow (2012), it is necessary to analyze the data matrix concerning the monotonicity assumption by comparing model data fit of the monotonic and non-monotonic item response models, when results supporting the existence of multidimensionality are obtained for a data matrix that is expected to fit to a non-monotonic model. However, there are not many studies that examine the structure of the motivation data based on the non-monotonic item response model (Miller, 2007). In addition, there is not any study that analyzes fit of the AMS items to the monotonicity assumption by comparing model data fits of the monotonic and non-monotonic item response models.

Examining dimensionality of the data matrix obtained from the administration of the AMS based on different measurement models that hold different assumptions is significant to reach more valid and reliable results regarding dimensionality of the scale. Therefore, it is important to make decisions regarding dimensionality of the AMS items based on evidences obtained from sophisticated models developed under the item response theory. The reason of preferring item response theory over classical test theory in the current study is that the item response theory uses more information provided by the data since it allows for using whole response patterns of individuals rather than analyzing dimensionality based on only correlation or covariance matrix as factor analytic techniques do (Thissen & Wainer, 2001; Li, Jiao, & Lissitz, 2012). Along this line of research, the major purpose of the current study is to analyze dimensionality of the AMS items by utilizing the one and multi-dimensional item response models (graded response model (GRM), the generalized graded unfolding model (GGUM) and the bifactor model (BFM))

## Method

### *Research Design*

This research is a descriptive study in that this research provides information regarding fit of the AMS items to the monotonicity and dimensionality assumptions. This study is also a fundamental research aiming to examine the dimensionality of the data by comparing model data fits of different item response theory models.

### *Research Sample*

The study group of this research consists of 1858 junior and senior students who were studying at the Faculties of Educational Sciences, Political Science, Communication, Engineering, Dentistry, Veterinary Medicine and Law of Ankara University during the Fall Term of the 2016-2017 Academic Year. 875 (47%) students were juniors while 983 (53%) of them were seniors. 726 (39%) out of 1858 students were male, 1132 (61%) of them were female students.

### *Research Instruments and Procedures*

The data were obtained by conducting the Academic Motivation Scale in the study group. The scale was adapted from English to Turkish by Karagüven (2012). The exploratory and confirmatory factor analyses were carried out to examine the construct validity of the Turkish form of the scale. The confirmatory factor analysis

evidenced that model data fit statistics provided by the seven-factor structure of scale are acceptable, ( $\chi^2 = 1017.74$  ( $sd = 326, p < 0.05$ ),  $AGFI = 0.81$ ,  $CFI = 0.94$ ,  $SRMR = 0.065$ ,  $RMSEA = 0.073$ ). The reliability and the construct validity of the AMS were also examined on the data obtained from the responses provided to the AMS by the participants of this study. Similar to the English form, results of the confirmatory factor analysis revealed that the seven factor-structure provided the best fit statistics among compared models ( $\chi^2=3902.5$  ( $sd=329, p<0.01$ ),  $CFI=0.95$ ,  $SRMR=0.07$ ,  $RMSEA=0.07$ ). The omega coefficient of the scale was calculated as 0.96. It is over the lower boundary that is accepted as 0.70-0.80 for the reliability (Reise & Revicki, 2015).

#### Data Analysis

Dimensionality of the data matrix obtained from the AMS was examined using the GRM, GGUM, BFM and DIMTEST analyses. The GRM and the BFM parameters were estimated on the R program using the “mirt” package (Chalmers, 2012), while the GGUM parameters were estimated on the GGUM2004 program (Roberts, Donoghue, & Laughlin, 2000). The GRM, GGUM and BFM were compared on the basis of the model fit statistics calculated at scale, person and item level.

Comparisons of item response theory models concerning the general model data fit statistics were carried out based on the Akaike (AIC), the Bayesian (BIC) and the adjusted Bayesian (A-BIC) information criteria (Li, Jiao, & Lissitz, 2012). To compare the GRM and the GGUM about their item fit, chi-square and degree of freedom ratios ( $\chi^2/df$ ) were calculated for item singlet, doublets and triplets (Carter, Guan, Maples, Williamson, & Miller 2015; Studts, 2008; Speer, Robie, & Christiansen, 2016).  $\chi^2/df$  values were calculated on the MODFIT1.1 program (Stark, 2001). The S- $\chi^2$  item fit statistics developed by Orlando and Thissen (2000) were calculated to compare the BFM with one-dimensional models concerning the item level model data fit. The “mirt” package on the R program was used to estimate the S- $\chi^2$  statistic for the BFM. The GGUM2004 was used to calculate this statistic for the GGUM.

The  $I_z$  index value developed by Drasgow, Levine, and Williams (1985) was examined to compare models for their person level model data fit. The “mirt” package on the R program was used to calculate person fit statistics for the GRM and BFM. To calculate the  $I_z$  index value for the GGUM, a function developed by Tendeiro (2016) was adapted for the data of this study and run on the R program. Comparisons among models according to person level fit were made based on the mean of  $I_z$  values and the number of the individuals who were identified as unfit according to person fit statistics. Besides, the explained variance by the general and the group factors and the reliability coefficients were calculated based on the BFM estimations.

## Results

The parameters for AMS items were estimated based on the GRM, GGUM and BFM. To enable the GGUM converge to the data, it was necessary to exclude two items of the AMS. Therefore, estimations were done for the remaining 26 scale items. The AIC, BIC, and A-BIC statistics calculated for the GRM, GGUM and BFM are given in Table 1.

**Table 1***The General Model Data Fit Statistics*

The models	AIC	BIC	A-BIC
GRM	151414.3	152420.3	151842.1
GGUM	128178.2	129324.4	128667.1
BFM	145636.9	146789.5	146125.7

Table 1 revealed that the AIC, BIC and A-BIC statistics calculated for the GGUM were lower than the ones estimated for the GRM. Thus, the general item fit statistics supported that the GGUM provided better model data fit than the GRM according to general fit statistics. It could be seen from Table 1 that the fit statistics calculated based on the BFM are lower than the ones calculated based on the GRM. Besides, it was found that the general model data fit of the BFM was significantly better than fit of the GRM according to -2 log likelihood values estimated for the models ( $\chi^2=5829.4$  (sd=26,  $p<0.05$ )). The BFM achieved a 4% increase in the general model data fit. The GGUM had lower fit values than both the GRM and the BFM. Model comparisons based on the general fit statistics showed that the GGUM better fit the data than the model that took into consideration the multi-dimensionality. The adjusted chi-square/degree of freedom ( $\chi^2/df$ ) ratios both for the GRM and the GGUM were calculated based on the response patterns given to the item singlets, doublets and triplets by the respondents to compare the item level model data fits of one-dimensional models. Mean, standard deviation and frequency distribution of  $\chi^2/df$  ratios estimated for the models are given in Table 2.

**Table 2***The Item Level Model Data Fit Statistics*

Models	<1	1-2	2-3	3-4	4-5	5-7	>7	$\bar{X}$	$\sigma$
	f	f	f	f	f	f	f		
<b>The GRM</b>									
Singlets	0	0	0	0	0	0	26	1809.4	2961.8
Doublets	0	0	0	0	0	0	30	805.3	782.7
Triplets	0	0	0	0	0	0	14	81.9	38.9
<b>The GGUM</b>									
Singlets	24	1	0	0	0	0	1	2.4	11.4
Doublets	0	2	8	6	5	5	4	4.5	2.7
Triplets	0	1	6	3	2	2	0	3.5	1.2

In Table 2, the distribution of chi-square statistics was specified in columns that were called based on the size of the frequency value. For example, when Table 2 is examined according to the results provided by the GRM, the frequency values indicates that all of the chi-square statistics calculated for the 26 items of the scale are higher than 7. Therefore, it means that all of the adjusted  $\chi^2/df$  ratios obtained for the item singlets, doublets and triplets based on the GRM are higher than the threshold value that was accepted as 3 for the item fit. High item fit statistics indicated that the GRM did not provide item level model data fit. When the chi-square statistics calculated for the GGUM were analyzed, it could be seen that the item fit statistics were lower than the ones calculated based on the GRM. Chi-square statistics estimated for the 25 items out of 26 items were lower than 2. The closeness of the  $\chi^2/df$  ratios calculated for the item doublets and triplets to the threshold value indicated that the GGUM provided item level model data fit.

The  $S-\chi^2$  item fit statistics were calculated in order to compare the GGUM with the BFM concerning the item level model data fit. The mean of  $S-\chi^2/df$  values for the GGUM was 1.87, while it was 1.07 for the BFM. The BFM provided better item level model data fit than the GGUM according to item fit statistics. It was accepted that the items whose  $S-\chi^2/df$  value was over 3 do not fit to the model (Roberts, 2016). Therefore, it was found that all of the AMS items fit the BFM, while 24 items out of 26 items fit the GGUM. Examinations based on the adjusted chi-square/df ratios revealed that the GGUM provided better item level fit than the GRM. However, comparisons between the GGUM and the BFM showed that the BFM was the model that provides the best item level model data fit among the three models. The “ $I_z$ ” person fit statistics were calculated based on the response pattern of individuals to compare the GRM, GGUM and BFM concerning their person level model data fit. The distribution and the mean of person fit statistics obtained for the models are presented in Table 3.

**Table 3**

*The Person Level Model Data Fit Statistics*

Models	$x \leq -4$ f	$-4 < x < -2$ f	$-2 \leq x < 0$ f	$0 \leq x \leq 2$ f	$2 < x < 4$ f	$x \geq 4$ f	$I_z(\text{Ort.})$
GRM	36	141	527	1039	115	0	1.20
GGUM	981	552	270	53	2	0	5.76
BFM	601	411	536	304	6	0	3.41

GRM= Graded Response Model, GGUM= Generalized Graded Unfolding Model, BFM= Bifactor Model

According to the person fit statistics given in Table 3, 84.28% of the participants fit to the GRM, only 17.38% of them fit to the GGUM, 45.21% of them fit to the BFM. The GRM provided the best person level data fit among three models. According to the distribution of person fit statistics, the BFM is the second model that provided the best person level model data fit.

The explained common variance (ECV), the omega reliability coefficients and the PUC value were examined to compare the variance explanation power of the general dimension and the group factors (Reise, Moore, & Haviland, 2010; Qinn, 2015; Periard, 2016). Item parameters estimated based on the BFM were transformed to the factor analysis parameters (standardized factor loadings) to be able to calculate those values (Reckase & McKinley, 1991; Thissen & Wainer, 2001). The ECV, the PUC, and the omega coefficients calculated based on the general and group factor loadings of items are given in Table 4.

**Table 4**

*Index Values Calculated Based on the Bifactor Model*

	GD	S1	S2	S3	S4	S5	S6	S7
ECV	0.54	0.02	0.03	0.04	0.05	0.10	0.10	0.12
H	0.95	0.25	0.51	0.46	0.49	0.77	0.78	0.81
$\omega_S$		0.90	0.80	0.83	0.81	0.83	0.85	0.93
$\omega_{HS}$		0.09	0.12	0.20	0.33	0.58	0.69	0.46
PUC	0.89							
	0.96							
	0.85							

GD= General dimension, S1...S7= Subscale 1...Subscale 7, ECV= Explained common variance  
H= Structure reliability,  $\omega_S$ = Omega coefficient for subscale,  $\omega_{HS}$ = Hierarchical omega coefficient for subscale,  $\omega_H$  = Hierarchical omega coefficient, PUC= Percent of uncontaminated correlation

The ECV values given in Table 4 showed the contribution of each dimension of the AMS to the explained variance. As can be seen from Table 4, the ECV value of the general dimension was 0.54. This value indicates that the general dimension itself explains 54% of the variance that is explained by the bifactor model. The generally accepted lower boundary for the ECV value is 0.60 (Reise, Scheines, Widaman, & Haviland, 2013; Periard, 2016). The ECV value over than 0.60 indicates the existence of a strong general dimension. The ECV value (0.54) calculated for the general dimension of the AMS was a little lower than this value. However, the PUC value should also be considered in order to evaluate the ECV value appropriately (Resie, 2012). The PUC value provides information regarding the number of correlations that were not affected by the existence of multi-dimensionality in the data matrix (Periard, 2016). According to Table 4, the PUC value is 0.89. Thus, it showed that 89% of correlation coefficients calculated among the AMS items were not affected by multi-dimensionality. Table 4 indicates that the hierarchical omega coefficient calculated for the general dimension is 0.85. The hierarchical omega coefficients calculated for subscales of the AMS range between 0.09 and 0.69. The hierarchical omega coefficients of the subscales were lower than the omega coefficients of the subscales. This finding

indicated that the reliability of subscales was increased by the effect of the general dimension.

The DIMTEST analysis was carried out to analyze dimensionality of the item response data matrix obtained from responses provided to the AMS based on a non-parametric method. It was found that all of the T statistics calculated when different items were used to form the assessment subtests (AT) were statistically significant. If AT items measure the same trait with the remaining scale items, it is expected to obtain low and statistically non-significant T-statistics. Having high and significant T-statistics means that the hypothesis that one dominant dimension can explain covariances among items included by AMS subscales was not confirmed.

### **Discussion, Conclusion and Recommendations**

This study intended to examine the fit of AMS items to the monotonicity and dimensionality assumptions based on the GRM, the GGUM, the BFM and the DIMTEST analysis. Based on the general model data fit statistics, it was concluded that the GGUM provided the best model data fit, while the GRM provided the worst model data fit. The item level model data fit statistics of the GGUM showed that 23 items out of 26 items fit to the GGUM. However, according to item fit statistics, the GRM that is a monotonic one-dimensional model did not fit to any AMS item. The BFM was the model that provided the best item level model data fit among the three models. According to the person fit statistics, the GRM, the BFM and the GGUM provided the best person level model data fit, respectively

Based on the comparisons between the GRM and the GGUM according to the general and item fit statistics, it was found that the GGUM provided better item level and scale level model data fit than the GRM. Parallel with this finding, the result of Miller's study (2007) revealed that the GGUM fit to 18 items out of 28 AMS items. The researcher argued that the GGUM could be used as an alternative model to the confirmatory factor analysis that analyzes the data matrix based on a multi-dimensional approach.

The results of this study supported that the AMS items fit to tGGUM that does not assume monotone increasing item characteristics curves. Similar with this result, the studies conducted on instruments measuring various affective skills such as attitude and personality, revealed that the GGUM provided better model data fit than the monotonic models like the GRM (Roberts, Laughling, & Wedell, 1999; Chernyshenko, Stark, Chan, Drasgow, & Williams 2001; Chernyshenko, 2003; Meijer & Baneke, 2004; Chernyshenko, Stark, Drasgow, & Roberts, 2007; Miller, 2007; Cao, Drasgow, & Cho, 2015; Ling, Zhang, Locke, Li, & Li, 2016).

Dimensionality of the data matrix obtained from the responses given by participants to the AMS items was also examined based on the index values calculated depending on the item parameters estimated by the BFM. The hierarchical omega coefficient provided information regarding the total variance that can be attributed to the general dimension (Reise, Scheines, Widaman, & Haviland, 2013). Thus, 85% of the total score variance observed in the data was caused by the interpersonal differences

observed in the general motivation dimension of the AMS. The H-coefficients give information regarding the level of representation of a latent trait by its indicators and the level of re-attainability of this latent structure at different studies. The H-coefficients over 0.80 indicate that the specific latent trait is defined and represented well by its indicators (Reise, Scheines, Widaman, & Haviland, 2013). Therefore, H-coefficient estimated for the general dimension (0.95) indicated that the general motivation dimension was represented well by the AMS items, and the level of re-attainability of this structure at different studies is high.

The ECV, the PUC and the omega coefficients calculated to examine the power of general dimension and subscales of the AMS revealed that large percent of variance explained by the BFM was caused by the general dimension, and the reliability of subscales decreased when the effect of the general dimension was controlled. Although the AMS includes the seven subscales that measure different motivation types, items measuring these dimensions are mostly affected by the general dimension. Their degree of representing subscales to which they belong was low. Low ECV values of the subscales and high PUC value calculated for the scale supported the existence of a strong general dimension measured by the AMS. Parallel with this finding, the results of the study conducted by Litalien et al. (2017) revealed a general dimension measured by the AMS along which various motivation types (subscales of the AMS) indicating low or high levels of the autonomy can lie. Similarly, the results of Howard, Gagne, Morin and Forest's study (2016) on work motivation evidenced the existence of a well-defined general dimension reflecting one-dimensional autonomy continuum.

The index values revealed that the general motivation dimension caused large percent of variance that was explained by the BFM. This finding supported the existence of a strong general motivation dimension measured by the AMS. The highest omega reliability coefficients were calculated for the general dimension. When effects of the general dimension were controlled, very low reliability coefficients were obtained for the AMS subscales. Therefore, it could be stated that the BFM allowing the scale items to have loadings on both the general dimension and the subscales is the most convenient model to the multi-dimensional nature of the AMS items. Furthermore, results obtained based on the DIMTEST analysis revealed that the hypothesis of existence of one dimension explaining relationships among the AMS items was not confirmed. This finding indicated the existence of more than one latent trait that explained inter-item covariances of the AMS items. The results obtained based on the DIMTEST analysis supported the multi-dimensional nature of the AMS items.

Based on the model data fit statistics and the index values, it was concluded that the BFM provided the best fit to the items and the response patterns of participants among three models. Based on this result, researchers are recommended to estimate item parameters both on the general dimension and subscales of the AMS by utilizing the BFM to obtain more reliable and valid item parameter estimations. Similarly, instead of simply calculating the total scale or subscale scores, the researchers are suggested to estimate person parameters based on the BFM under item response

theory or factor analytic approach to more appropriately estimate motivation levels of the respondents.

This study examined the model data fits of the GGUM, the GRM and the BFM based on the responses given to the motivation scale items by the respondents. These models can be compared concerning dimensionality and monotonicity assumptions based on scales developed to measure different affective traits, such as attitude, personality. The BFM used in this study is a monotonic multi-dimensional model. In future studies, an item response theory model (multidimensional generalized graded unfolding model) that considers both the monotonicity and multi-dimensionality assumptions can be included and compared with the GRM, the GGUM and the BFM concerning model data fit. The current study was carried out on the data obtained from students studying at a university. The study group included a large sample of students from different faculties; however, it is still possible that students from different universities may follow different cognitive or psychological processes while answering items of the AMS. Therefore, the models can be compared within different samples of students.

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## Akademik Gdlenme leđi'nin Boyutluluk Aısından Madde Tepki Kuramı Modellerine Dayalı Olarak İncelenmesi

### Atıf:

Kula Kartal, S., & Kutlu, O. (2020). Analyzing the dimensionality of academic motivation scale based on the item response theory models. *Eurasian Journal of Educational Research*, 86, 157-174, DOI: 10.14689/ejer.2020.86.8

### zet

*Problem Durumu:* Eđitimde ve psikolojide kullanılan en temel matematiksel modeller bazı varsayımlara dayalı olarak geliştirilmiştir. Bu varsayımlarından biri lme aralarından elde edilen madde yanıt matrisinin boyutluluđuna iliřkindir. Farklı modellerle ve test kořullarıyla boyutluluđun incelendiđi yntemler sonuların dođruluđu zerinde belirleyici olmaktadır. lme modelleri rtk zelliđin dođasına uygun olmadıđında, lme aracının boyutluluđuna iliřkin eliřkili ıkarımlar yapılmaktadır. Boyutluluđu aısından eliřkili bulguların elde edildiđi lme aralarından biri bu arařtırmanın odak noktası olan Akademik Gdlenme leđi (AG)'dir.

Modellerin dayandıđı varsayımlar boyutluluk yntemleriyle elde edilen bulguları etkileyebildiđinden, boyutluluđuna iliřkin dođru bulgulara ulařılması iin Akademik Gdlenme leđi maddelerine verilen yanıtları en iyi betimleyen lme modelinin belirlenmesi ve boyutluluđun bu modelle incelenmesi gerekmektedir. İlgili alıřmalar, monoton olmayan madde tepki kuramı modelinin duyuřsal zelliklerin dođasına daha uygun bir lme modeli olduđunu ortaya koymuřtur. Ayrıca, monotonluk varsayımının boyutluluđa iliřkin bulguları etkileyerek lme aralarının faktr yapılarına iliřkin hatalı ıkarımlara neden olduđu bulunmuřtur. Bu nedenle, monoton olmayan madde tepki kuramı modeline uyduđu dřnlen bir veride ok boyutluluđun varlıđına iliřkin kanıtlar elde edildiđinde, verinin monotonluk varsayımı aısından monoton ve monoton olmayan modellerin model veri uyumlarının karřılařtırılması yoluyla incelenmesi gerekmektedir. Ancak, alanyazında gdlenmenin monoton olmayan modele dayalı olarak incelendiđi sınırlı sayıda alıřma bulunmaktadır. lek maddelerinin monotonluk varsayımına uygunluđu aısından, monoton ve monoton olmayan MTK modellerinin karřılařtırıldıđı bir alıřmaya ise rastlanmamıřtır. Ayrıca, alıřmalarda AG maddelerinden elde edilen yanıt matrisinin boyutluluđunun faktr analizi erevesinde incelendiđi, boyutluluk incelemelerinin MTK erevesinde parametrik ve parametrik olmayan yntemlerle yapılmadıđı grlmřtr. lek maddelerinin boyutluluđuna iliřkin kararların, MTK erevesinde geliştirilmiř parametrik ve parametrik olmayan yntemlerle elde edilen daha kapsamlı kanıtlara dayalı olarak verilmesi nemli grlmektedir. Alanyazındaki bu eksiklikler dođrultusunda, AG maddelerinin boyutluluk aısından MTK erevesinde geliştirilmiř tek ve ok boyutlu parametrik ve parametrik olmayan modellere dayalı olarak incelenmesi gerekli grlmektedir.

*Arařtırmanın Amacı:* AG maddelerinin boyutluluk aısından MTK erevesinde geliştirilmiř Ařamalı Tepki Modeli (ATM), Genelleřtirilmiř Ařamalı Monoton

Olmayan Model (GAMOM), İki Faktör Modeli (İFM) ve DIMTEST analizine dayalı olarak incelenmesi araştırmanın amacını oluşturmaktadır.

*Araştırmanın Yöntemi:* Bu çalışma, AGÖ maddelerinin boyutluluk ve monotonluk varsayımlarına uygunluğu açısından bilgi sağlaması yönüyle betimsel, boyutluluğun farklı madde tepki kuramı modellerinin model veri uyumuna dayalı olarak karşılaştırılmasına dayalı olarak incelenmesi yönüyle de temel bir araştırma niteliğindedir. Araştırmanın çalışma grubunu 2016-2017 eğitim-öğretim yılı güz döneminde Ankara Üniversitesi'nin Eğitim Bilimleri, Siyasal Bilgiler, İletişim, Mühendislik, Dış Hekimliği, Veteriner ve Hukuk Fakültelerinde öğrenimini sürdüren üçüncü ve dördüncü sınıf öğrencileri oluşturmaktadır. Çalışma grubunda toplam 1858 öğrenci bulunmaktadır.

Araştırmanın verileri Akademik Güdülenme Ölçeği kullanılarak toplanmıştır. Fransızca olarak geliştirilen ölçeğin İngilizceye uyarlanması Vallerand ve diğerleri (1992) tarafından yapılmıştır. İngilizce formun yapı geçerliğinin incelenmesi amacıyla yapılan doğrulayıcı faktör analizi sonucunda yedi faktörlü yapı için kabul edilebilir uyum değerleri elde edilmiştir. Ölçeğin alt boyutları için elde edilen Cronbach Alfa güvenilirlik katsayıları 0.83 ile 0.86 arasında değişmektedir. Akademik Güdülenme Ölçeği'nin İngilizce'den Türkçe'ye uyarlanması Karagüven (2012) tarafından yapılmıştır. Türkçe formun yapı geçerliğinin incelenmesi amacıyla açılımlı ve doğrulayıcı faktör analizi yapılmıştır. Doğrulayıcı faktör analizi sonucunda model veri uyumu değerlerinin yüksek olduğu ve özgün ölçeğin yedi faktörlü yapısının doğrulandığı bulunmuştur. Çalışmada ölçeğin boyutları; İçsel Motivasyon (Bilme, Başarma, Uyarım), Dışsal Motivasyon (Dışsal Düzenleme, İçe Yansyan, Belirlenmiş) ve Motivasyonsuzluk olarak adlandırılmıştır.

Akademik Güdülenme Ölçeği'nden elde edilen madde yanıt matrisinin boyutluluğunun incelenmesi amacıyla Aşamalı Tepki Modeli (ATM), Genelleştirilmiş Aşamalı Monoton Olmayan Model (GAMOM) ve İki Faktör Modeli (İFM)'ne dayalı olarak madde ve birey parametre kestirimleri yapılmıştır. Ayrıca DIMTEST analizine dayalı olarak da boyutluluk incelemesi yapılmıştır. ATM'ye dayalı kestirimler R programında "mirt" paketi (Chalmers, 2012), GAMOM'a dayalı kestirimler GGUM2004 programı (Roberts, Donoghue ve Laughlin, 2000) kullanılarak yapılmıştır. İFM'ye dayalı parametre kestirimleri R programında "mirt" paketi (Chalmers, 2012) kullanılarak elde edilmiştir. Modeller arası karşılaştırmalar ölçek, madde ve birey düzeyinde genel, madde ve birey model veri uyumu istatistikleri hesaplanarak yapılmıştır. Ayrıca, iki faktör modeline dayalı olarak genel ve grup faktör tarafından açıklanan varyans oranları ve güvenilirlik değerleri incelenmiştir.

*Araştırmanın Bulguları:* Genel model veri uyumu istatistiklerine dayalı olarak yapılan modeller arası karşılaştırmalar İFM'nin genel model veri uyumunun ATM'ye göre anlamlı biçimde daha iyi olduğu, ( $\chi^2_{sd=26}=5829.4$  p<0.05) ve model veri uyumunda %4'lük anlamlı bir iyileşme sağladığı bulunmuştur. Ancak, GAMOM'un hem ATM hem de İFM'ye göre daha düşük genel model veri uyumu istatistiklerine sahip olduğu bulunmuştur.

ATM'ye dayalı olarak maddeler için hesaplanan tüm uyum istatistiklerinin model veri uyumu için kabul edilen sınır değerin çok üzerinde olduğu görülmüştür. Uyum istatistiklerinin yüksek olması, ATM'nin madde düzeyinde model veri uyumu sağlamadığını göstermiştir. AGÖ maddelerinin tamamının İFM'ye uyum sağladığı, iki maddenin ise GAMOM'a uyum sağlamadığı bulunmuştur. Madde uyum istatistikleri, ATM'ye göre GAMOM'un madde düzeyinde sağladığı model veri uyumunun daha iyi olduğunu göstermiştir. İFM ve GAMOM arasında yapılan karşılaştırmalara dayalı olarak ise İFM'nin madde düzeyinde en iyi model veri uyumu sağlayan model olduğu bulunmuştur. Birey uyum istatistiklerine göre, üç model içerisinde birey düzeyinde en iyi model uyumunu ATM sağlamıştır. Uyum istatistiklerinin dağılımına göre İFM, ATM'den sonra birey düzeyinde en iyi uyumu sağlayan ikinci model olmuştur.

Genel boyut ve alt boyutların madde-yanıt matrisini açıklamadaki gücünü karşılaştırabilmek amacıyla hesaplanan indeks değerlerine dayalı olarak ölçek maddeleri ile ölçülen güçlü bir genel boyutun var olduğu bulunmuştur. DIMTEST analizi sonucunda yüksek T-istatistikleri ve anlamlılık değerleri elde edilmiştir. Yüksek değerler tüm alt boyutlarda yüksek koşullu kovaryansların elde edildiğini göstermiştir. Ölçeğin alt boyutlarında yer alan maddeler arasındaki ilişkilerin, baskın bir boyut tarafından açıklanabileceği hipotezinin doğrulanmadığı bulunmuştur.

*Araştırmanın Sonuçları ve Önerileri:* ATM, GAMOM ve İFM için model veri uyumu istatistiklerine ve indeks değerlerine dayalı olarak yapılan karşılaştırmalar birlikte düşünüldüğünde, ATM'ye göre monotonluk varsayımında bulunmayan tek boyutlu model ölçek maddelerine daha uyumludur. Ancak, üç model içerisinde İFM'nin ölçek maddelerine ve bireyler tarafından maddelere verilen yanıt örüntülerine en uyumlu model olduğu sonucuna ulaşılmıştır. Bu bulguya dayalı olarak araştırmacılara, bireylerin güdülenme düzeylerine ilişkin daha geçerli ve güvenilir sonuçlar elde etmek için hem genel boyutta hem de alt boyutlarda birey parametre kestirimlerini İFM'ye dayalı olarak yapmaları önerilmektedir. Benzer biçimde, Akademik Güdülenme Ölçeği'ni kullanmak isteyen uygulayıcıların da ölçekten toplam puan ya da alt boyut puanları hesaplamak yerine, bireylerin güdülenme düzeylerini belirlemek için madde tepki kuramı ya da faktör analizi çerçevesinde iki faktör modellemesine dayalı olarak kestirim yapmaları önerilmektedir.

Çalışma kapsamında, monoton ve monoton olmayan tek ve çok boyutlu modellerin uyumu güdülenme ölçeğine verilen yanıtlara dayalı olarak incelenmiştir. Tutum, ilgi gibi farklı duyuşsal özellikleri ölçmek amacıyla geliştirilmiş ölçekler üzerinde ATM, GAMOM ve İFM kullanılarak monotonluk ve boyutluluk varsayımları açısından karşılaştırmalar yapılabilir. Bu çalışmada kullanılan İFM de monotonluk varsayımına dayanan bir modeldir. Bu nedenle, hem çok boyutluluğu hem de monotonluk varsayımını göz önünde bulunduran çok boyutlu monoton olmayan MTK modeli de dahil edilerek modeller model veri uyumları açısından karşılaştırılabilir.

*Anahtar Sözcükler:* Çok boyutlu madde tepki kuramı, iki faktör modeli, genelleştirilmiş aşamalı monoton olmayan model, boyutluluk ve monotonluk varsayımları.



## School Administrators' Opinions Related to the Values that should Be Gained to Classroom Teachers through In-Service Training\*

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### ABSTRACT

**Purpose:** Social changes and developments in educational policies bring along changes in the values of the teaching profession. The changing values increase the in-service training needs of the teachers. Although it is aimed to gain prospective teachers the values of the teaching profession in the pre-service period, it is seen that the target is not sufficiently achieved. The present research aims to investigate administrators' opinions regarding the values that should be gained among classroom teachers through in-service training.

**Research Methods:** This study was designed in a qualitative, case study pattern.

The study group was 24 school administrators working in primary schools. The participants were determined using a criterion sampling method. The data were collected by a semi-structured grid form developed by the researchers.

**Findings:** The values to be gained during in-service training among classroom teachers were (i) personal values: openness to innovation, diligence, patience, awareness, honesty, politeness, empathy, consistency and reliability, (ii) professional values: communication, leadership, creativity, collaboration, solidarity and vision, (iii) universal values: love, justice, tolerance and humanism and (iv) cultural values: patriotism, self-devotion and work selflessly. The personal values were in the first priority order of the values that should be gained class teachers through in-service training.

**Implications for Research and Practice:** The findings reveal that classroom teachers should be trained with personal, professional, universal and cultural values in the in-service training process. The personal values should include the values, such as openness to innovation, diligence, patience, awareness, honesty, politeness, empathy; professional values should include the values, such as communication, leadership, creativity, collaboration, solidarity and vision.

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## Introduction

Since primary education constitutes the first step of formal education, it has special importance for students to gain basic knowledge, skills, attitudes, values and behaviours. In the primary education process, the main attitudes and basic values are acquired among students by the class teachers. Therefore, classroom teaching has a much more important function than other teaching areas. In this context, the values to be gained to in-class teachers through in-service training are seen as an important issue due to the teachers' special position concerning basic education and moral developments of students.

Teaching is a profession that requires continuous professional development. The professional development of teachers requires being sufficient in the professional skills and contextual knowledge, having professional values, and acting in accordance with ethical principles (Basaran, 1996; Hacıoglu & Alkan, 1997). Within the educational system, teachers are the individuals who teach students to learn and contribute to their character development (Sonmez, 2018). In this context, the teachers who are sufficient concerning professional and ethical values become role models for their students and thus educate them in terms of self-fulfilling, self-confident and character-wise individuals.

The classroom teacher is the person who influences cognitive development by influencing children aged 5-11, draws and shapes the attitudes towards themselves and the society, and accelerates the development of communication, research and creativity skills. Classroom teachers are defined as the social engineers who laid the foundations of society because they have a special role in the teaching profession, as well as they bring basic skills to the students in the first step of formal education (Atanur-Baskan, Aydın, & Madden, 2006; Ataunal, 1994). Qualified classroom teachers, as the individuals investigating and questioning, are also seen as the representatives of the mental power and founders of intellectual life (Gonulacar, 2016). The training of the teachers as qualified individuals contributes to the success of the education policies and the in-service training programs determined by the Ministry of Education. Providing teachers with opportunities to improve themselves as qualified teachers during their professional life is only possible through effective in-service training.

Since the education in school is planned, programmed and controlled, the knowledge, skills, attitudes and values learned in the school are different from those that learned through family, society and the media. Therefore, education at school saves learning from being based on the chance (Tunca & Saglam, 2013). On the other hand, the values of teachers are not only related to the teachers but also students, families, schools and societies. Because the values that the teachers possess are reflected on the students, families and society through the attitudes and values that the students gain during the education process (Bakioglu & Tokmak, 2009). In particular, since they are the most reliable people concerning primary school age students and they are also role models in the school, the society always expects a high standard of behaviours from classroom teachers (Haynes, 2002, p. 245). Thus, the class

teachers have a big responsibility in ensuring that new generations with a balanced personality, so they should be sufficient about personal, professional and universal values.

Classroom teachers should have the multidimensional knowledge and skills because classroom teaching is defined as a different and difficult profession because it is quite different from other teaching fields (Ataunal, 1994; Karabacak, Kucuk, & Korkmaz, 2015; Richardson & Watt, 2006; Uslu & Bumen, 2013). Since the first years in the schools are seen as the basis for preparing children for adult life, the knowledge and skills gained them during this period constitute as the infrastructure for the knowledge and skills to be gained in other education stages (Erdogan, 2004; Senemoğlu, 2003). Therefore, in the oncoming education stages, the attitudes and behaviours of the students emerge as a reflection of the knowledge, skills, attitudes and values gained by the classroom teachers (Kılıc & Babayigit, 2017). Therefore, the class teachers should be sufficient about personal, professional, and universal values because these are considered as the basic competence areas of the teaching profession due to critical importance for the development of students. In this context, it also reveals the main reason why the education politicians and experts are focused on the character education and the professional values of teachers in recent years.

Changes in education, changing values, changing needs of society, changes in information and communication technologies, changes in the understanding of teachers' roles in teaching and learning process, changes in students' interests and expectations bring along the changes of the values teachers should have. These changes mentioned above also reveal the main reasons for the in-service training needs of teachers (Karabacak, 2016; Ozer-Ozkan & Anıl, 2014). In the achieving process of the values of the teaching profession, the innovations and developments in the learning and teaching processes should be considered to improve the professional knowledge, skills and values of teachers (Tutkun & Aksoyalp, 2010). The way to achieve these values effectively is to improve the quality of in-service training practices (Adekola, 2007). Consequently, in-service training opportunities should be provided to class teachers to improve their professional knowledge, skills and values to support children to learn more effectively in primary schools.

In-service training includes training for employees to acquire the qualifications required by their duties and to develop in the desired direction. In this context, all activities aiming to improve the knowledge, skills and attitudes of employees for their job are considered as in-service training (Cesur & Yelken, 2015; Ekinci, 2010). In Turkey, in-service training for teachers is considered a legal requirement by the Ministry of Education ([MEB], 2018). Although it is aimed to gain professional values in the pre-service period in the studies e.g., Akdemir (2012), Buyukcan (2008), Gultekin, Cubukcu and Dal (2010), Pepeler, Murat and Akmence (2016), Ustu, Tas and Sever (2016), it is seen that the target is insufficiently achieved. In these studies, in-service training was criticized for being short-term and cannot be followed by an interactive process. In addition, in-service training was criticised for lasting in the short term e.g., Ergin, Akseki and Deniz (2012), Gultekin, Çubukcu and Dal (2010), Yildirim, Kursun and Goktas (2015); the achievements of in-service training cannot be

followed e.g. Serin and Korkmaz (2014), Sahin (2013), Sahin and Turkoglu (2017), and being useless e.g., Gokmenoglu (2012, Feriver-Gezer (2010), Karadag (2015), Limon (2014), and Ulker (2009). It is known that the in-service training, meeting the needs and expectations of teachers can produce better outputs (Arseven, 2009; Bastürk, 2012; Dogan, 2009; Garet, Porter, Desimone, Birman & Yoon, 2001; Gultekin & Cubukcu, 2008; Eminoglu-Kuçuktepe & Baykin, 2014; Kaya, Cepni, & Kuçuk, 2005; Parmaksiz, 2010; Parmaksiz & Sicak, 2015; Sanli, Altun, & Tan, 2015). As a result, it can be said that teachers have problems accessing in-service training on the issues they need.

When the related literature is examined, it is seen that the in-service training subjects required by the teachers are concentrated on two main themes. The first theme is on the lack of professional values that teachers should exhibit (e.g., Boydak-Ozan, Sener, & Polat, 2014; Cochran-Smith & Zeichner, 2005; Gul & Aslan, 2009; Karadag, 2015; Ok & Onkol, 2007; Ustu, Tas, & Sever, 2016). The second theme is the insufficiency of professional values gained during undergraduate education. Thus, problems encountered in maintaining the teaching profession (Glathorn, Jones, & Bullock, 2006). In addition, there is a very limited number of studies in the literature on professional values that should be gained to teachers through in-service training (Sahin, 2013). However, the opinions of the school principals about the values that should be gained to the teachers through in-service training are very important concerning predicting the values that should be given to the students in schools. Moreover, in recent years, the education politicians and experts focus on the values education and in particular, on the values of the teaching profession, but in a limited number of studies, the reference to the values of the teaching profession has emerged as an important problem. Consequently, this study was predicted to contribute to the elimination of the gap in the literature.

The present study aims to reveal the values to be gained class teachers through in-service training according to the opinions of the school administrators. For this purpose, the following questions were sought in this study:

1. Which values should be gained to the class teachers through in-service training?
2. What is the priority level of these values?

## Method

### *Research Design*

This study was designed in a case model, which is one of the qualitative research patterns. The case study allows an investigation to describe the holistic and meaningful features of real-life events, and researchers using this method find the opportunity to examine and interpret data in a specific context closely and in-depth (Creswell, 2015; Fidel, 1984; Yin, 2003; Zainal, 2007). In this study, a holistic single condition design was used. The holistic single-case pattern can be used in areas where there are three conditions. These are the confirmation or refutation of a well-formulated theory, the study of outliers that do not meet general standards or the study of situations in which no one has been or has not been able to work before. In

single-case patterns, as the name implies, there is a single analysis unit (e.g., an individual, an institution, a program, a school) (Yildirim & Simsek, 2013).

### *Research Sample*

The study group was 24 school administrators working in primary schools. The study group was determined using the criterion sampling method. The use of a criterion sampling method in this process is based on the assumption that the study group has sufficient knowledge of the subject being investigated (Patton, 2014, p. 238). In determining the study group, to work as a teacher for at least five years was determined as the main criterion. The reason why working as a teacher for at least five years was determined as the criterion was that school principals were predicted that teachers could better estimate which values they should have. Completing or continuing a Master's degree in the field of educational administration was determined as another criterion. The reason why it was taken as a criterion to have a master's degree or is doing in the field of education management was to assume that the level of awareness of the participants regarding the values to be gained to the classroom teachers would be high. Having served as a school administrator for at least five years was determined by another criterion. The reason why the participants were sought as a school principal for at least five years was the assumption that the five-year experience would provide a better understanding of what values teachers needed. In addition, to participate in in-service training activities was considered as another criterion. The purpose of seeking the condition of participating in the in-service training activities in the participants was to assume that the awareness of the method and content of the in-service training activities would be more suitable for the purpose of the research. 19 of the participants were male and five were female. The mean age of the participants was 38.50. The average professional seniority of the participants was 19.25 years, and the management seniority average was 13.50 years.

### *Research Instruments and Procedures*

This study was conducted in four stages: (i) definition of the problem, (ii) preparation of the data collection instrument, (iii) data collection, and (iv) data analysis and interpretation (Mayring, 2011; Yildirim & Simsek, 2013).

(i) Definition of the problem: During interviews with school principals, it was understood that they frequently encountered teachers' indifferent behaviours and experience anxiety. Moreover, the teachers' indifferent behaviours reduced the morale and motivation of diligent teachers. In the first stage, the problem was defined. Then, a conceptual framework was created to be able to classify and compare the values examined in the study.

(ii) The data of the study were collected using the semi-structured grid form developed by the researchers through reviewing the related literature. The grid technique is a cognitive mapping technique that attempts to describe how people think about a phenomenon in their world (Fransella, Bell, & Bannister, 2004; Tan & Hunter,

2002). In this study, the opinions of the administrators about the values to be gained through in-service training were obtained using the semi-structured grid form (Adams-Webber, 1996; Bell, 2005; Jankowicz, 2004; Sezer, 2016). The data collection tool consists of three parts. In the first part, there are four demographic questions aiming to determine the age, gender, seniority and management seniority of the participants. In the second part, school administrators are asked to write 10 values that should be gained through in-service training to classroom teachers. In the third part, the principals are asked to rank the priority level of the values that to be gained through in-service training to the teachers. In Figure 1, the semi-structured grid form is given.

	Section I Professional Values	Section II Priority Level									
Row											
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

1. Write ten values in the 1<sup>st</sup> section that to be gained teachers in-service training.
2. In the 2<sup>nd</sup> section, please specify a priority order for each value among 1-10 using (x).

**Figure 1.** *The Semi-Structured Grid Form*

(iii) Data collection: In the data collection process, firstly, a list of school administrators determined by the criterion sampling method was established. Each school principal in the list was contacted by the second and third researchers on the phone and information about the purpose of this study was given. Then, interviews were conducted with the school administrators. Each interviewing lasted approximately 20-25 minutes.

(iv) Data analysis and interpretation: Data were analyzed using descriptive analysis technique. The descriptive analysis technique consists of four stages: (1) creating a thematic framework for analysis, (2) processing the data according to the thematic framework, (3) identifying the findings, (4) analysing and interpreting the findings (Creswell, 2014; Yildirim & Şimsek, 2013, pp. 93-97). Before the analysis, the semi-structured grid forms containing the views of school administrators were coded by two researchers as P1, P2, P3, P4,... P24. All opinions are shown in the table and the opinions written in the same way are evaluated in the same category. Totally, 240

categories were created by the school administrators and a total of 59 values were determined to be gained to the teachers. As a result of content analysis, four main themes were determined based on the views of the participants. Sub-themes were created from the values reflecting the same content.

### *Validity and Reliability*

To ensure the internal validity of the study (1), attention was paid to the interpretation of the data by considering the situation in which it was related (2) internal consistency of the sub-theme groups was obtained by considering the internal homogeneity and external heterogeneity. In addition, sub-themes were determined based on the theoretical structure, and after the data analysis, all findings were presented without comment to provide internal reliability (Creswell, 2015). Moreover, expert opinion was sought to verify whether the opinions represented the sub-themes given under four different main themes. The lists, including participants' views and the sub-themes, were given to three faculty members at different faculties of education who are experts in professional values. These experts were asked to match the views of the school principals with the sub-themes in the lists. Then, the mappings made by the experts were compared with the mappings of the researchers. It was applied the formula 'Reliability= Consensus/(Consensus + Dissidence) × 100' to determine the reliability of the coding (Miles & Huberman, 1994, p. 64). The agreement between the two coders was calculated as  $57/(57 + 2) \times 100 = 96.61$ . In the method section, the research model, study group, data collection tool and data analysis processes were given in detail to ensure the external validity of this study. Besides, the procedures, including data collection, data analysis, consolidation and presentation of the results, and researched topic and the method, were specified with details in related sections to ensure the external reliability of this study. In the inclusion of school principals in the study group, volunteering was taken as a basis in participating in this study and it was stated to them that the records containing their answers would remain confidential.

## **Results**

As a result of the descriptive analysis, four main salient themes were determined. In Table 1, the frequency and percentages of the main themes are given.

**Table 1**

*Frequency and Percentages Related to the Main Themes (N=24)*

Main Themes	n	f	%	WP
Personal Values	27	101	45.8	539
Professional Values	16	78	27.1	419
Universal Values	10	36	16.9	241
Cultural Values	6	25	10.2	121
Total	59	240	100	1320

*The Values Should Be Gained to the Class Teachers through In-Service Training*

The main themes related to the values to be gained to teachers through in-service training were determined as personal values, professional values, universal values and cultural values. In Table 2, the values to be gained teachers trough in-service training are given.

**Table 2***The Values to Be Gained Class Teachers (N=24)*

<b>(1) Personal Values (η=27, f=101)</b>	
• Openness to innovation [f=11]	• Mercy [f=2]
• Diligence [f=10]	• Encourage [f=2]
• Patience [f=8]	• Responsibility [f=2]
• Stability [f=7]	• Sincerity [f=2]
• Awareness [f=7]	• Helpfulness [f=2]
• Honesty [f=7]	• Modesty [f=1]
• Politeness [f=7]	• Self-esteem [f=1]
• Empathy [f=5]	• Appreciation [f=1]
• Entrepreneurship [f=5]	• Good-humour [f=1]
• Consistency [f=4]	• Fairness [f=1]
• Trustability [f=3]	• Generosity [f=1]
• Self-confidence [f=3]	• Righteousness [f=1]
• Compassion [f=3]	• Self-control [f=1]
• Sensibility [f=3]	
<b>(2) Professional Values (η=16, f=78)</b>	
• Communication [f=16]	• Unconditional acceptance [f=3]
• Leadership [f=15]	• Being scientific [f=2]
• Creativity [f=8]	• Being role-model [f=2]
• Collaboration [f=7]	• Self-renewing [f=2]
• Solidarity [f=6]	• Professional ethics [f=2]
• Vision [f=5]	• Motivation [f=1]
• Being organized [f=4]	• Student centeredness [f=1]
• Compatibility [f=3]	• Impartiality [f=1]
<b>(3) Universal Values (η=10, f=36)</b>	
• Love [f=10]	• Democratic attitude [f=2]
• Justice [f=8]	• Respect for diversity [f=2]
• Tolerance [f=4]	• Virtue [f=1]
• Humanism [f=4]	• Equality [f=1]
• Respect [f=3]	• Respect for human rights [f=1]
<b>(4) Cultural Values (η=6, f=25)</b>	
• Patriotism [f=9]	• Loyalty [f=2]
• Self-devotion [f=7]	• Independence [f=1]
• Work selflessly [f=5]	• Fidelity [f=1]

When Table 2 is examined, it is seen that personal values are at the forefront among the values that should be gained class teachers through in-service training. The personal values, such as openness to innovation ( $f=11$ ), diligence ( $f=10$ ), patience ( $f=8$ ), stability ( $f=7$ ), awareness ( $f=7$ ), honesty ( $f=7$ ), politeness ( $f=7$ ), empathy ( $f=5$ ), entrepreneurship ( $f=5$ ), consistency ( $f=4$ ) and reliability ( $f=3$ ), rank first among the values to be gained class teachers. The professional values, such as communication ( $f=16$ ), leadership ( $f=15$ ), creativity ( $f=8$ ), collaboration ( $f=7$ ), solidarity ( $f=6$ ), vision ( $f=5$ ), and being organized ( $f=4$ ), rank first among the values to be gained class teachers. The universal values, such as love ( $f=10$ ), justice ( $f=8$ ), tolerance ( $f=4$ ), humanism ( $f=4$ ), and respect ( $f=3$ ), are in the first ranks. The cultural values, such as patriotism ( $f=9$ ), self-devotion ( $f=7$ ), and work selflessly ( $f=3$ ), rank first among the values to be gained class teachers.

*The Weighted Priority Level of the Values*

The weighted priority (WP) level of the values to be gained to teachers through in-service training is determined as the personal values, professional values, universal values and cultural values. The most prior values in personal values main theme were diligence [WP=64], stability [WP=55], and patience [WP=51]. The most prior values in professional values main theme were communication [WP=108], leadership WP=83], and collaboration [WP=41]. The most prior values in universal values main theme were love [WP=63], justice [WP=55], and humanism [WP=28]. In addition, the most prior values in cultural values main theme were patriotism [WP=46], self-devotion [WP=32], and work selflessly [WP=23]. In Table 3, the weighted priority level of the values is given.

**Table 3**

*The Weighted Priority Level of the Values (N=24)*

<b>(1) Personal Values (<math>n=27</math>, <math>f=101</math>, WP=539)</b>	
• Diligence [WP=64]	• Mercy [WP=10]
• Stability [WP=55]	• Self-control [WP=9]
• Patience [WP=51]	• Righteousness [WP=8]
• Openness to innovation [WP=44]	• Trustability [WP=7]
• Awareness [WP=40]	• Generosity [WP=7]
• Politeness [WP=40]	• Good-humour [WP=6]
• Honesty [WP=36]	• Modesty [WP=6]
• Empathy [WP=30]	• Encourage [WP=6]
• Sensitivity [WP=26]	• Helpfulness [WP=4]
• Entrepreneurship [WP=19]	• Self-esteem [WP=3]
• Compassion [WP=17]	• Appreciation [WP=3]
• Self-confidence [WP=15]	• Sincerity [WP=3]
• Consistency [WP=15]	• Fairness [WP=3]
• Responsibility [WP=12]	

Table 3 Continue

<b>(2) Professional Values (<math>\eta=16</math>, <math>f=78</math>, <math>WP=419</math>)</b>	
• Communication [ $WP=108$ ]	• Unconditional acceptance [ $WP=15$ ]
• Leadership [ $WP=83$ ]	• Being scientific [ $WP=13$ ]
• Collaboration [ $WP=41$ ]	• Being role-model [ $WP=11$ ]
• Creativity [ $WP=39$ ]	• Student centeredness [ $WP=9$ ]
• Being organized [ $WP=32$ ]	• Compatibility [ $WP=5$ ]
• Vision [ $WP=20$ ]	• Self-renewing [ $WP=5$ ]
• Solidarity [ $WP=19$ ]	• Impartiality [ $WP=2$ ]
• Professional ethics [ $WP=16$ ]	• Motivation [ $WP=1$ ]
<b>(3) Cultural Values (<math>\eta=6</math>, <math>f=25</math>, <math>WP=121</math>)</b>	
• Patriotism [ $WP=46$ ]	• Loyalty [ $WP=12$ ]
• Self-devotion [ $WP=32$ ]	• Fidelity [ $WP=7$ ]
• Work selflessly [ $WP=23$ ]	• Independence [ $WP=1$ ]

### Discussion, Conclusions, and Recommendations

The present study aims to investigate the values that should be gained among classroom teachers through in-service training; school principals envisaged that the personal values should be gained among teachers, in general. According to school administrators' opinions, the personal values with the highest frequency were openness to innovation, diligence, patience, stability, awareness, honesty, politeness, empathy, entrepreneurship, consistency and reliability. These values can be considered as the important findings revealing that classroom teachers should be equipped with personal values concerning being role-models for students. These results are consistent with the results obtained from previous studies. In a study conducted by Albu (2015) on primary school teachers' values at the beginning of the 21<sup>st</sup> century, the findings show that primary school teachers should have values, such as honesty, trust, seriousness, empathy, and sincerity. In another study conducted by Coskun (2016), the findings showed that the personal values that teachers should have were respect, equality, justice, impartiality, love, continuous development, responsibility and trust. Similarly, in the studies conducted by Seghedin (2014), Tunca and Saglam (2013), Watkins and Donnelly (2014), the findings showed that teachers should have the personal values, such as respect, equality, justice, diligence, patience, stability, awareness, honesty, responsibility and trustworthiness.

According to the school administrators' opinions, professional values should also be gained to class teachers. The professional values mostly emphasized by school administrators that should be gained to class teachers through in-service training were communication, leadership, creativity, cooperation, solidarity, vision, being organized, compatibility and unconditional acceptance. These results can be evaluated as the important findings concerning the expectations of school principals to continue the tasks in the school environment within the solidarity and cooperation and the sufficient communication among the class teachers as the creative leaders. Similar

findings are seen in previous studies, and it reinforces this interpretation. Substantially, there are similar results in the studies conducted by Aybek and Karatas (2016), Coskun (2016), Karatas (2013), Karabacak (2016), Sezer, Karabacak, Korkmaz and Kucuk (2019), Kocyigit and Karadag (2017), Tunca and Saglam (2013). In these studies, the participants envisage that teachers should always consider being a positive role model for their students, respecting differences, having personal and social responsibility, being against violence, being open to cooperation, having the ethic principals including honesty, universality, professional responsibility, conscience and fairness. In addition, in a study conducted by Sezer, Karabacak, Korkmaz and Kucuk (2019), professional skills should be gained to teachers through in-service training, including communication skills, technology using skills, pedagogical content knowledge, planning skills, material designing and using skills.

School administrators stated that universal values should also be gained among the class teachers through in-service training. The universal values that should be gained to the classroom teachers through in-service training were love, justice, tolerance, humanism, respect, democratic attitude and respect for diversity. These results can be seen as the important findings when it is evaluated concerning having a more special position in the field of classroom teaching than in other teaching areas. Similar results are seen in previous studies. In a study, conducted by Aybek and Karatas (2016), the results show that the prospective teachers correlate ethics with the concepts of rule, rightness-wrongness, respect, morality, honesty, universality, professional responsibility, conscientiousness, decency and justice. Similar findings include in the research conducted by Işıktaş (2015), Karabacak, Kucuk and Korkmaz (2015). In addition, school administrators expressed that cultural values should be gained among classroom teachers. The cultural values were patriotism, self-devotion and work selflessly. Given the role of education in the improvement of nations and the development of countries given that teachers are equipped with national values should be considered among the specific aspects of the teaching profession. Similarly, in the studies conducted by Bakioglu and Koc (2017), Donmez (2011), Kocyigit and Karadag (2017) and Zuna and McDougalli (2004), the findings show that the teaching profession requires having cultural values, such as patriotism, altruism and self-sacrifice.

The priority level and the frequencies of the values that should be gained to teachers through in-service training have a similar ranking. However, according to the weighted priority level, diligence, stability and patience take place in the first ranks of personal values. Communication, leadership and collaboration take in the first place of the professional values according to the weighted priority level. In addition, love, justice and humanism rank first of the universal values. On the other hand, the patriotism, self-devotion and work selflessly were the national values having the most priority.

The results reveal that teachers should be given personal, professional, national and universal values through in-service training. Based on these results, it can be said that the ethical principles and values of the teaching profession should be internalized by each teacher. Thus, the ethical principles and professional values of the teaching

profession should be determined by the Ministry of National Education. In teacher training institutions, as well as the general qualifications of the teaching profession, importance should be given to gain professional and ethical values of the teaching profession. In the light of changing values and global developments, the values of the teaching profession should be reintroduced to teachers through in-service training in accordance with national and universal values. In-service training should be provided to teachers to ensure that they exhibit determined, patient and innovative attitudes and behaviours in their schools. In-service training should be provided to develop teachers' effective communication, leadership and collaboration skills. In-service training should also ensure that teachers are hardworking, patriotic and self-sacrificing in their profession. The values to be brought to the teachers should ensure that they approach students with love, ensure that they have a fair attitude and instil a strong love of humanity. This research was conducted in the qualitative research design and the data were collected using a semi-structured grid form. Further studies can be planned with different designs and different working groups on the professional values of the teaching profession. In addition, different studies can also be planned by researchers on the changing values of the teaching profession.

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## Okul Yöneticilerinin Sınıf Öğretmenlerine Hizmet İçi Eğitim Yoluyla Kazandırılması Gereken Değerlere İlişkin Görüşleri

### Atıf:

Sezer, S., Karabacak, N., Kucuk, M., & Korkmaz, I. (2020). School administrators' opinions related to the values that should be gained to classroom teachers through in-service training. *Eurasian Journal of Educational Research*, 86, 175-196, DOI: 10.14689/ejer.2020.86.9

### Özet

*Problem Durumu:* İlkokul eğitimi, örgün eğitimin ilk basamağını oluşturduğu için öğrencilere temel bilgi, beceri, tutum, değer ve davranışların kazandırılmasında ayrı bir öneme sahiptir. Bu süreçte tutum ve değerler, öğrencilere büyük ölçüde sınıf öğretmenleri tarafından kazandırılmaktadır. Dolayısıyla, sınıf öğretmenliğinin, diğer öğretmenlik alanları içinde daha özel bir yeri olduğu söylenebilir. Sınıf öğretmenlerinin öğrencilerin yetişmesi ve gelişimindeki özel konumu nedeniyle sahip olmaları gereken mesleki değerler, oldukça önemli bir konu olarak değerlendirilmektedir. Öğretmenlerin, öğretmenlik mesleğinin gerektirdiği niteliklerle donanımlı olarak yetişmesi, Milli Eğitim Bakanlığının belirlediği eğitim politikalarının ve uygulamaların başarısına da olumlu katkılar sağlar. Öte yandan öğretmenler, gelişmeleri yakından izleyen, eksiklikleri sorgulayan entelektüel bir yaşamın mimarı ve zihinsel gücün temsilcisidir. Bu yüzden ülkenin varlığını ve toplum olarak devamını sağlayacak kuşakların dengeli bir kişiliğe sahip olmaları yanında bilimsel, kültürel ve sanatsal açıdan yeterli bir şekilde yetişmesinde aktif olarak rol alan ve sorumluluk üstlenen öğretmenlerin mesleki değerler açısından yeterli olması oldukça önemlidir.

Okuldaki ilk yıllar, çocuğun yetişkin yaşamına hazırlanmasına temel oluşturduğundan, bu dönemde kazanılan bilgi ve beceriler, diğer eğitim basamaklarında kazandırılacak bilgi ve beceriler için alt yapı niteliği taşımaktadır. Dolayısıyla, ilerleyen eğitim basamaklarında, öğrencilerin sergilediği tutum ve davranışlar, büyük ölçüde sınıf öğretmenlerinin kazandırdığı bilgi, beceri, tutum ve değerlerin birer yansıması olmaktadır. Bu durum, son yıllarda eğitime politikacıları ve uzmanların değerler eğitimi ve mesleki değerler konuları üzerine yoğunlaşmasının nedenini ortaya koymaktadır. Sınıf öğretmenlerinin mesleki değerler bakımından yeterli olmaları, öğrencilerin gelişimi açısından kritik bir önem taşıdığı için öğretmenlik mesleğinin temel yeterlik alanlarından biri olarak kabul edilmektedir.

Alanyazın incelendiğinde, öğretmenlere yönelik hizmet içi eğitim çalışmalarında, çoğunlukla hizmet içi eğitim ihtiyaçlarının belirlenmesi üzerinde durulduğu anlaşılmaktadır. Öte yandan öğretmenlerin hizmet içi eğitim ihtiyaçlarının öncelik düzeyinin öğretmen ve okul yöneticilerinin görüşlerine göre önemli ölçüde farklılaştığı görülmektedir. Ayrıca alanyazında, öğretmenlere hizmet içi eğitim yoluyla kazandırılması gereken öğretmenlik mesleğinin temel değerlerine ilişkin çok

sınırlı sayıda araştırmanın olduğu anlaşılmaktadır. Oysa okul müdürlerinin bakış açısıyla öğretmenlere hizmet içi eğitim yoluyla kazandırılması gereken değerlerin bilinmesi, okullarda öğrencilere kazandırılacak kişisel, kültürel ve evrensel insan değerleri açısından oldukça önemlidir.

*Araştırmanın Amacı:* Son yıllarda eğitim politikacıları ve uzmanlar, değerler ve özellikle mesleki değerler üzerine yoğunlaştığı halde sınıf öğretmenleri ve okul yöneticileri ile yapılan az sayıda çalışmada, mesleki değerlere atıfta bulunulması, önemli bir problem durumu olarak ortaya çıkmaktadır. Bu çalışmanın amacı, okul yöneticilerinin görüşlerine göre hizmet içi eğitim yoluyla sınıf öğretmenlerine kazandırılacak değerleri ortaya koymaktır. Bu amaçla aşağıdaki sorulara yanıt aranmaktadır:

1. Sınıf öğretmenlerine hangi değerler kazandırılmalıdır?
2. Sınıf öğretmenlerine kazandırılacak değerlerin öncelik düzeyi nedir?

*Araştırmanın Yöntemi:* Bu çalışma, nitel araştırma desenlerinden biri olan durum çalışması modelindedir. Bu çalışmada, bütüncül tek durum deseni kullanılmıştır. Araştırmanın çalışma grubunu, ölçüt örnekleme yöntemiyle belirlenen 24 okul yöneticisi oluşturmaktadır. Okul yöneticilerinin 19'unu erkek, 5'ini ise kadın yöneticiler oluşturmaktadır. Katılımcıların yaş ortalaması, 38.50'dir. Katılımcıların meslek kıdemi ortalaması 19.25 yıl ve yöneticilik kıdemi ortalaması 13.50 yıldır. Çalışma grubunun belirlenmesinde, en az beş yıl sınıf öğretmenliği yapmış olma temel ölçüt olarak belirlenmiştir. En az beş yıl öğretmen olarak görev yapmanın ölçüt olarak belirlenmesinin nedeni, okul müdürlerinin öğretmenlerin sahip olmaları gereken değerlerin neler olduğunu daha iyi kestirebileceklerinin öngörülmesidir. Eğitim yönetimi alanında yüksek lisans derecesini tamamlamış veya devam ediyor olmak başka bir ölçüt olarak belirlenmiştir. Eğitim yönetimi alanında yüksek lisans yapmış ya da yapıyor olmanın ölçüt olarak alınmış olmasının nedeni, katılımcıların sınıf öğretmenlerine kazandırılacak değerlere ilişkin farkındalık düzeylerinin yüksek olacağı varsayılmıştır. En az beş yıl boyunca okul yöneticisi olarak görev yapmak, bir başka ölçüt olarak belirlenmiştir. Katılımcılarda, en az beş yıl okul yöneticisi olarak görev yapmış olma koşulunun aranmasının nedeni ise beş yıllık deneyimin öğretmenlerin hangi değerlere gereksinim duyduğunun daha iyi anlamayı sağlayacağı varsayılmıştır. Ayrıca, hizmet içi eğitim faaliyetlerine katılmış olmak başka bir ölçüt olarak belirlenmiştir. Katılımcılarda, hizmetiçi eğitim etkinliklerine katılmış olma koşulunun aranmasının amacı ise katılımcıların hizmetiçi eğitim etkinliklerinin yöntem ve içeriğinin farkında olmasının araştırmanın amacına daha uygun olacağı varsayılmıştır.

*Veri Analizi:* Veriler, betimsel analiz tekniği ile analiz edilmiştir. Betimsel analiz tekniği, (1) analiz için tematik bir çerçeve oluşturma, (2) verilerin tematik çerçeveye göre işlenmesi, (3) bulguları tanımlama, (4) bulguları analiz etme ve yorumlama olmak üzere dört aşamadan oluşmaktadır. Yapılandırılmış grid formları analiz öncesinde araştırmacılar tarafından sırasıyla K1, K2, K3, K4, ... K24 şeklinde kodlanmıştır. Bütün görüşler tabloda gösterilmiş ve benzer şekilde yazılan görüşler aynı kategoride değerlendirilmiştir. Okul müdürleri, toplam 240 kategori oluşturmuş ve bu

kategorilere göre öğretmenlere kazandırılacak toplam 59 değer belirlenmiştir. Alt temalar, aynı içeriği yansıtan kategorilerden oluşturulmuştur. Betimsel analiz sonucunda katılımcı görüşlerine dayalı olarak dört ana tema belirlenmiştir.

*Araştırmanın Bulguları:* Araştırmadan elde edilen sonuçlara göre, okul yöneticileri öğretmenlere daha çok kişisel değerlerin kazandırılması gerektiği yönünde görüş belirtmektedir. Bu değerler arasında, okul müdürlerinin en fazla vurguladığı kişisel değerler yeniliğe açıklık, çalışkanlık, sabır, kararlılık, farkındalık, dürüstlük, nezaket, empati, girişimcilik, tutarlılık ve güvenilirliktir. Okul yöneticileri, öğretmenlere mesleki değerler kazandırılması gerektiğini ifade etmektedir. Okul müdürleri tarafından en fazla vurgulanan mesleki değerler iletişim, liderlik, yaratıcılık, işbirliği, dayanışma, vizyon, planlılık, uyumluluk ve koşulsuz kabuldür. Okul yöneticileri, öğretmenlere hizmet içi eğitim yoluyla evrensel değerlerin kazandırılması gerektiği şeklinde görüş belirtmektedir. Okul müdürleri, öğretmenlere kazandırılması gereken evrensel değerleri, sevgi, adalet, hoşgörü, hümanizm, saygı, demokratik tutum ve farklılıklara saygı şeklinde ifade etmektedir. Okul müdürleri, ayrıca hizmetiçi eğitim yoluyla öğretmenlere kültürel değerler kazandırılması gerektiği şeklinde görüşler belirtmektedir. Okul müdürleri, hizmetiçi eğitim yoluyla öğretmenlere kazandırılması gereken başlıca kültürel değerleri vatanseverlik, fedakârlık ve özverili olma şeklinde ifade etmektedir.

*Araştırmanın Sonuçları ve Öneriler:* Araştırmanın sonuçları, okul müdürlerinin sınıf öğretmenlerine hizmet içi eğitim yoluyla kişisel, mesleki, evrensel ve kültürel değerlerin kazandırılması gerektiği şeklinde görüşlere sahip olduğunu ortaya koymaktadır. Bu sonuçlara dayalı olarak her öğretmenin öncelikle kişisel değerlere sahip olmaya öncelik vermesi gerektiği ifade edilebilir. Öğretmenler, öğretmenlik mesleğinin temel değerlerine ve etik ilkelerine sahip olmalıdır. Milli Eğitim Bakanlığı tarafından öğretmenlere hizmetiçi eğitim aracılığı ile öğretmenlik mesleğinin temel mesleki değerleri kazandırılmalıdır. Öğretmen yetiştiren kurumlarda, öğretmenlik mesleğinin genel yeterliklerinin yanı sıra mesleki ve etik değerlerin kazandırılmasına özen gösterilmelidir. Öğretmenlere hizmetiçi eğitim yoluyla, değişen değerler ve küresel gelişmeler ışığında öğretmenlik mesleğinin temel mesleki değerleri, kültürel ve evrensel değerlerle uyumlu olacak şekilde yeniden kazandırılmalıdır. Öğretmenlere, okullarında kararlı, sabırlı, yeniliğe açık tutum ve davranışlar sergilemeyi sağlayacak hizmetiçi eğitimler verilmelidir. Öğretmenlerin etkili iletişim, liderlik ve işbirliği becerilerini geliştiren hizmetiçi eğitimler yer verilmelidir. Hizmetiçi eğitimler, öğretmenlerin mesleğinde çalışkan, vatansever ve fedakâr olmalarını sağlamalıdır. Öğretmenlere kazandırılacak değerler, öğrencilere sevgi ile yaklaşımlarını sağlamalı, adaletli bir tutum sergilemelerini garanti etmeli, güçlü bir insanlık sevgisi aşılmalıdır. Bu araştırma nitel araştırma deseninde yürütülmüş ve veriler yarı yapılandırılmış grid formu ile toplanmıştır. Öğretmenlere kazandırılacak mesleki değerler, kişisel değerler, evrensel ve kültürel değerler konularında farklı desenlerde ve farklı çalışma grupları ile araştırmalar planlanabilir. Öğretmenlik mesleğinin değişen değerleri konusunda araştırmalar yürütülebilir.

*Anahtar Sözcükler:* Değerler, sınıf öğretmeni, okul yöneticisi, hizmet içi eğitim.





**Preparing Pre-service English Language Teachers for Classroom Realities:  
Strengthening Their Competence in Instructional Materials**

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**ABSTRACT**

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**Purpose:** English as Foreign Language (EFL) teachers tend to demonstrate low literacy levels in instructional materials and feel unprepared to use materials effectively. To better prepare pre-service EFL teachers for real classrooms that they will teach upon graduation, current K-12 teachers can provide significant insights into the needed competences of prospective teachers. With this purpose, the study aimed to investigate the competences in utilizing instructional materials needed by EFL teachers to become effective teachers to teach at the context of K-12 public schools.

**Research Method:** The study used qualitative research methods. Data were collected through semi-structured interviews from 19 veteran EFL teachers teaching at K-12 public schools in Ankara. In order to gain a wide range of teacher perspectives on the knowledge and skill requirements for instructional materials, a maximum variation sampling technique was used. Data were subjected to content analysis.

**Findings:** The results suggested that pre-service EFL teachers need to be competent in using a wide range of instructional materials (i.e., printed, visual, authentic, technological, web-based and self-produced) and material related areas (i.e., adaptation, selection, use and design) to use materials for different purposes (i.e., motivational, instructional, classroom management, for general or overall improvement of students and learnability) under some challenging conditions that may affect their utilization of instructional materials.

**Implications for Research and Practice:** In case that the expected competences are adequately addressed at teacher-education programs, the disconnection between the universities and school environment could be solved and pre-service EFL teachers would feel ready and competent to teach upon graduation from teacher education programs.

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## Introduction

Improving teacher education and teacher quality are critical global issues. Like most countries, Turkey has been struggling to implement policies in order to educate better teachers. One of the biggest problems related to teacher education is the disconnection between the universities and school environments. Teacher educators are not aware of real problems of teaching, and pre-service teachers do not have opportunities to access real classrooms and get involved in teaching activities except for their limited experience in practicum courses. The same problem exists in English Language Teaching (ELT). Unfortunately, ELT programs at universities are mostly theoretical and away from the realities of teaching; thus, pre-service teachers do not feel ready and competent to teach upon graduation from these programs (Ozturk & Aydin, 2019). Although ELT programs in Turkey offer a compulsory course on instructional materials, English language teachers demonstrate low literacy levels in instructional materials and feel unprepared regarding instructional materials (Kizilaslan, 2011; Sali & Kecik, 2018), which is probably because the pre-service materials education given at teacher education programs is theory-laden and disconnected from teachers' daily practices in real classrooms. However, the education of pre-service teachers must be based on practice in the workplace, which is the school.

As such, specifically required instructional materials competences used by EFL teachers in the real site of teaching performance should be determined and materials education given by teacher education programs should be planned accordingly. With that purpose, the research aimed to investigate the instructional material competences that EFL teachers need for the context of K-12 classroom teaching. It is hoped that the results of this study will help the providers of initial teacher education assess the instructional material education they give to pre-service EFL teachers and judge if they are meeting the needs of future teachers. In this way, they can revise the program content in order that each pre-service teacher will develop the necessary competences and be better prepared for the real world of classroom practice.

### *Theoretical Foundations*

To strengthen teaching English as a Foreign Language, several teacher education accreditation or certification organizations have prescribed the standards and the necessary competences for EFL teachers. Literature review reveals that one of these critical competences for effective EFL teachers is related with instructional materials (APEID, 1992; Caena, 2014; Kitao & Kitao, 1997; Lipton, 1996; MEB, 2002, 2008; Richards, 2007; Shulman, 1987; TESOL, 2002; YOK, 2007). Instructional materials, which can be anything used to facilitate learning for better results, are of significant importance in English language teaching like in other fields of teaching because of the numerous benefits they bring. Most of the time, they are used to compliment the efficiency of a teacher and effectiveness in lesson delivery (Omabe, 2006). Materials also facilitate the learning of abstract concepts by helping to concretize ideas and

stimulate students' imagination (Esu, Enuokoha, & Umoren, 2004). Furthermore, they make teaching more effective by facilitating the active participation of the learner in their learning process and by making the lesson less teacher-centered. In this way, materials also help teachers save their time and energy (Mathew & Alidmat, 2013).

Some scholars like Okwelle and Allagoa (2014) stated that instructional materials give teachers several advantages in teaching. Some of the advantages they mentioned are that they motivate learners for learning, enable teachers to deal with physical challenges, encourage learners to participate in lessons actively, help teachers save time, supply teachers with meaningful and useful information sources, promote different learning styles and encourage interest and curiosity of learners. Furthermore, effective instructional materials may even contribute to a positive attitude and a healthy self-concept of learners as successfully doing the activities makes them believe they can perform better. Besides all these advantages, instructional materials make most learners enjoy and appreciate the learning process. With the help of materials, students can also better comprehend, evaluate, visualize and experience the things they need to learn (Okwelle & Allagoa, 2014).

Other researchers, Kitao and Kitao (1997), listed several ways that instructional materials facilitate teaching. Providing explanation, example, practice on the content to be taught to learners, constituting a source of motivation for students by changing the dynamics of class routines, by offering various objects to be used in class and promoting interaction among learners are some of these ways. Hinkel (2006) added to the benefits of instructional materials by claiming that they lead to a stronger integration among language skills by incorporating language and content holistically. According to Reid (1995), materials help teachers in dealing with individual differences in class. Similarly, Armstrong (1994) and Gardner (1993) indicated that materials are helpful for handling learner differences in terms of intelligence. What is more, as Brinton (1991) suggested, materials represent the real-life in the classroom and enable presenting language in a more complete and realistic context. This way, they contribute to a more meaningful and complete student learning.

Literature in pedagogy and language teaching explains and illustrates the significance of instructional materials as a tool for improving students' learning, especially about challenging fields like language (Ibe-Bassey, 1991; Etim, 1998; Ikot, 2008). However, using this important tool effectively requires competence. Some researchers like Okwelle and Allagoa (2014) underlined the importance of teachers' being competent for selecting materials carefully, developing and using them skillfully. Only this way, they can benefit from better teaching and faster learning offered by instructional materials. According to the same researchers, it is also crucial for teachers to be aware of the fact that each instructional material brings about a different benefit to teaching-learning situation; thus, they should be appropriate for the available teaching resources, environment, time and the number of learners. It was also suggested that instructional objectives and content should be taken into consideration while selecting, developing and utilizing instructional materials. Another important consideration for material selection, use and development is the

individual differences among learners. That is, their characteristics such as age, level, interest, socio-economic background, learning style and physical skills are very significant variables that should be reflected in the instructional materials to be used. Appealing to different senses of learners with the materials chosen is another suggestion by Okwelle and Allagoa (2014). Learners grasp information through various senses, so materials appealing to multiple senses may improve learnability. The scholars mentioned economic factors as another important consideration regarding instructional materials and suggested that teachers can think of improvisation, which can be a way of increasing inquiry, curiosity and creativity besides being a productive application of intellect.

Howard and Major (2005) are other scholars suggesting EFL teachers design their own materials when available materials are not appropriate for the particular environment or learners. For an effective design process, they presented a set of guidelines. According to their guideline, language teaching materials should be authentic, contextualized, attractive, flexible and generative in terms of language. They should also have appropriate instructions and potential to stimulate interaction and facilitate the development of learning skills and strategies by focusing on form and function together and by promoting integrated use of the language.

In brief, literature review has shown that instructional materials are so important in language teaching that ineffective use of instructional materials may result in low level of language proficiency of EFL learners (Syatriana, 2013). Materials seem to be one of the major elements in language instruction, so for effective language teaching, EFL teachers need certain material related skills. According to Kitao and Kitao (1997) some of these crucial skills are choosing, providing and designing appropriate materials, adopting, supplementing, and elaborating on materials in accordance with the needs of the learners and the teaching environment.

To equip pre-service teachers with such competences, ELT programs in Turkey already offer compulsory materials courses to pre-service EFL teachers. However, although teacher education programs offer such a course, EFL teachers still have low levels of literacy in instructional materials and feel unprepared to utilize materials effectively in English language classes (Kizilaslan, 2011; Sali & Kecik, 2018). That is probably because of the gap between theory and practice; that is, lack of alignment and cooperation between universities and schools. Accordingly, this research aimed to investigate the material related competences that EFL teachers need in order to teach in the context of K-12 public schools and the possible challenges they may face in utilizing materials. The following research questions guided the study:

1. What competences in instructional materials are needed by EFL teachers working at K-12 schools in their daily professional practices?
2. What are the challenges they face in utilizing instructional materials in their daily practices of teaching?

## Method

### *Research Design*

The study used qualitative research methods to find out what instructional material related competences are expected from EFL teachers to teach at K-12 public schools and what challenges they might face in using materials. To get an in-depth understanding of the issue, we conducted semi-structured interviews with veteran EFL teachers. The qualitative data collected from teachers were analyzed through content analysis to answer the research questions.

### *Research Sample*

Nineteen veteran EFL teachers having taught at K-12 public schools for more than seven years at the time of data collection constituted the participants of the study. The teachers were selected based on maximum variation sampling technique. Teachers having at least seven years of full-time teaching experience were considered to be veteran teachers for the purpose of the study as according to the policies of the Turkish Ministry of National Education, teachers having a seven-year full-time teaching service become tenured as “expert teachers” (Official Gazette, 2005: 5905). Veteran teachers were explicitly chosen to be the primary source of data in this study since they are believed to have knowledge gained through on-the-job experience (Edwards, 2003). Thus, we relied on the assumption that research on teacher education should approve and even benefit from their experience and knowledge for preparing teacher candidates for their future profession adequately. In addition, veteran teachers are expected to provide useful information regarding the necessary competences on instructional materials, which could guide teacher education and other relevant parties in equipping pre-service teachers with the required skills to be effective teachers.

To collect a wide range of perspectives on instructional materials, a sample group of participants with a wide range of variations were formed using the maximum variation sampling technique (Simsek & Yildirim, 2008). This sampling technique enabled us to attain more significant insights by looking at the issue from various angles, which improved the strength of the research findings and applicability (Miles & Huberman, 1994). The variables used in the study to get an in-depth understanding of the phenomenon were teaching experiences and gender of teachers, the school type and grade level they teach, and socio-economic status of their schools.

To reach out to the participants, we first received information about the type and socio-economic status of schools in Ankara from an expert working at the ministry. Then, we determined 30 potential school sites having different socio-economic status. Later, we gave information about the proposed study to the school principals on the phone and made appointments with the ones agreeing their schools’ participation in the research study. We collected the initial information about the EFL teachers’ working at their school such as their year of teaching experience, gender, and the grade level they were teaching. Considering the criteria for maximum variation

sampling, we determined the target group of participants and notified them if they would like to participate in the study. Later, we further informed the teachers accepting to participate in the study about the purpose of the study and the confidentiality issues via e-mail and received their consent. We also obtained the ethical approval for the research from METU Scientific Research and Publication Ethics Committee.

Nineteen veteran teachers from schools with high and low socio-economic status in Ankara, teaching different grades from 2 to 12, participated in the study. The number of participants meets Stake's (2006) requirement for four to ten participants and Dukes' (1984) three to ten participants. We reached data saturation after roughly interviewing 15 participants. Yet, we interviewed all of the 19 volunteering participants to ensure data saturation, which assured the adequate number of samples to demonstrate content validity (Francis et al., 2010). Data regarding the participants' gender, teaching experience, graduation, degree and information about the school type, level and the socio-economic status of the schools they were teaching, their prior training and education on instructional materials were summarized in Table 1 below.

**Table 1**  
*Sample Size of Veteran Teachers according to the Variables*

<b>Variables</b>	<b>Levels</b>	<b>f</b>
<b>Gender</b>	Female	15
	Male	4
<b>Experience in teaching</b>	10-15 years	15
	16 years and over	4
<b>Graduation</b>	Faculty of Education	11
	Faculty of Art and Letters	8
<b>Highest degree held</b>	B.A.	14
	M.A and M.Sc.	4
	Ph.D.	1
<b>School type</b>	Primary	12
	Secondary:	7
	*Anatolian HS	2
	Anatolian/Science HS	2
<b>Socio-economic Status</b>	Vocational Technical HS	3
	Low SES	10
	High SES	9
<b>Level(s) taught</b>	2-4	6
	5-8	6
	9-10	4
	11-12	3
<b>Instructional materials training/education</b>	As undergraduate/graduate c.	11
	In-service training	2
	No training/education	6

Notes: \*shows the Anatolian High Schools which were previously general high schools, c: course

*Research Instruments and Procedures*

Semi-structured interviews were done with veteran teachers so that an in-depth understanding of instructional materials was received. Participants were asked questions requiring them to describe their utilization of instructional materials and specific experiences. Besides, prompts were used to ask for more details or specifications when necessary (Simsek & Yildirim, 2008). The interview questions were based on an extensive review of relevant literature. Table 2 gives information about the content of the semi-structured interviews.

**Table 2**

*The Content of Semi-Structured Interviews*

<b>Topic</b>	<b>Sample Questions</b>
<b>Demographic details</b>	Can you tell me about your... <ul style="list-style-type: none"> <li>- teaching experience (duration)</li> <li>- educational background (Ba, Ma, Ph.D.)</li> <li>- grade and class size you teach currently</li> <li>- socio-economic status of your school</li> </ul>
<b>Materials used</b>	Can you describe the materials you used in your classes? (e.g., Formal/prescribed, additional, self- developed)
<b>Material use</b>	Please describe how you use materials on a typical day? Which parts do you omit/ emphasize more/ cover in less depth? Can you elaborate on how and why do you do so?
<b>Strengths</b>	How competent/capable do you find yourself as a teacher in terms of instructional materials, particularly in using, selecting, adapting, developing materials?
<b>Challenges</b>	Can you talk about the problems you face regarding instructional materials in teaching in your context? What are the reasons for these problems?
<b>Weaknesses &amp; Needs</b>	Can you explain the difficulties you have in using, selecting, adapting, developing materials in your daily teaching? What kind of skills and knowledge do you need?
<b>Previous training in instructional materials</b>	Please talk about the courses and the pre or in-service training on instructional materials in which you have participated? How did you benefit from them to improve your knowledge and skills?
<b>Factors contributing to current competence in instructional materials</b>	How could you reach your current competence in instructional materials? What are the factors contributing to your competence?

For the interview questions, expert opinion was obtained from an English language teacher educator and three experts on qualitative research methods. The suggestions from experts were valued and with little alterations on the wording, changes were made in the semi-structured interview schedule. The items having ambiguity or requiring clarification were rewritten by us. The interview procedure was pilot tested on two EFL teachers before actual data collection proceeded with the first author so that both the questions and interviewer's qualitative research skills to ask timely follow up questions were tested and improved.

Interviews with veteran teachers were performed in January 2016. The participants were all assured of anonymity, their consent was obtained with a consent form, and they were all assured to be free to leave the interview if they decided to do so without any excuses. The interviews were conducted at the school sites in a room arranged by the school administration. All interviews were conducted in person by the first author in Turkish and were recorded to be transcribed later. The interviews lasted 50-65 minutes for each.

#### *The Trustworthiness of the Study*

To ensure the credibility of the study, we used peer debriefing and member checking strategies. For peer debriefing, we obtained the perceptions of another senior researcher in each stage of the study (i.e., data collection, data analysis and interpreting research findings) as suggested by Bitsch (2005). In order to improve the credibility of the qualitative data member checking was used (Guba & Lincoln, 1981). For that purpose, data and interpretations in the study were continuously tested as they were derived from veteran teachers. More specifically, the veteran teachers were asked to evaluate the interpretations made based on the interviews with them and suggest any changes for the parts they did not agree.

#### *Data Analysis*

For the analysis of qualitative data, first all interviews were transcribed. Then, based on Wellington's (2000) general stages of data analysis, the transcripts were read, the parts referring to instructional materials were underlined, and broad categories were generated. Later, all transcripts were read again, and it was checked if there were any unnoticed parts according to the emerging categories (immersion). In the second reading, some new categories appeared, and a list of main categories was made. (See the Appendix for the themes and the codes). For the names of the categories, interview questions or researchers' interpretations were used. Later, the data under each category were compared to similar data under sub-categories (synthesis). Data were constantly compared (Merriam, 2009) both within the same category to find sub-categories and across categories. This process resulted in codes categorized under sub-groups.

### **Results**

In this research, it was aimed to investigate the material related competences that EFL teachers need in order to teach in the context of K-12 public schools and the

possible challenges they may face in utilizing materials. Qualitative data collected from 19 veteran teachers revealed useful information about the kind of materials EFL teachers working at K-12 use, the purposes of their material utilization, the specific competences they need and the challenges they face regarding instructional materials in their daily practices.

### *Type of Materials Used*

The veteran teachers mentioned using six main types of materials in their daily practices. These are 1) *printed materials* such as coursebooks, resource books, test books, photocopied exercises, worksheets, stories and staged readers; 2) *visual materials* such as realia or real materials, flashcards, pictures and puzzles; 3) *authentic materials* such as songs and films; 4) *technological materials* such as 3-D materials, flash programs, projectors, OHPs, computers, CDs/CD players, e-books, web-based materials and social media; 5) *teacher and or student-produced materials* like school magazines, notice/bulletin boards, project works, flashcards, picture dictionaries, photos and videos, certificates, booklets, vocabulary journals, sentence and word strips; 6) *materials created with art and craft* like model buildings, origami, clay/dough and wooden artifacts. Qualitative data showed that EFL teachers teaching at K-12 public schools need to be competent in a wide range of instructional materials to teach English in their classes.

### *Purpose of Material Use*

During the interviews, participants mentioned different purposes of their material use and several reasons why they need to bring or design different materials for their teaching. Analysis of their responses provided us with beneficial information about the purpose of material utilization at K-12 public schools. It appears that participants make use of instructional materials for six primary purposes.

*Motivational purposes:* All of the participating EFL teachers stated that they use materials to attract the attention of learners, to stimulate learners, and to involve them in activities.

*Instructional purposes:* Most of the teachers stated that they mostly use materials for instructional purposes like teaching language areas (i.e., vocabulary and grammar), developing language skills (i.e., listening, reading, speaking and writing), assessing student learning, and relating English to other lessons.

*Classroom management purposes:* About two-thirds of the interviewed teachers reported that they make use of materials as a tool for managing their classroom. They mentioned using materials to calm down learners, to decrease the anxiety of learners, to foster cooperation among learners, and to deal with difficult learners as examples for their use of materials for classroom management purposes.

*To increase learnability:* About half of the interviewed teachers expressed using different instructional materials to make the topic more understandable. They expressed that using materials makes the topic more concrete, meaningful and relevant to their lives, so learners can visualize the content, and as a result have more active and long-lasting learning. Even young learners are stated to follow the lesson with ease thanks to instructional materials.

*For general or overall improvement of students:* There are some teachers mentioning that they use materials to foster the confidence of learners and to improve their' problem solving and creative thinking skills.

*For some other purposes:* Some of the responses did not fit under any category, so they were named "other" purposes of material used. To illustrate, one of the veteran teachers expressed that to acknowledge and certify student achievement, she uses materials and sometimes for parent involvement; that is, to inform parents about the learning process of their children and involve them in this process, she makes use of materials.

### Sample Quotations from Veteran Teacher Interviews

### Codes

*"Even the difficult learners cooperate and become eager to take part in the lesson voluntarily when we design our materials in class. They feel successful when they create something and this increases their self-esteem..." VT 13*

"To motivate students"

"To create cooperation"

"To foster students' confidence"

*"I sometimes use extra materials to teach grammar especially at eight grades and I use extra materials to improve speaking skills of students or as a warm-up activity with lower levels" VT 9*

"To teach language areas and skills (speaking)"

### The Most Required Competences

Interviews with veteran EFL teachers teaching at the public school context informed us about the competence areas that they need most in their daily teaching of English. According to their responses, the required competences were categorized in four groups. These are material adaptation, material selection, effective material use and material design.

*Material Adaptation:* Almost all of the interviewed teachers said that they adapt the prescribed instructional materials like the coursebooks provided by the ministry to their students. In other words, EFL teachers change the materials considering certain criteria like 1) their learners (e.g., the level, age, interests, culture of their students); 2) their teaching context (e.g., the class size, physical setting, resources and facilities present at their school); 3) the EFL curriculum (e.g., the pace of the program and the objectives in the program). Interviewees also reported that frequently they need to adapt the materials to the level of learners, that is, mostly in order to make it more appropriate for low achievers and rarely for high achievers. The adaptation techniques that veteran teachers stated to use are omitting, reducing, replacing, simplifying, transforming (i.e., changing the format), changing the content (e.g., names, characters, topics, and examples etc.) and changing the sequence of activities in materials.

*Material Selection:* Experienced ELT professionals also mentioned materials selection competence as a crucial skill. It seems that material selection is the most required skill, especially for teachers working at vocational and technical schools. These schools have different departments like printing press operations, computer programming, hairdressing and early childhood education. Due to a lack of materials on vocational English for such schools, EFL teachers working at this type of schools need to search for and select appropriate materials for teaching vocational English to the students studying at different departments of vocational and technical schools.

*Effective Material Use:* The participants mentioned they use a great variety of materials such as printed, real, authentic and technological ones in their classroom practice. However, their responses revealed an interesting point. It seems that in the public school context, particularly in low socio-economic schools, teachers need to utilize these materials in some difficult circumstances. Some of these situations are trying to use materials effectively in large classes, mixed-ability classes, or classes with students from different departments (as in vocational schools), when there is little or no resource available.

*Material Design:* During interviews, veteran EFL teachers stated that they sometimes design materials with their learners mostly to involve them in their learning process. As a justification for preferring to develop their materials rather than using ready-made ones, they mentioned time and cost-effectiveness. Some of them said that either published materials are too expensive or even if some of them are free, searching for appropriate materials on the net or in the library takes them hours.

**Sample Quotations from Veteran Teacher Interviews**

**Codes**

*“Each department has different interests. I have to select materials considering that. If I choose the same materials for the electronics department and information technologies, then it does not work. They are different; their needs are different.” VT19*

“Selection”

*“Sometimes, in our course books, there are four activities serving for the same objective. It is boring to do almost the same activities. Therefore, I omit two of the activities.” VT 11*

“Adaptation”

*Challenges Faced*

Regarding the challenges they face that destroy the effectiveness of their material use in their English classes, veteran EFL teachers working in K-12 public schools mentioned various factors. Based on their responses, different sources of the issue were categorized under five main themes. These themes are teacher related, student related, material related, school related and ministry related factors.

*Teacher related factors:* Veteran teachers listed several teacher-related factors like having a heavy workload, having no or limited free time, experiencing difficulty in classroom management, having to use ministry-prescribed coursebooks, not being informed about the EFL program, and not feeling adequate for effective material utilization and teaching young learners.

*Student related factors:* Veteran teachers reported several challenges caused by their learners. These are mainly the behavioral, psychological and emotional problems they suffer from because of the characteristics of their age, having ten hours of class a day so being too tired and not being able to concentrate on the lesson. Additionally, the negative attitude of learners towards English was stated to be another difficulty that teachers face. As the possible causes of negative attitude towards English, teachers talked about poor intrinsic motivation to learn English, feeling of frustration or failure in learning a foreign language, being afraid of making mistakes, and having very low proficiency in English to follow lessons.

*Material related factors:* Interviewees listed several material-related factors that make the material use challenging. For example, they said that English teaching materials used at public schools are rather boring for learners. They also stated that these books include too many listening tasks; however, they are not provided with an audio CD for the listening tasks. The tasks in the coursebooks were stated not to be sequenced from easy to difficult, either. Almost all of the participants shared the idea that the books include too many unnecessary and repetitive activities and numerous irrelevant points and details. The materials were described to be out-dated and inauthentic as well. Teachers added that the books are inappropriate to students' level with too many unknown words and too tricky grammar structures. That seems to make it difficult for learners, especially young learners to learn the content. Another point raised by teachers was that the same coursebook is provided to be taught at all different school types without considering the differences in learner profiles. Participants working at vocational and technical schools criticized the practise by explaining that students' level and aptitude in different high schools are not the same. Hence, using the same course materials in different contexts with varying profiles of learners was not considered to be rational.

*School-related factors:* Most of the interviewed teachers talked about the challenges related to school infrastructure. They mentioned technical problems like lack of copying facilities at school, lack of audio materials and equipment (i.e., CDs, CD players and speakers), lack of technological equipment (i.e., computers and projectors) and inappropriate physical setting (i.e., overcrowded classrooms and fixed seating arrangement).

*Ministry related factors:* English language curriculum and language teaching policies of the ministry were regarded to be the primary source of the challenges they experience by some of the teachers. These teachers criticized that English teaching hours are insufficient, the curriculum is too loaded with too many objectives to teach in a limited time, and national exams lack language content. They also talked negatively about not being provided with the essential course materials like teacher's

book and listening CDs. Some of the teachers shared the idea that the language teaching is poorly planned by the ministry as the same objectives are set for students studying at different schools (e.g., Anatolian, Vocational and Technical High Schools). They also criticized the ministry for not informing the stakeholders such as the teachers, students and parents about the EFL curriculum adequately.

### Sample Quotations from Veteran Teacher Interviews

### Codes

*“In grade 12, as students need to take the university entrance exam, they are not interested in English at all. Thus, we just teach easy grammar items to test at exams. LYS is a serious problem for us, actually. As there is no English content, it is pointless to learn English. That’s what students think, so with this grade, I only bring in grammar worksheet but in other grades I do different things, use different materials...” VT 12*

“No content at national exams”

*“Both students’ motivation and interests change. As we teach at a technical high school, the motivation and level of printing operation department students and that of information technologies are so different from each other. You have to do completely different things in these classes. We have various students at various departments. Students at the pre-school education department are the ones that were accepted to school with the highest grades at national exams, so they are very eager to learn English. We can do anything with them: speaking, reading so on. However, other departments are not like them. They do not want to learn even a word of English. They find it difficult and are not motivated. However, we have the same objectives for these groups. It is meaningless.” VT 9*

“Sts’ lack of intrinsic motivation”

“different learner groups”

“same objectives for all sts”

Note: sts: students

About two-thirds of the veteran teachers participating in the study expressed that they did not feel confident in instructional materials, especially in the first years of their teaching. Still later, by trial and error, they started to feel more confident. For not being competent enough in instructional materials in the first years of their careers, the interviewed teachers criticized the undergraduate programs they attended by pointing to the massive gap between real classrooms and the instructional material education they had at the teacher education program. They further expressed that after graduating from teacher education institutions, EFL teachers did not feel prepared for the conditions at public schools, particularly the level and needs of students, the technical and logistic problems they might face in real classes. They criticized teacher education programs for preparing them for ideal classrooms, neglecting the realities of Turkish public schools. To sum up, the data collected from the veteran EFL teachers working at public schools disclosed very beneficial information about the most needed instructional materials competences to teach at K-12 public schools, and the challenging circumstances in which they need to use these competences.

### **Discussion, Conclusion and Recommendations**

Insights and experiences of veteran EFL teachers participating in the study helped us in determining the required competences in instructional materials to teach at K-12 public schools. Initially, experienced teachers underlined the need for knowledge in various material types such as printed, visual, authentic, technological, web-based and self-produced instructional materials (e.g., arts and crafts). For their future careers, it will be useful to extend the knowledge and skills of pre-service teachers in using and designing a variety of instructional materials.

According to the veteran teachers, having a remarkable material adaptation skill is necessary to teach effectively in the K-12 context. Therefore, it is advisable for teacher education institutions to train teacher candidates to be able to adapt the prescribed coursebooks and other teaching materials to the specific group of learners they have (e.g., to their level, age, interest and culture); to the specific classroom context (e.g., to size of class, physical setting, resources and facilities available at school); to the different curricular factors (e.g., the pace of the program and objectives in the program). To do so, pre-service teachers certainly need to have some strategies of material adaptation like removing, reducing, replacing, simplifying and transforming the content of the materials. The strategies reported by the EFL teachers were almost the same as the adaptation strategies suggested in the literature. For example, Tomlinson (1998), Mc Donough and Shaw (1993) all claimed that in order to adapt teaching materials to their learners, EFL teachers remove the inappropriate, offensive, unproductive things in materials; they add new content if they find the coverage inadequate; they shorten or lengthen an activity to give it less or more weight or emphasis; change some parts of materials so that it is more appropriate, challenging, more comprehensible for their group of learners; replace text or exercise in materials to make it adequate for their learners' needs and level and change the sequence in textbooks to make it more appropriate for their students.

Experienced EFL professionals also talked about a need for material selection skill, especially choosing appropriate materials for different learners. Regarding that, it is important for pre-service teachers to be informed about different school types and student profiles in Turkey and be prepared for the reality. They had better be trained to be able to search for and select appropriate materials that would work with students at different school types or in various departments of the vocational and technical high schools.

Another necessary competence is designing ELT materials. Pre-service teachers who will work in K-12 schools would benefit from the ability to design course materials or supplementary materials to reach the objectives in the curriculum because it is likely that in their future teaching practice, the primary course materials might be insufficient to attain those objectives effectively. Such a need is mentioned in literature by Howard and Major (2005), too. They stated that because of the disadvantages of the available materials, teachers might need to design their own materials.

Based on the responses received from veteran teachers, it is possible to suggest that future EFL teachers may need to be proficient in using materials for some other purposes besides instructional ones. For instance, they may need to use instructional materials skillfully to attract students' attention and to make students more active. This was also highlighted by Peacock (1997) who pointed out that there is a direct connection between materials and learner motivation. Pre-service teachers may need to use instructional materials for classroom management purposes as well. In other words, by using materials effectively and skillfully, it is possible for EFL teachers to reduce learners' stress, calm them down, promote cooperation among learners and manage difficult learners easily, and as a result, manage their classroom successfully. As the main purpose of materials is to facilitate instruction, pre-service teachers will undoubtedly need the skill to use instructional materials to improve the learnability of the language, probably by visualizing the content for students or helping young learners follow the lesson easily.

Besides instructional and classroom management purposes, pre-service teachers would need the knowledge and skills in using instructional materials for some other purposes. In their future career, they may need to foster students' self-confidence, improve their problem solution skills and creative thinking abilities by using the instructional materials available to them. Literature supports the impact of materials on the personal development of learners. Regarding that, Okwelle and Allagoa (2014) claimed that material use in English language classes could help learners develop a positive attitude and a healthy self-concept.

The interview results also suggest that equipping pre-service teachers with the skill of utilizing materials effectively under some challenging conditions at some public schools is of great importance. For that, pre-service teachers may benefit from problem solving skills that will help them teach under challenging conditions such as teaching in large classes, teaching to mixed ability or teaching students from different departments (i.e., in vocational and technical high schools) or teaching with little or no available resources. Pre-service teachers need to be taught how to utilize materials effectively to teach difficult learners. In their future career, they may teach a group of students having behavioural, psychological and emotional issues due to their tiring school schedule, poor concentration or motivation to learn English, the feeling of frustration and failure in learning English or low level of English proficiency to follow the lesson.

Furthermore, interview results indicate that it is essential for pre-service teachers to be informed about the problems related to the main coursebook required to be used by the ministry. In other words, it would be necessary to prepare them for the difficulties caused by instructional materials such as uninteresting materials, materials that are not ordered from easy to difficult; materials having too many redundant activities and details; materials lacking authenticity and materials lacking the audio component although including several tasks for listening skill. In other words, teacher education institutions are recommended to prepare pre-service teachers for real life situations so that pre-service teachers could be well aware of demanding situations and develop solutions when they encounter a problem. That

way, they can better cope when it is difficult for their learners to follow the main course material; when the material is out-dated or ineffective, and when the same coursebook is supposed to be used in all types of schools or departments. Additionally, pre-service teachers can be informed about and trained for the physical challenges for effective material use. For instance, they should be ready to teach despite the discouraging technical problems such as lack of photocopying facilities, technological problems like not functioning CD players and speakers and poor physical settings such as overcrowded classrooms and inappropriate seating arrangements.

Another difficulty that pre-service EFL teachers need to be prepared for is about the English language curriculum and policies by the ministry. It is significant that future EFL teachers develop problem solving skills for the possible problems they might face in their future career like inadequate teaching hours for English, too many objectives to be achieved in the curriculum in spite of the limited time allocated, lack of language content in national exams, lack of primary teaching materials like teacher's book or audio CDs and trying to achieve the same language teaching objectives for different students in different school types without considering their capacity or level.

In brief, the qualitative data collected through semi-structured interviews from veteran EFL teachers revealed very beneficial information about the instructional material competences required by EFL teachers working at K-12 schools in their daily practices as well as the challenges that they have to deal with. The study implies that it is advisable for teacher educators to support pre-service teachers in developing not just relevant knowledge and dispositions of instructional materials, but also in learning to use them when doing the work of teaching. Pre-service teachers need more than just acquiring information or understanding concepts of materials. They need to be able to do the work of teaching by utilizing materials effectively in its natural setting. For that, a paradigm shift in materials courses offered by teacher preparation in Turkey would be beneficial. Following the lecture, note-taking, and memorization of qualities of different instructional materials may not be suitable for preparing pre-service teachers for their future careers. Instead, they can be encouraged to solve material-related problems and internalize critical thinking that will benefit them throughout their careers. If they are facilitated to solve real-world instructional material problems using their content knowledge, they will learn how to approach the issues from a teacher's standpoint and seek additional resources to plan strategies to solve them. As a result, they will be ready to teach from the moment they enter the classroom. In conclusion, it is expected that if the competences determined by the current research are adequately addressed at teacher-education programs and if pre-service teachers are prepared to deal with the potential issues described in this study, they will be better prepared for the real world of classroom practice and ready to teach from the moment they enter the classroom.

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### **Aday İngilizce Öğretmenlerini Sınıf Gerçeklerine Hazırlamak: Öğretim Materyali Yeterliliklerinin Artırılması**

#### **Atf:**

- Tekir, S., & Akar, H. (2020). Preparing pre-service English language teachers for classroom realities: Strengthening their competence in instructional materials. *Eurasian Journal of Educational Research*, 86, 197-222, DOI: 10.14689/ejer.2020.86.10

#### **Özet**

*Problem Durumu:* Dil eğitiminde başarı için yeterli ve uygun öğretmen eğitimi önemlidir. Fakat mevcut yabancı dil öğretmen eğitimi programları, öğretmen adaylarını okullardaki gündelik uygulama gerçeklerine yeterince hazırlamadıkları

için eleştirilmektedir. Ayrıca, bu programlardan mezun olan öğretmenler, gerçek hayattaki sınıflarda karşılaşacakları durumlara yeterince hazırlıklı olmadıklarını iddia etmektedirler.

*Araştırmanın Amacı:* Biz bu çalışmada, öğretmen adaylarını yakında girecekleri sınıf ve okullara daha iyi hazırlamak için, ilk ve orta dereceli okullarda çalışan yabancı dil öğretmenlerinin sınıflarında öğretmenlik yaparken ihtiyaç duydukları öğretim materyalleriyle ilgili yeterlilikleri belirlemeyi ve bu yeterlilikleri öğretmen eğitiminden sorumlu kurumlara, programlarına dahil etmeleri için önermeyi amaçlamaktadır.

*Araştırmanın Yöntemi:* Bu çalışmada nitel araştırma yöntemi kullanılmıştır. Nitel veriler, Ankara'daki ilk ve orta dereceli devlet okullarında görev yapan 19 tecrübeli İngilizce öğretmeninden yarı yapılandırılmış görüşme yöntemiyle toplanmış ve içerik analizi yoluyla analiz edilmiştir. Öğretmenlerin öğretim materyalleriyle ilgili ihtiyaç duydukları bilgi ve beceri gereksinimleriyle ilgili geniş bir perspektif yakalayabilmek için görüşme yapılacak öğretmenlerin belirlenmesinde maksimum varyasyon örneklem tekniğini kullanılmıştır. Yarı yapılandırılmış görüşme yöntemiyle toplanan veriler içerik analizi yöntemiyle analiz edilmiştir. Bu sürecin sonunda, ortaya çıkan kodlar, alt kategoriler ve kategoriler olarak gruplandırılmıştır ve sonuç bölümünde raporlanmıştır.

*Araştırmanın Bulguları:* Görüşme sonucunda tecrübeli İngilizce öğretmenlerinin, basılı, görsel, otantik, teknolojik, web tabanlı, tasarım ve el sanatları içeren bir dizi öğretim materyali hakkında bilgi sahibi olmaları gerektiği ortaya çıkmıştır. Öğretmen adaylarının, gelecekteki kariyerleri için, bu öğretim materyallerinin kullanılması tasarlanması ve adapte etmesi konusunda bilgi ve becerilere ihtiyaçları olacağı anlaşılmıştır. Bu nedenle, öğretmen yetiştirme programları, öğretmen adaylarını, ders kitaplarını ve diğer öğretim materyallerini öğrencilerin seviyelerine (yaşlarına, ilgisine ve kültürüne; sınıf ortamına (sınıf mevcuduna, fiziksel ortama, kaynaklar ve tesislere); programa (programın hızı ve hedeflerine) göre adapte edebilmeleri için eğitmelidir.

Tecrübeli İngilizce öğretmenlerinin sıkça kullandığı bir diğer yeterlilikte materyal seçme yeterliliği olarak ortaya çıkmaktadır. Öğretmen adayları Türkiye'deki farklı okul türleri ve öğrenci profilleri hakkında bilgilendirilmeli ve bu gerçekliğe hazırlıklı olmalıdır. Farklı okul türlerinde veya mesleki teknik liselerin farklı bölümlerindeki öğrenciler için hazırlanmış özel amaçlı İngilizce öğreten ders materyalleri bulunmadığı için öğretmen adayları uygun materyalli seçmek için eğitilmelidir.

Gerekli bir başka yeterlilik ise materyal tasarımıdır. İlk ve orta dereceli okullarda çalışacak olan öğretmen adayları, müfredattaki hedeflere yönelik ana veya yardımcı ders materyallerini tasarlayabilmelidir. Bakanlık tarafından sağlanan ders kitaplarının bu hedefleri öğrencilere etkili bir şekilde öğretmekte yetersiz kaldığı durumlarda kendi materyallerini tasarlama yetkinliğinde olmalıdır.

Deneyimli öğretmenlerden toplanan veriler, İngilizce öğretmenlerinin ders materyallerini öğretmeyi/öğrenmeyi desteklemek dışında başka amaçlar için de

kullanabilme becerisine sahip olmaları gerektiğini göstermektedir. Bu amaçlar kodlama sonucunda şöyle sıralanmıştır: öğrencilerin dikkatini çekmek ve öğrencileri daha aktif hale getirmek; sınıf yönetimini kolaylaştırmak; konuyu görselleştirmek ve küçük öğrencilerin dersi kolayca takip etmesine yardımcı olmak; öğrencilerin problem çözme becerilerini ve yaratıcı düşünme yeteneklerini geliştirerek kendilerine olan güveni geliştirmek.

Görüşme sonuçları ayrıca öğretmen adaylarının devlet okullarında karşılaşılabilecekleri bazı zorlu koşullar altında da ders materyallerini etkin kullanabilmeleri konusunda da eğitilmeleri gerektiğini göstermektedir. Bu zorlu koşullardan bazıları şöyle sıralanmıştır: kalabalık sınıflar, karma yeteneklere ve dil düzeylerine sahip öğrencilerin bulunduğu sınıflar, farklı çalışma alanlarından öğrencilerin (meslek liselerinde rastlanan durum) olduğu sınıflar, kaynak yetersizliği, düşük motivasyonlu öğrenciler, dersi takip etmek için gerekli dil yeterliliğine sahip olmayan öğrenciler, bazı psikolojik ve duygusal problemler içeren öğrenci davranışları.

Görüşme sonuçlarından edinilen en önemli sonuçlardan biri, öğretmen adaylarının kullanmak zorunda oldukları ana ders materyalleriyle ilgili problemlerin üstesinden gelmek için gerekli yeterliliklere sahip olmaları gerektiğidir. Başka bir deyişle, öğrenciler için ilgi çekici olmayan, kolaydan zora sıralanmamış, çok fazla gereksiz tekrar eden aktiviteleri ve çok sayıda gereksiz detayları içeren, orijinalliği olmayan ve dinleme CD'si olmadığı halde çok sayıda dinleme etkinliği içeren materyalleri nasıl adapte edip kullanmaları gerektiğini öğrenmeleri gerekmektedir.

Öğretmen adayları, devlet okulların altyapısı ile ilgili ve yaşayabilecekleri muhtemel zorluklar hakkında bilgilendirilmeli ve eğitilmelidir. Görüşme yaptığımız öğretmenler örneğin fotokopi ile ilgili zorluklar, bozuk CD çalarlar gibi teknolojik problemlere ve aşırı kalabalık sınıflar ve uygunsuz oturma düzeni gibi fiziksel sorunlara değinmişlerdir.

İngilizce öğretmen adaylarının hazır olması gereken başka bir zorluk yabancı dil müfredatı ve dil öğretim politikaları ile ilgili sorunlardır. Görüşme yaptığımız öğretmenler İngilizce öğretmek için yetersiz öğretim saatlerine, sınırlı bir zamanda öğretilmesi gereken çok fazla hedefin olduğu yüklü programa, TEOG veya LYS gibi ulusal sınavlarda az veya hiç yabancı dil içeriğinin olmamasına değindiler.

Çalışmanın sonucunda ortaya çıkmaktadır ki, öğretmen eğitimcilerinin, öğretmen adaylarına sadece gerekli bilgiyi sağlaması yetmez. Öğretmen adaylarının bilgiyi bilmesi ya da kavramları anlamasının yanı sıra öğretme çalışmalarını kendi doğal ortamında yapabilmeleri gerekir. Bunun için, öğretmen adaylarına sunulan öğretim materyalleri derslerinde bir paradigma değişikliğine ihtiyaç vardır. Farklı öğretim materyallerinin niteliklerini not alıp ezberlemeleri öğretmen adaylarının gelecekteki kariyerlerine hazırlanmaları için uygun ve yeterli değildir. Bunun yerine, öğretmen adaylarına gelecekte karşılaşılabilecekleri muhtemel sorunları çözmeleri gereken ve kariyerleri boyunca onlara yarar sağlayacak araştırma ve eleştirel düşünme becerisini içselleştirmelerini sağlayacak durumlar verilmelidir. Gerçek dünyadaki eğitim materyalleriyle ilgili problemleri sahip oldukları içerik bilgisini kullanarak çözmeleri

sağlanırsa, bu problemleri bir öğretmenin bakış açısıyla nasıl ele alacaklarını öğrenecekler ve problemleri çözmek için strateji geliştirmeyi ve farklı yöntemler ve kaynaklar aramayı öğreneceklerdir. Böyle bir eğitimin sonunda, sınıfa girdikleri andan itibaren öğretmeye hazır olurlar.

*Sonuç ve Öneriler:* Sonuç olarak, aldıkları öğretmen eğitimi, öğretmen adaylarını gerçek sınıf ortamında öğretmenlerin ihtiyaç duydukları yeterlilikleri edinmeleri için eğitmelidir ve araştırma ve eleştirel düşünmeyi içselleştirerek olası problemlerle başa çıkma becerilerini geliştirmeleri için yeterli fırsatı sunmalıdır. Ancak bu şekilde onları gerçek dünyaya hazırlamış olur ve bu şekilde öğretmen adayları sınıfa girdikleri ilk andan itibaren öğretmeye hazır olabilirler.

*Anahtar sözcükler:* Öğretmen eğitimi, öğretmen yeterlikleri, öğretim materyalleri.

**Appendix: Theme and Code List of Interview Analysis**

<p><b>Theme 1: Materials Used</b></p> <p><b>Code 1: printed materials</b>                  -other coursebooks                  -resource books                  -test books                  -exercises (as photocopies)                  -worksheets                  -stories/staged readers</p> <p><b>Code 2: visual materials</b>                  -realia/real materials (e.g., locks, keys, cloths, mirrors etc.)                  -flashcards/pictures                  - puzzles</p> <p><b>Code 3: authentic materials</b>                  -songs                  -films</p> <p><b>Code 4: technological materials</b>                  -- 3 D materials                  - flash programs                  - projector                  - OHP                  - computer                  - CDs/CD players                  - E-books                  - web-based materials                  - social media</p> <p><b>Code 5: teacher and or student-produced materials</b>                  - school magazine                  - notice/bulletin board                  - project work                  - flashcards                  - picture dictionary                  - photos and videos                  -certificates (awards)                  - booklets                  - vocab journals                  - sentence/word strips</p> <p><b>Code 6: art and craft</b>                  -model buildings                  -origami                  -clay/dough                  - wooden artifacts (e.g., wheel of fortune)</p>	<p><b>Theme 2: Purpose of Material Use</b></p> <p><b>Code 1: for motivational purposes</b>                  -to attract sts' attention                  - to make sts more active in class</p> <p><b>Code 2: for instructional purposes</b>                  - to connect it with other lessons                  - to teach language areas (i.e. vocabulary and grammar)                  - to teach language skills (i.e., listening, reading, speaking and writing)                  - to test their learning                  - to relate English to their lives</p> <p><b>Code 3: for classroom management purposes</b>                  - to calm sts down (music)                  - to create cooperation among sts.</p> <p><b>Code 4: to increase learnability</b>                  - to visualize sth.                  - make it more concrete                  - to help young learner follow the lesson easily                  - to handle difficult learners                  - to have meaningful, active and long-lasting learning                  - to relate English to their lives for a longer retention</p> <p><b>Code 5: for general or overall improvement of students</b>                  - to foster sts' self-confidence                  - to foster creative thinking                  - to improve sts' problem- solving skills</p> <p><b>Code 6: for some other purposes</b>                  - to certify their success                  - to inform and involve parents about /in their children' learning</p>
<p><b>Theme 3: Competences Needed</b></p>	<p><b>Theme 4: Challenges Faced</b></p>
<p><b>Code 1: Materials Adaptation:</b>                  -adapting materials to the students' -</p>	<p><b>Code 1: Related to Teachers:</b>                  -heavy workload</p>

<p>level, - age, - interests, -culture  - adapting materials to classroom's – size,  - physical setting, - available equipment and facilities  - adapting materials in order to - catch up with the program, - not to waste time, - to motivate sts.,  -make it more achievable to sts (in terms of level)</p> <p><i>-adaptation techniques:</i> - omitting, - reducing, - replacing, - simplifying, - transforming (i.e., changing the format), - changing the content (e.g., names, characters, topic, examples etc.), - changing the sequence</p> <p><b>Code 2: Materials Design:</b>  -Design materials -to teach language skills, -as it is cost-effective,- no need to search for materials  to teach effectively at different circumstances (e.g. different schools, departments etc.), with limited/no resource at all</p> <p><b>Code 3: Materials Use:</b>  -Use various materials (printed, real, authentic, technological)  materials use: - in large classes, - with mixed ability groups, - in different departments (i.e., different fields of study), - without technology, - to motivate sts, - to attract sts. attention, - on smart boards, designed with new technology</p> <p><b>Code 4: Materials Selection:</b>  -select appropriate materials for sts. at vocational and technical schools (with different departments e.g., printing press operation, computer programming, hairdressing, early childhood education) very limited or no resource to teach these sts.</p>	<p>-no/limited time  -difficulty in classroom management  -not being free to choose coursebook (being obliged to use MoNE prescribed coursebook )  -lack of knowledge:  -regarding the new program  - regarding teaching methods and techniques (e.g.TEYL)</p> <p><b>Code 2: Related to Students:</b>  a) General:  - age characteristics  - behavioral problems  - psychological and emotional turmoil  - tiredness (10 hours a day)  - lack of/poor concentration  b) Attitude towards language:  - not being interested  - lack of intrinsic motivation to learn English  - frustration  - fear of making mistakes  - low language level</p> <p><b>Code 3: Related to Materials</b>  -boring and dull  -too much listening (no CD available)  -sequence of topics (not from easy to diff.)  -repetition of activities  -lack of authenticity  -too many details/unnecessary points  -difficult to follow (for very young learners)  - no coursebook differentiation (i.e., same coursebook for - all types of high schools: e.g., vocational, general, Anatolian) and for different departments of vocational high schools  -outdated  -ineffective (not working) parts/sections  -inappropriate to sts' level (i.e., too many unknown words, too difficult)</p> <p><b>Code 4: 4. Related to School Infrastructure</b></p>
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	<p>a. Technical Problems -lack of/difficulty of photocopy facilities - lack of/faulty CD players and speakers - lack of technological facilities (e.g., computers, projectors etc.)</p> <p>b. Physical Setting - overcrowded classrooms - mixed ability classes - seating arrangement (e.g., fixed chairs, no space to move around)</p> <p><b>Code 5: Related to English Curriculum and language teaching policies of MoNE</b></p> <p>-insufficient teaching hours - too loaded curriculum (i.e., too many objectives versus not enough time -no/little language content in national exams (e.g., TEOG and LYS) - MoNE' not providing the necessary materials (e.g., teacher's book and listening CDs) -same objectives and exams for all students (e.g., Anatolian, Vocational Technical high schools etc.) - insufficient introduction of the current program to stakeholders: teachers, students and parents</p>
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Note: sts.: students





## The Role of Parents' Empathic Tendencies in Children Value Acquisition\*

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### ABSTRACT

**Purpose:** The present study aims to reveal the predictive role of parents' empathic tendencies in children value acquisition.

**Research Methods:** We conducted a relational survey study, including 170 children aged 60-72 months, 85 of whom were girls and 85 were boys, who were attending the kindergarten school in Malatya City, and their parents. The Pre-school Values Scale Student Form, Empathy Tendency Scale and Sociodemographic Information Form were used to collect data.

**Findings:** Results indicated that there was a significant positive correlation between value of children and parent's empathic tendencies. As empathic and sympathetic tendencies of parents increased, the children's respect, honesty,

responsibility, cooperation, friendship and sharing scores increased. The findings showed that the values which had the highest average score were sharing, respect and honesty among the study group. Although the mean total empathy level of the mothers was higher than the fathers', it was found that father empathy level was positively related with the child value levels, suggesting that the fathers had important role in child value education.

**Implications for Research and Practice:** Parent training can be organized to increase the empathy skills of the families. Besides, different studies can be carried out to examine the factors affecting children's value acquisition.

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## Introduction

Preschool education encompasses the time that starts from the child's first day in life up to the age of compulsory formal education, and therefore considered to have a profound effect on the subsequent lives of children. In fact, it is a period in which physical, psycho-motor, social-emotional, mental and Language developments are completed to a great extent, personality is shaped and the child is constantly changing (Aral and Kandir, 2011). Accordingly, it is clear that early childhood is a critical period for the acquisition of skills and competencies that serve as a groundwork for lifelong adaptation and functioning (Shonkoff & Phillips, 2000; Act: Sheridan, Knoche, Edwards, Bovaird & Kupzyk, 2010). The preschool period is the first period when the foundations for the acquisition of values are laid down. Ensuring that children adopt the values instilled by their parents starting from the early childhood can contribute significantly to the maintenance and continuation of integrity and peace of the society (Alpoge, 2011; Aydin and Akyol Gurler, 2012; Hokelekli, 2011; Nesliturk and Celikoz, 2015; Ozen, 2011). In addition to the values retained from childhood, it is seen that the majority of the behaviors gained during childhood significantly shape an individual's personality traits, habits, beliefs and value judgments in adulthood (Oktay, 2010).

The preschool period holds an important place for the development of social-emotional learning items, such as a child's self-perception, managing feelings and behaviors, sharing and of the values they support (Halstead, Foreword, Aspin, & Chapman, 2007). Values are essentially unchanged. However, they may vary at an individual level by many factors, such as social characteristics of the environment in which the individual lives, education and experiences (Uyanik Balat and Dagal Balaban, 2009). In general, the education of the individual in the family, the education he/she receives at school and the structure of the society he/she is a part of are influential on the shaping core values acquired from the preschool period. All these are the factors that make up the value (Sridhar, 2001). In the most common definition in the literature that values are desirable goals that guide people's live and differ in importance (Saygili, 2015). Children begin to comprehend values in parallel with moral development, but from the beginning of life, they realize thought the adults around them (Oktay, 2011). According to Neifert, values develop at different times. For example, at 11-18 months, could be kind, not harming animals and not bite family members. At 18-24 months, the use of words like 'please' and 'thank you', describe his/her feelings, being empathic and sharing. When he/she is at 3-4 years old, he/she can learn group work and to behave according to rules; at 4-6 age can understanding the reasoning, engaging in moral conversations and knowing that lying is wrong and when he/she is at 6-8, he/she knows that he/she is responsible for his/her own behavior (Cited by: Uyanik Balat and Balaban Dagal, 2009).

Values included in this study are respect, honesty, responsibility, sharing, cooperation and friendship. These values appear as social values according to Spranger (1928) and look similar to the classification of Schwartz. According to Spranger (Cited by: Akbas, 2004), what is essential in social values is to love, to help and not to be selfish. The highest value is human love. Gentle and sympathetic, not

selfish. Another important classification in the classification of values was made by Schwartz. In the classification made by Schwartz as a result of the extensive research he carried out, Schwartz determined 10 main value groups and sorted the values corresponding to these groups. Schwartz included 56 value items in total in the value list he formed (Schwartz, 1992). On the other hand, international examinations were conducted within the scope of values that can be considered in the context of value education in the preschool period, and a list of universal values was created. Countries but differ from each other a list of universal values along Turkey has set universal values, fairness, independence, peace, science, diligence, solidarity, sensitivity, honesty, equality, tolerance, freedom, respect, love, hospitality, responsibility, cleanliness, patriotism, healthy importance of being helpful, giving importance to the family unity (Cited by: Cengelci, 2010). In some studies, both parents and teachers stated that the values should be gained in the early childhood should be honesty, trust, respect, responsibility, happiness, justice, compassion and reliability, being a good citizen and peace and love (Balat at al., 2011; Ogelman and Sarikaya, 2015; Sezgin, 2006; Uzun and Kose, 2017).

According to Aydin (2010), values can be taught and learned. The values gained by the efforts of the individual and the influence of the environment starts from the first years of life in the family and continues in school and society. Bronfenbrenner's (1977) ecological approach emphasizes multifaceted relationships in the world of intertwined systems and demonstrates the importance of working within the context of environments in understanding the child's development. In this approach, which includes multi-layer systems, the first level of the microsystem is related to the factors related to parent and immediate environment. The mesosystem consists of the interactions of different microsystems with which the child is in interaction and the exosystem is a system that the child is not directly involved, but it consists of factors that indirectly affect the development of the child. As for the macrosystem, it includes cultural values, beliefs and ideas in society (Jedwab, Xu, Keyser & Shaw, 2019). The microsystem is the most influential system on the child's whole development in general and value development in particular. Parents are the most important elements of the microsystem. Therefore, they have a crucial role in value development. While it is possible to mention many different factors in the development of children's social behaviors, interests and tendencies, it is considered to be the parents that are known to be the most important factor (Maccoby, 2002). The personality of adults is the most influential factor in the acquisition of values. Children need to witness positive behaviors of adults to internalize the values (Uyanik Balat & Dagal Balaban 2009). Empathy tendency of parents is the most influential parental characteristic that may influence value development. It is important for children to observe their parents' empathic behaviors so that they acquire these behaviors (Oguz, 2006). In other words, the child's attainment of social maturity occurs through healthy communication with their parents and by learning the values of the society they live in (Berdard & Dhuey, 2006). Social skills are defined as behaviors that include appropriate responses in relationships, observable and unobservable cognitive-affective behaviors, and behaviors that vary according to the social environment, but it is also defined as treatable and improvable behaviors (Gresham & Elliot, 2008; Cited by: Nesliturk,

2013). One of the most important processes directly affecting the development of the child is the interaction of parents. This process, which starts with pregnancy, is the basis of safe parent-child interaction (Akar Gencer & Aksoy, 2016), and in the ensuing years, teachers, peers and environment in which the child socializes affect his understanding of the rules (Berry & O'Connor, 2010).

According to Kuczynski and Grusec (1997), children's management of internal control and value development are affected by positively or negatively owing to their communication with their parents and taking their parents as role models. Considering the parents' relationship with their children and the effects of these relationships on them, good communication and empathic emotion are supposed to be developed in the child because one of the important roles of parents is to create a positive and safe family atmosphere, to take good care of their children, to establish empathic relationships with them and to enter their personal world. Positive attitudes can only develop in such a family environment. The high level of parental empathy positively affects the level of personal adaptation of children (Oz, 1992; Eloglu, 1995; Feshbach, 1997; Swith Trawick, 2013). If parents can always show their unconditional love to their children and make them feel precious, such communication will strengthen parents' relationship with their children and will help children develop a positive personality structure (Shapiro, 2000). In a study conducted by Barni et al. (2011), family values and ways of transferring these values to children were examined. According to the results of the questionnaire, the similarities and differences between the social values of the families and the personal values of the youth were determined, and findings showed was determined a moderate level of value acceptance between the families and the youth. All the predictors except the value agreement among the families were found to be positively related. In another study conducted by Flannagan and Hardee (1994), effective communication within the family was found to be associated with the message, speech and empathy. In the same study, mothers' communication with their children was found to be better than fathers. In the study conducted with 66 mothers and their 4-year-old children, effective communication between mother and child was found to be the basis for the child to establish positive relationships with peers and other people around them.

Empathic relationships between parents and their children will increase the positive relationship between them and most likely minimize behavioral problems. It is obvious that communication and empathic relationship are crucial in the family, where values are first taught. Developing empathy is a skill that one must have in the process of values education because it provides reflective thinking and acting with tolerance (Doganay, 2009). The earlier the child encounters the empathic reactions, the easier it will be to adopt ethical principles (Damon, 1988). A child who grows in an empathic environment in the preschool period, in which the foundations of personality and therefore the values are laid, will be able to develop a good personality trait with the help of correct role models around him/her and be an individual with a high level of values in the society. In values education, families should first create a tolerant, democratic and warm family environment for their children. In such a family, values are transferred to children with love and persuasion. That parents set an

example to their children, emphasize values by acting together, children see good examples, spend quality time with their parents, healthy discussion environments created in the family and special days of sharing provide an opportunity to teach values to children in the family. Talking about good and bad behaviors by setting up logical rules makes it easier for children to learn why values are important both for themselves and for their social environment. Expectations appropriate to a child's age and developmental characteristics facilitate the internalization of values over time (Uyanık Balat and Dagal Balaban, 2009; Aydın and Akyol Gürler, 2012).

When the studies on values in the preschool period are examined, the studies in the literature are mostly based on the views of teachers on the value acquisition of children (Akto, 2017; Bartan, 2018; Bilmez ve Tarkocin, 2017; Cetin Korkmaz, 2019; Dal, 2018; Erkus, 2012; Kuzu, 2015; Sahin, 2017). In very few studies, parents' and teachers' opinions were taken together (Deniz, 2019; Yildirim, 2019). On the other hand, in some studies, the effectiveness of a curriculum or teaching method was examined (Akgün, 2018; Bakan, 2018; Dereli İman, 2014; Erikli, 2016; Kaya, Günay ve Aydın, 2016; Kapkin, 2018; Kilic ve Ayaz, 2018; Kilic, 2017; Kocyigit, 2019; Neslitürk, 2013; Sapsaglam, 2016). Differently in this study, **the main purpose is to reveal the predictive role of parents' empathic tendencies in children value acquisition.** It can be said that it is important to present the values with an empathic approach for children to internalize values recognized by society. From this point of view, the predictive role of parents' empathy tendencies in children's values acquisition seen as worthy of investigation. Within the framework of this general objective, answers to the following questions were sought:

1. What is the values level of kindergarten children aged 60-72 months?
2. What are the empathy tendency levels of parents of kindergarten children aged 60-72 months?
3. Is there a significant correlation between the values level of kindergarten children aged 60-72 months and their mothers' empathic tendencies?
4. Is there a significant correlation between the values level of kindergarten children aged 60-72 months and their fathers' empathic tendencies?
5. What are the impacts of the mother's empathy tendency on the values level of kindergarten children aged 60-72 months?
6. What are the impacts of the father's empathy tendency on the values level of kindergarten children aged 60-72 months?

## Method

### Research Design

The present study aimed to reveal the predictive role of parents' empathic tendencies in children value acquisition, and for this purpose, the relational survey model was employed. The survey model is a research approach that aims to depict past or current situation as it is (Karasar, 2000). In accordance with this model, efforts were made to establish the presence and existence of relationships between variables (Crano and Brewer, 2002).

### Research Sample

The study group consisted of 170 kindergarten children aged 60-72 months, from the district of Yeşilyurt of the province of Malatya and their parents. Table 1 gives the demographic information of the children included in this study.

**Table 1**

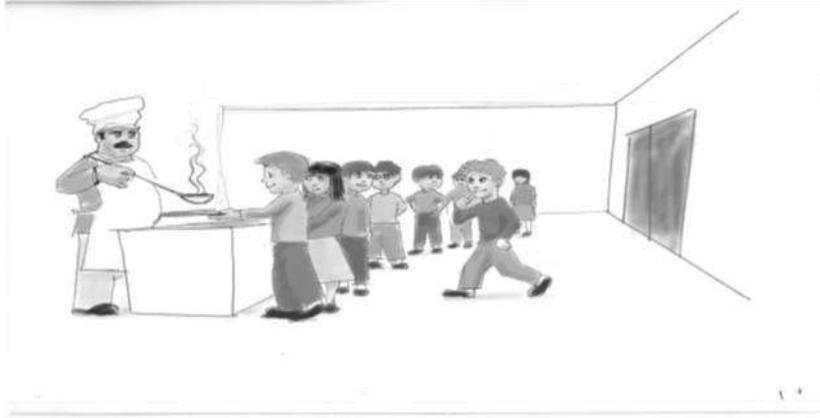
*Socio-Demographic Characteristics of Students and their Parents*

Demographic Characteristics	Groups	n	%
Gender	Female	85	50,0
	Male	85	50,0
Preschool education period (year)	1	118	69,4
	2	23	13,5
	3	29	17,1
Mother's age (years)	30 and less	29	17,1
	31-35	70	41,2
	36-40	47	27,6
	41 and above	24	14,1
Father's age (year)	35 and less	56	32,9
	36-40	65	38,2
	41-45	28	16,5
	46-50	21	12,4
Mother's level of education	Primary education	47	27,6
	High School	66	38,8
	University	33	19,4
	Postgraduate	24	14,1
Father's level of education	Primary education	23	13,5
	High School	55	32,4
	University	69	40,6
	Postgraduate	23	13,5

Of the 170 children who participated in this study, 50% were girls and 50% were boys. 69.4% of the children have been receiving preschool education for one year. Of parent mothers, 41.2% between 31 and 35 years old and of parent fathers, 38.2% between 36 and 40 years old. Educational status of the parent mothers was 38.8% high school graduate and educational status of the parent fathers was 40.6% university graduate (Table 1).

### Research Instruments and Procedures

Three data collection tools were used in this research. The first data collection tool was the information form for socio- demographic data. The second was the Preschool Values Scale (PVS), which was developed and reliability and validity studies of which were performed by Neslitürk and Celikoz (2015). The scale has three forms: parent, teacher and student forms. In this study, the student form of the scale was used. The student form consists of 18 picture cards in total. The scale has a total of six sub-dimensions, including respect, responsibility, honesty, cooperation, sharing and friendship. In this study, the reliability coefficient of the tool was calculated as 0.83 according to the test split method. A visual and story example used in the scale can be found below. The child is first shown the picture and the story is told, and then the question is directed. The score is calculated according to the child's response.



Story: The Children in the given pictures go to kindergarten like you. They take their meals by waiting for the food line. Ahmet's class is waiting the food line. Ahmet comes later. He is very hungry; he looks at the food line and sees his close friend Arda is in front of the food line.

QUESTION: What should Ahmet do now, where should he go? Why?

The child's response will be evaluated as follows:

0 point for choosing in front of the food line

1 point for choosing behind the food line

2 points if the child explains his/her reasons by reasoning any of these: it can be unjust, it can be disrespectful, or he came later.

The third was Empathy Tendency Scale (ETS), which was developed and reliability and validity studies of which were performed by Dökmen (1988). The scale was a 20-item five-point Likert type scale. The Scale was composed of the following three sub-dimensions: Self-centered Tendency, Empathic Tendency and Sympathetic Tendency.

The statements of the scale are of five-point Likert type (1: totally contrary, 5: totally compatible) and items (item 3, 6, 7, 8, 11, 12, 13, 15) with a negative statement in subdimension "self-centered tendency" are coded in the reverse order to calculate the total score of empathic tendency scale. In this study, the calculated Cronbach Alpha coefficient of the scale was 0.72 for mother form and 0.66 for father form.

The parents who volunteered to participate in this study were asked to complete ETS and the information form. PVS was applied to the children of parents who completed ETS and the information form.

To conduct this research, the necessary legal permissions were first obtained from the Ethics Committee of Okan University and then from Malatya Provincial Directorate of National Education. Then, an information meeting was held with the parents in the study group, and the empathy tendency scale was applied to the volunteer parents. After the empathy tendency scale collected, the preschool values scale developed by Nesliturk and Celikoz (2015) was used to measure one-to-one value levels of volunteer parents with their children. The children were then taken to a quiet environment by telling them we are going to play a game with 18 picture cards, and after that, the questions were asked by showing the pictures on the cards and scoring was made according to the given responses. Before starting to study with children, they were told that they could leave the study at any time and not answer the question they did not want. The activity with each child lasted approximately 15 minutes.

#### *Data Analysis*

The data obtained in the study were analyzed using the SPSS 15.0 program. The mean, standard deviation and skewness scores of the scales are shown in the table of descriptive statistics. Pearson correlation was used to analyze the relationship between the values level of children and empathy levels of parents and Regression analysis was used to determine the level of the relationship and the extent of its effectiveness. The level of significance in analyses was specified as 0.05 ( $p < 0.05$ ).

### **Results**

The data collected in this study, which aimed to determine the relationship between the values level of kindergarten children aged 60-72 months and empathy tendencies of their parents, were assessed and analyzed, and the findings were given in the tabulated form.

Descriptive statistics of the scores of the recruited children from the child value scale and the scores of the parents from the empathy tendency scale are given in Table 2.

**Table 2**

*Descriptive Statistics of the Variables*

	<b>Scale and Sub-dimensions</b>	<b>Min.</b>	<b>Max.</b>	<b>Mid.</b>	<b>SD</b>	<b>Distortion</b>
Children	Respect	1,00	6,00	3,68	1,13	0,07
	Honesty	1,00	6,00	3,59	1,27	0,14
	Responsibility	1,00	6,00	3,36	1,00	-0,09
	Sharing	1,00	6,00	3,70	1,21	-0,10
	Cooperation	0,00	6,00	2,99	1,44	-0,09
	Friendship	0,00	6,00	3,41	0,96	0,47
	Value level	9,00	30,00	20,72	4,86	-0,02
Mother	Empathic Tendency	2,78	4,89	3,88	0,44	-0,24
	Self-centered tendency	1,29	4,71	2,72	0,60	0,39
	Sympathetic Tendency	2,00	4,75	3,45	0,46	-1,02
	Empathy level	43,00	80,00	61,55	7,63	-0,37
Father	Empathic Tendency	2,56	5,00	3,93	0,47	-0,36
	Self-centered tendency	1,14	4,43	2,85	0,65	0,02
	Sympathetic Tendency	1,00	4,50	3,16	0,63	-0,74
	Empathy level	44,00	84,00	<b>59,34</b>	7,21	0,18

In this study, the values with the highest mean score were sharing (3,70) respect (3,68) and honesty (3,59). In this study, mean total score of mother empathy level 61,55 was higher than mean total score of father empathy level 59,34 (Table 2).

Table 3 shows the results of the Pearson Correlation Analysis between the scores from the values level scale of the recruited children and mother empathy tendency scores.

**Table 3.**

*The results of the Pearson Correlation Analysis between Children's Level of Values and Mother Empathy Tendency Scores*

Scale and Subdimensions	2	3	4	5	6	7	8	9	10	11
1-Respect	0,41 **	0,54**	0,51 **	0,27 **	0,35 **	0,73 **	0,16*	-0,38 **	0,21 **	0,20**
2-Honesty	1	0,23**	0,37 **	0,54 **	0,38 **	0,73 **	0,01	-0,31 **	0,24 **	0,20*
3-Responsibility		1	0,47 **	0,31 **	0,34 **	0,67 **	0,01	-0,32 **	-0,06	0,17*
4-Sharing			1	0,21 **	0,38 **	0,70 **	-0,12	-0,37 **	0,16*	0,12*
5-Cooperation				1	0,32 **	0,68 **	-0,09	-0,21 **	-0,06	0,02
6-Friendship					1	0,64 **	0,21 **	-0,09	0,19*	-0,05
7-Children's level of values						1	-0,13	-0,41 **	0,16*	0,16*
8-Empathic tendency							1	-0,13*	0,38 **	0,66**
9-Self-centered tendency								1	-0,05	-0,66**
10-Sympathetic tendency									1	0,44**
11-Empathy level										1

\*: p<0,05 \*\*: p<0,01

According to the results of Pearson correlation analysis showing the correlation between the child value level scores and the mother empathy tendency (see Table 3), the respect scores was found to have positive and significant correlations with mother empathy tendency ( $r = 0.16$ ;  $p < 0.05$ ), sympathetic tendency ( $r = 0.21$ ;  $p < 0.01$ ) and the empathic tendency total scores ( $r = 0.20$ ;  $p < 0.01$ ). Negative and significant correlation was found between the respect scores and the mother's self-centered tendency ( $r = -0.38$ ;  $p < 0.01$ ). A positive and significant relationship was found between the honesty scores and the mother sympathetic tendency ( $r = 0.24$ ;  $p < 0.01$ ) and the total empathic tendency scores ( $r = 0.20$ ;  $p < 0.01$ ). There was a negative and significant relationship between the honesty scores and the mother's self-centered tendency ( $r = -0.31$ ;  $p < 0.01$ ). A positive and significant relationship was found between the responsibility scores and the mother empathic tendency total scores ( $r = 0.17$ ;  $p < 0.05$ ). A negative and significant relationship was found between the responsibility scores and the mother's self-centered tendency ( $r = -0.322$ ;  $p < 0.01$ ). A positive and significant relationship was found between the sharing scores and the mother sympathetic tendency ( $r = 0.16$ ;  $p < 0.05$ ) and the total scores of empathic tendency ( $r = 0.12$ ;  $p < 0.05$ ). A negative and significant correlation was found between the sharing scores and the mother's self-centered tendency ( $r = -0.37$ ;  $p < 0.01$ ). A negative and significant relationship was found between the cooperation scores and the mother's self-centered tendency ( $r = -0.21$ ;  $p < 0.01$ ). The friendship scores had positive and significant correlations with the mother empathic tendency ( $r = 0.21$ ;  $p < 0.01$ ) and sympathetic tendency ( $r = 0.19$ ;  $p < 0.05$ ). A positive and significant correlation was found between the total scores of the child value scale and the mother sympathetic tendency ( $r = 0.166$ ;  $p < 0.05$ ) and the total scores of empathic tendency ( $r = 0.16$ ;  $p < 0.05$ ). A negative and significant relationship was found between the total scores of the child value scale and the self-centered tendency of the mother ( $r = -0.41$ ;  $p < 0.01$ ) (see Table 3).

**Table 4**

*The results of the Pearson Correlation Analysis between Children's Level of Values and Father Empathy Tendency Scores*

Scale and Sub-dimensions	2	3	4	5	6	7	8	9	10	11
1-Respect	0,41**	0,54**	0,51**	0,27**	0,35**	0,73**	0,17*	-0,31**	0,08	0,26**
2-Honesty	1	0,23**	0,37**	0,54**	0,38**	0,73**	0,19*	-0,13	-0,14	0,03
3-Responsibility		1	0,47**	0,31**	0,34**	0,67**	0,07	-0,10	0,19*	0,13
4-Sharing			1	0,21**	0,38**	0,70**	0,23**	-0,31**	0,05	0,19*
5-Cooperation				1	0,32**	0,68**	0,09	-0,07	0,16*	0,07
6-Friendship					1	0,64**	0,22**	-0,12	0,01	0,19*
7-Children's level of values						1	0,23**	-0,25**	-0,01	0,20**
8-Empathic tendency							1	-0,36**	-0,02	0,68**
9-Self-centered tendency								1	0,04	-0,70**
10-Sympathetic tendency									1	0,21**
11-Empathy level										1

\*: p<0,05 \*\*: p<0,01

The Pearson correlation analysis demonstrating the relationship between child value level scores and father empathy tendency (see Table 4) showed that the respect scores had positive and significant correlations with the father empathy tendency ( $r = 0.17$ ;  $p < 0.05$ ) and the empathic tendency total scores ( $r = 0.26$ ;  $p < 0.01$ ). A negative and significant relationship was found between the respect scores and the father's self-centered tendency scores ( $r = -0.31$ ;  $p < 0.01$ ) (see Table 4). A positive and significant relationship was found between the honesty scores and the father sympathetic tendency scores ( $r = 0.19$ ;  $p < 0.01$ ) (see Table 4). A positive and significant relationship was found between the responsibility scores and the father sympathetic tendency scores ( $r = 0.19$ ;  $p < 0.05$ ) (see Table 4). A positive and significant relationship was found between the sharing scores and the father empathy tendency ( $r = 0.23$ ;  $p < 0.05$ ) and the total scores of empathic tendency ( $r = 0.19$ ;  $p < 0.05$ ). A negative and significant relationship was found between the sharing scores and the self-centered tendency of the father ( $r = -0.31$ ;  $p < 0.01$ ) (see Table 4). A positive and significant relationship was found between the cooperation scores and the father's sympathy tendency scores ( $r = 0.16$ ;  $p < 0.05$ ) (see Table 4). The friendship scores had positive and significant correlations with the father empathy tendency ( $r = 0.22$ ;  $p < 0.01$ ) and the empathic tendency scale total scores ( $r = 0.19$ ;  $p < 0.05$ ) scores (see Table 16). The total scores of child value scale was found to have positive and strong correlations with father empathy tendency ( $r = 0.23$ ;  $p < 0.05$ ) and empathic tendency scale total scores ( $r = 0.20$ ;  $p < 0.05$ ). A negative and significant relationship was found between the total scores of the child value scale and the self-centered tendency of the father ( $r = -0.25$ ;  $p < 0.01$ ) (see Table 4).

**Table 5***The Results of Multiple Regression Analysis Regarding the Effects of Mother Empathy Tendency on Children's Level of Values*

Independent Variables	B	SH <sub>B</sub>	β	t	p
Fixed	24,313	3,060		7,947	0,000
Self-centered tendency	-3,234	0,561	-0,403	-5,766	0,000
Sympathetic Tendency	1,506	0,742	0,142	2,030	0,044
R=0,433    R <sup>2</sup> =0,188    ΔR <sup>2</sup> =0,178					
F <sub>(3;166)</sub> =18.831    p=0.000					

It is clear that the model demonstrating the relationship between the mother empathy tendency comprising the variables of mother self-centered tendency and sympathetic tendency and children's level of values is suitable ( $F(2;167)=19.27$ ;  $p<0.05$ ). Mother self-centered tendency and sympathetic tendency account for approximately 18% of the total variance in the variable of children's level of values ( $\Delta R^2=0.178$ ). When t-test result regarding the significance of regression coefficient was examined, the variable of mother self-centered tendency ( $t=-5.77$ ;  $p<0.01$ ) had a negative significant effect on children's level of values, mother sympathetic tendency had a positive significant effect on children's level of values ( $t=2.03$ ;  $p<0.05$ ) (see Table 5). According to the standardized regression coefficients ( $\beta$ ), the order of importance of mother empathic tendency on children's level of values was mother self-centered tendency ( $\beta = -0.40$ ) and mother sympathetic tendency ( $\beta = 0.14$ ). According to the results of the regression analysis, the mathematical model for estimating children's level of values is as follows: Children's level of values =  $24.31 - 0.40 \cdot \text{ABME} + 0.14 \cdot \text{ASE}$ .

Table 6 gives the results of Multiple Regression Analysis conducted to see the effects of the empathy level of the recruited fathers on children's level of values.

**Table 6***The Results of Multiple Regression Analysis Regarding the Effects of Father Empathy Tendency on Children's Level of Values*

Independent Variables	B	SH <sub>B</sub>	β	t	p
Fixed	18,009	4,537		3,969	0,000
Empathic Tendency	1,714	0,828	0,165	2,071	0,040
Self-centered tendency	-1,415	0,592	-0,190	-2,389	0,018
Sympathetic Tendency	0,003	0,572	0,000	0,005	0,996
R=0,293    R <sup>2</sup> =0,086    ΔR <sup>2</sup> =0,069					
F <sub>(3;166)</sub> =5,207    p=0,002					

It is clear that the model showing the relationship between the father empathy tendency comprising the variables of father empathic tendency, self-centered tendency and sympathetic tendency and children's level of values is suitable ( $F(3;166)=5.21$ ;  $p<0.05$ ). Father empathic tendency accounts for approximately 7% of the total variance in the variable of children's level of values ( $\Delta R^2=0.069$ ). When t-test results regarding the significance of regression coefficient was examined, the variable of father empathic tendency had a positive significant effect on children's level of values ( $t=2.07$ ;  $p<0.05$ ), and the variable of father self-centered tendency had a negative significant effect on

children's level of values ( $t=-2.39$ ;  $p<0.01$ ) (Table 6). Father sympathetic tendency had no significant effect on children's level of values ( $p>0.05$ ). According to the standardized regression coefficients ( $\beta$ ), the order of importance of father empathic tendency on children's level of values was father self-centered tendency ( $\beta=-0.19$ ), father empathic tendency ( $\beta=0.17$ ) and father sympathetic tendency ( $\beta=0.00$ ).

According to the results of the regression analysis, the mathematical model for estimating children's level of values is as follows: Children's level of values =  $18,01 - 0,19*BBME + 0,17*BEE + 0,00*BSE$ .

### **Discussion, Conclusion and Recommendations**

In this study, the role of parents' empathic tendencies in children's value acquisition was investigated. The values of children with the highest mean score were sharing, respect and honesty. Sezgin's study (2006) in which teachers were asked about the values they prioritize concluded that teachers prioritize the values of honesty, trust and respect the most. A study by Uyanik Balat et al. (2011) suggested that the universal values parents wish for their children to have are honesty, responsibility, respect, happiness, justice, compassion and reliability, being a good citizen and peace. In a study conducted on preschool teachers by Ogelman and Sarikaya (2015), the first three values that should be fostered in preschool children as listed by teachers were respect, responsibility and love. As a result of a study by Dirican and Daglioglu (2014), which investigated children's picture storybooks in terms of the values they contain, the authors found that the values most cited in books were the values of love, sharing, friendship, happiness and kindness. It is clear that the value of respect can be said to distinctly come to the fore and emphasis on these values by families, teachers and children's storybooks leads to the adoption of these values by children to a larger extent. In the study, the total mean score of the mother empathy level was higher than the total mean score of the father empathy level. In their studies on the development of empathy between 7-14 years of age and sibling relationships in transition to adolescence, Lam, Solmeyer and McHale (2012) found that girls' empathy levels increased during adolescence transition. Then, their level of empathy remained relatively unchanged, but boys' low level of empathy remained relatively unchanged. Akbulut and Saglam (2010) studied the empathic tendencies of classroom teachers concerning some variables and concluded that female classroom teachers' mean empathic tendency score was higher than male classroom teachers' mean empathic tendency score. Ozkan (2014) examined the empathy levels of the preschool and classroom teachers by gender and reached findings in favor of female teachers. Similarly, Celik (2008) stated that female preschool teachers had higher empathy levels than male teachers. Dokmen (2008) explains the success of women in developing empathy by development overtime of their ability to protect themselves against dangers, such as beating, being told off, harassment and rape, in a male-dominated society. However, there are also studies that found no significant difference between empathy and gender in the literature (Ercoskun, 2005; Genc and Kalafat, 2008). It is argued that the difference in empathy tendencies between men and women can be explained by the concept of social gender. The difference in empathic tendency

between females and males may arise from factors, such as that female children are raised more sensitive to events and people during their upbringing, female children are expected to focus on the reason and solution of problems, women are seen in the position of unifiers and relationship-builders-balancers, women are held responsible for household relationships and affairs, men do not talk about both their feelings and feelings of others or emotionality is not reconciled with masculinity.

At the end of this study, a positive significant relationship was established between children's level of values and parent empathy tendency. A positive significant correlation was established between the children's respect, honesty, responsibility, cooperation, friendship, sharing scores and parents' total mean scores of empathic tendency, sympathetic tendency and empathic tendency. There is a positive relationship between parents' empathic and sympathetic tendencies and children's value level. There was a negative significant correlation between the children's respect, honesty, responsibility, cooperation, friendship, sharing scores and parents' self-centered tendency scores. Children's level of values increased with decreasing the self-centered tendency of the parents, and vice versa. Piaget argues that self-centeredness decreases with increasing ability to develop empathy (Acun Kapikiran, 2009). Nesliturk (2013) applied the maternal values education program of kindergarten children and examined the effects of this program on children's social skills. Nesliturk observed that the social skills of children of the mothers included in the program are enhanced. Nesliturk's study shows that education given to a parent contributes positively to the values level of children. Gunindi (2008) examined the social adaptation skills of preschool children and their parents' empathic skills and concluded that the parents' empathic skill scores increased with increasing social adaptation skill scores of the children. Gunindi's study demonstrated that a parent's empathic tendency positively affects his/her child's social adaptation. Similarly, Kuczynski and Hildebrandt (1997) demonstrated the existence of a positive relationship between parent and child as the basis for children's internal control and successful socialization. Similarly, the current study showed that a parent's empathic tendency positively affects his/her child's level of values.

When parents are supportive, consistent, and warm toward their children, children will come to internalize a view of themselves as being important and worthy of love, which is known to support the development of positive views of the self in children (Thompson, 2006). Positive self-perception and high self-esteem in children are thought to play an important role in values acquisition. In this context, the nature of the relationship between the parent and the child is becoming very important and plays a decisive role in the child's building social relationships in harmony with the environment, developing a personality that they will be at peace with and act as a productive person in society (Bracha, Perez, Gerardin, Perriot, Rosque, Flament, Leroux, Mazet & Carter, 2004). For example, it has been determined that negative parenting has an adverse effect on children's relationship with their peers (Georgia, Stravnides and Georgiou, 2016). However, Korukcu (2004) did not find any significant relationship between children's self-esteem scores and their mothers' empathic skill level. Korukcu ascribed this to the number of samples or personality traits of samples

in the study group. In a different study, Rogers (1975) concluded that there is a positive relationship between teachers' level of empathy and the academic achievement levels of students. Rogers' study revealed that empathic adults have positive effects on children. Acun Kapikiran (2007) examined university students' moral behaviors in terms of empathic tendency and self-adjustment and concluded that students with higher scores of personal moral character have a higher empathic tendency. This result means that individuals with high empathic tendency also have high moral values. Therefore, the fact that children of parents with high empathy levels had high-value levels may have arisen from the fact that these parents had a high level of values. When children see that universal values exist in their social environment, they will adopt these values and reflect them to their lives (Uyanik Balat, 2006). Empathic behavior exhibited by parents to both their child and others in the presence of the child has an important effect on fostering empathy and prosocial behaviors in children (Cotton, 2001). In this study, empathic levels of both mothers and fathers were correlated positively with the children's level of values. The children of parents who act lovingly towards their child, build empathy with their children and teach them how to build empathy are more sensitive to the sorrows and worries of others (San Bayhan and Artan, 2005). This is, in turn, closely related to children's values acquisition. In the current study, parents with a high empathic tendency had children with a high level of values, which is in good agreement with previous studies in the literature. According to this result, the empathic approach can be said to be important in values education.

Because this study was conducted not only with mothers but also with fathers and that father empathy levels were positively correlated with children's level of values suggests that fathers take on an important role in child development and education. Recent research on the role of fathers in child development has gained pace (Bronte-Tinkew, Carrano, Horowitz and Kinukawa, 2008; Downer, Campos, McWayne, and Gartner, 2008; Endendijk et al., 2013; Marsiglio et al., 2000; Unlu Cetin, 2015; Author, 2018; Zeybekoglu, 2013). On the other hand, now, the changing roles of the fathers have become a subject of debate (Kuzucu, 2011). This study supports that fathers are important and indisputable figures in child care and education.

Increasing the empathy skills of families is important for raising generations with healthier personality and social peace. In this context, training should be organized to strengthen family communication and increase the quality of the parent-child relationship. In this study, sharing, honesty and respect were found as the values that are most possessed by the children. At this point, it should be remembered that values education should be structured on universal values in the context of value acquisition in the preschool period. The importance of value education at an early age indicates that value education should be more involved in pre-school education. Both educators and program developers should focus more on pre-school value education. This study was conducted with children attending kindergarten. New studies can compare children with and without preschool education. Thus, the effects of preschool education on child value development can be investigated more accurately. Experimental studies can be designed in which value education applications can be

made. Various studies can be planned that will reveal the role of peer and teacher in value education.

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## Çocukların Değer Edinimlerinde Ebeveynlerin Empatik Eğilimlerinin Rolü

### Atıf:

Yakupogullari, A., & Yagan Guder, S. (2020). The role of parents' empathic tendencies in children value. *Eurasian Journal of Educational Research*, 86, 223-248, DOI: 10.14689/ejer.2020.86.11

### Özet

*Problem Durumu:* Bronfenbrenner'in biyoekolojik yaklaşımı iç içe geçmiş sistemler dünyasında çok yönlü ilişkileri vurgular ve çocuğun gelişimini anlamada çevre bağlamında bu sistemlerin önemini gösterir. Çok katmanlı sistemleri içeren bu yaklaşımda, mikro sistemin ilk seviyesi ebeveyn ve yakın çevre ile ilgili faktörleri içerir; Mezosistem, çocuğun etkileşime girdiği farklı mikrosistemlerin etkileşimlerinden oluşur ve ekosistem, çocuğun doğrudan dahil olmadığı bir sistemdir, ancak çocuğun gelişimini dolaylı olarak etkileyen faktörlerden oluşur. Makrosisteme gelince, bir toplumdaki kültürel değerleri, inançları ve fikirleri içerir. Mikrosistem, çocuğun genel olarak tüm gelişimi ve özellikle değer gelişimi için en etkili sistemdir. Ebeveynler, mikrosistemin en temel unsurudur. Bu nedenle, değer geliştirmede çok önemli bir rolü vardır. Çocukların sosyal davranışlarının, ilgi alanlarının ve eğilimlerinin gelişiminde birçok farklı faktörden söz etmek mümkün olmakla birlikte, en önemli faktör ebeveynler olarak kabul edilmektedir. Yetişkinlerin kişiliği, değerlerin kazanılmasında en etkili faktördür. Çocukların değerleri içselleştirmek için yetişkinlerin olumlu davranışlarına tanık olmaları gerekir. Ebeveynlerin empati eğilimi, değer gelişimini etkileyebilecek en etkili ebeveyn özelliğidir. Çocukların bu davranışları kazanabilmeleri için ebeveynlerinin empatik davranışlarını gözlemlemeleri önemlidir.

*Araştırmanın Amacı:* Araştırmada anaokuluna devam eden 60-72 aylık çocukların değer edinimlerinde anne ve babalarının empati eğilimlerinin rolünü ortaya koymak amaçlanmıştır. Bu genel amaç çerçevesinde araştırmada şu sorulara cevap aranmıştır.

1. Anaokuluna devam eden 60-72 aylık çocukların değer düzeyleri nedir?
2. Anaokuluna devam eden 60-72 aylık çocukların annelerinin ve babalarının empati eğilim düzeyleri nedir?
3. Anaokuluna devam eden 60-72 aylık çocukların değer düzeyi ile annelerinin empati eğilimleri arasında anlamlı bir ilişki var mıdır?
4. Anaokuluna devam eden 60-72 aylık çocukların değer düzeyi ile babalarının empati eğilimleri arasında anlamlı bir ilişki var mıdır?
5. Anaokuluna devam eden 60-72 aylık çocukların değer düzeyi üzerinde annenin empati eğiliminin etkisi nedir?
6. Anaokuluna devam eden 60-72 aylık çocukların değer düzeyi üzerinde babanın empati eğiliminin etkisi nedir?

*Araştırmanın Yöntemi:* Araştırma anaokuluna devam eden 60-72 aylık çocukların değer edinimlerinde annelerin ve babaların empati eğilimlerinin rolünün araştırıldığı bu çalışmada ilişkisel tarama modeli uygulanmıştır. Araştırmanın çalışma grubunu Malatya İli merkez Yeşilyurt İlçesine bağlı anaokullarına devam eden 60-72 ay arasındaki 85'i kız 85'i erkek olmak üzere toplam 170 çocuk ve bu çocukların anneleri ve babaları oluşturmaktadır. Araştırmada üç farklı veri toplama aracı kullanılmıştır. Veri toplama araçlarından birincisi çalışma grubunun sosyo-demografik özelliklerinin belirlendiği bilgi formudur. Veri toplama araçlarından ikincisi güvenilirlik ve geçerlik çalışmaları Neslittürk ve Çeliköz (2015) tarafından yapılan Okul Öncesi Değerler Ölçeğidir (O.Ö.D.Ö.). Ölçeğin aile, öğretmen ve öğrenci için olmak üzere üç formu bulunmaktadır. Bu çalışmada ölçeğin öğrenci formu kullanılmıştır. Öğrenci formu toplam 18 resimli karttan oluşmaktadır. Ölçeğin saygı, sorumluluk, dürüstlük, işbirliği, paylaşım, dostluk/arkadaşlık olmak üzere toplam 6 alt boyutu vardır. Veri toplama araçlarının üçüncüsü ise güvenilirlik ve geçerlik çalışmaları Dökmen (1988) tarafından yapılan Empati Eğilimi Ölçeğidir (E.E.Ö.). Ölçek beşli likert tipinde 20 maddedir. Ölçek Ben Merkezli Eğilim, Empatik Eğilim ve Sempatik Eğilim olmak üzere 3 alt boyuttan oluşmaktadır.

*Araştırmanın Bulguları:* Araştırma sonucunda, anaokuluna devam eden ve çalışma grubunu oluşturan çocukların en yüksek puan ortalamasına sahip değerlerinin sırasıyla paylaşım, saygı ve dürüstlük değerleri olduğu ve annelerin empati düzeyi toplam puan ortalamasının babaların empati düzeyi toplam puan ortalamasından yüksek olduğu belirlenmiştir. Araştırma sonucunda çocuk değer düzeyi ile anne ve baba empati eğilimi arasında pozitif yönlü ve anlamlı bir ilişki tespit edilmiştir. Çocukların saygı, dürüstlük, sorumluluk, işbirliği, arkadaşlık, paylaşım puanları ile anne ve baba empatik eğilim, sempatik eğilim ve empatik eğilim toplam puanları arasında pozitif yönlü ve anlamlı ilişki tespit edilmiştir. Anne ve babaların empatik eğilimleri ve sempatik eğilimleri arttıkça çocukların değer düzeyleri artmaktadır. Çocukların saygı, dürüstlük, sorumluluk, işbirliği, arkadaşlık, paylaşım puanları ile annenin ve babanın ben merkezli eğilim puanları arasında negatif yönlü ve anlamlı ilişki tespit edilmiştir. Anne babanın ben merkezli eğilimi düştükçe çocuk değer düzeyi artmakta, anne babanın ben merkezli eğilimi arttıkça çocuk değer düzeyi azalmaktadır. empati eğilimleri yüksek olan ebeveyne sahip çocukların değer düzeylerinin, empati eğilimleri düşük olan ebeveyne sahip çocukların değer düzeylerinden yüksek olduğu saptanmıştır.

*Araştırmanın Sonuç ve Önerileri:* Bu çalışmada anne ve babaların empati eğilim düzeylerinin çocuk değer düzeylerine etki ettiği görülmüştür. Bu sonuca göre empatik yaklaşımın değer eğitiminde önemli olduğu söylenebilir. Araştırmanın sadece annelerle değil babalarla da yapılmış olması ve baba empati düzeylerinin çocuk değer düzeyleri ile pozitif şekilde anlamlı çıkması babaların çocuk bakımı ve eğitiminde önemli ve tartışmasız figürler olduğunu desteklemektedir. Anne ve babaların empati eğilim düzeylerinin artırılması çocuklara verilen değer eğitimini olumlu yönde etkileyebilir ve bu yönde çalışmalar yapılabilir. Değer gelişimine dair ebeveynlerle birlikte öğretmenler, büyük ebeveynler ve diğer unsurlar araştırma konusu yapılabilir.

*Anahtar Sözcükler:* Değer, empati, ebeveyn, çocuk.





## Supervision and Peer Supervision in Online Setting: Experiences of Psychological Counselors\*

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### ABSTRACT

**Purpose:** Psychological counseling, supervision, peer supervision, and consultation in the online setting have become widespread. This study aimed to examine the experiences and opinions of psychological counselors regarding online supervision and peer supervision.

**Research Methods:** This qualitative study included six psychological counselors as participants. The data of the study were collected using semi-structured individual interviews and a focus group interview. Written documents and transcriptions of voice recordings were analyzed based on thematic analysis.

**Findings:** The results of the study related to the supervision experiences of psychological counselors yielded the following themes: role of the supervisor, supervision process, feedback from the supervisor, and the number of psychological counselors and clients.

Similarly, themes related to experiences of psychological counselors in peer supervision were as follows: effects of the peers, professional development, and negative perceptions about peer supervision. The opinions of psychological counselors regarding online supervision and peer supervision yielded two themes: the strengths and the drawbacks of the online environment.

**Implications for Research and Practice:** Online supervision can be useful for psychological counselors. However, it is crucial for future studies to investigate the experiences of psychological counselors with diverse characteristics to gain a deeper understanding. Mixed-method studies related to online supervision and peer supervision are recommended for more detailed information. Moreover, online supervision can be provided for psychological counselors-in-training and for professionals aiming to pursue career development.

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## Introduction

Psychological counseling, supervision, peer supervision, and consultation provided in the online environment have become widespread recently. Psychological counselors are using online tools in order to provide clients the suitable resources, information, and immediate help services in case of emergencies. Supervision and peer supervision can also be conducted through online tools. Supervision is a service that is provided by an experienced counselor for a relatively less experienced counselor(s) (Bernard, 1979). Supervision supports the professional development of psychological counselors and contributes to the well-being of clients (Bernard & Goodyear, 2004). The main purposes of supervision are to encourage the professional development of psychological counselors (Cashwell & Dooley, 2001; Falender et al., 2004), increase their self-confidence, and provide psychological counselors and psychological counselors-in-training with some information and feedback about how to act creatively and flexibly while they work with their clients. Studies showed that psychological counselors can understand client's feelings more easily due to supervision (Wheeler & Richards, 2007). In addition, receiving supervision was found to be associated with improved professional development and increased self-confidence (Cashwell & Dooley, 2001; Pamukcu, 2011; Wheeler & Richards, 2007).

The studies focusing on supervision so far have generally aimed to examine the effectiveness of face-to-face supervision. However, online supervision has become more popular as technology has been integrated more into mental health. This new trend has inevitably raised new questions about online supervision. Several concepts have been used to address online supervision such as cyber supervision, Internet-based supervision, and supervision provided through technology (Rousmaniere, 2014). Methods of online supervision can widely vary, for instance, some supervisors ask for audio or video recordings of the psychological sessions from counselors via e-mail and provide supervision via telephone, while others prefer conducting supervision via video conference (Kanz, 2001).

When Internet services were relatively slow and expensive, it was believed that online supervision could be used only to support face-to-face supervision due to technical problems (Kanz, 2001). However, online supervision has been becoming an alternative in the training and supervision of psychological counselors. Online supervision has both advantages and disadvantages. If the psychological counselors receiving supervision live far away or supervisors have limited available time, online supervision might be a practical option (Abbass et al., 2011; Wheeler & Richards, 2007). On the other hand, it is necessary to consider certain disadvantages of online supervision such as security risks, technical problems like slow or frequently interrupted Internet connection, and problems to catch nonverbal messages (Kanz, 2001; Rousmaniere, 2014). Despite these disadvantages, previous studies showed that psychological counselors who received online supervision have reported high satisfaction (Conn, Roberts, & Powell, 2009; Kobak, Craske, Rose, & Wolitsky-Taylor, 2013; Xavier, Shepherd, & Goldstein, 2007), and indicated positive attitudes towards online supervision (Conn et al., 2009). Moreover, one study also showed that psychological counselors reported higher self-confidence after receiving online supervision (Weingardt, Cucciare, Bellotti, & Lai, 2009). Evidence also suggests that

therapeutic collaboration can be established between the supervisor and the psychological counselor in an online environment (Sorlie, Gammon, Bergvik, & Sexton, 1999).

Online peer supervision has also become a common practice. Peer supervision is defined as a process in which psychological counselors with similar levels of experience and knowledge supervise each other without the presence of a supervisor (Campbell, 2000). In this process, psychological counselors receive help and support from other psychological counselors. A study found that 31.7% of the school psychological counselors engaged in peer supervision (Perera-Diltz & Mason, 2012). It was also reported that peer supervision is practical, less formal and less frightening than other methods of supervision (Benshoff, 1993). Although peer supervision is a common practice among psychological counselors, studies are scarce in this field. Few studies showed that psychological counselors benefited from peer supervision by gaining more knowledge and insight, and feeling supported (Akhurst & Kelly, 2006; Benshoff, 1993; Borders, 1991). It was also reported that as a result of peer supervision, psychological counselors felt encouraged by peers, and their self-confidence improved (Akhurst & Kelly, 2006; Benshoff, 1993).

Similar to online supervision, online peer supervision can be delivered through synchronous and asynchronous methods (Perera-Diltz & Mason, 2012). Psychological counselors can give or receive quick feedback via emails, Internet forums, and SMS about issues they encountered in the sessions, and share relevant information including professional issues and therapeutic techniques thanks to online peer supervision (Yeh et al., 2008). In a study, it was found that psychological counselors in an online peer group reported higher collective self-efficacy and improved conceptualization skills (Butler & Constantine, 2006). However, online supervision also has some disadvantages. Insufficient professional experiences of psychological counselors might lead to misconceptions, or an extreme level of empathy in the group might slow down the professional development (Akhurst & Kelly, 2006).

The studies on supervision and peer supervision in Turkey have mainly focused on face-to-face supervision (Aladag, 2014; Aladag & Kemer, 2016; Atik, Celik, Guc & Tatal, 2016; Sivis Cetinkaya & Karairmak, 2012; Ozyurek, 2009, 2010; Zeren & Yilmaz, 2011). Studies generally have examined supervision methods and opinions of psychological counselors on supervision (Atik et al., 2016); the basic concepts related to supervision models (Sivis Cetinkaya & Karairmak, 2012); the effectiveness of several supervision models (Koc, 2013; Meydan, 2014); and the characteristics of the supervisor (Aladag & Kemer, 2016). Measurement tools for supervision have been adapted and developed (Denizli, 2010; Ihan, Sarikaya & Yontem, 2018). As a result of these studies, the importance of supervision in the training of psychological counselors was emphasized as a common finding (Aladag, 2014; Aladag & Kemer, 2016; Buyruk Genc, 2009; Koc, 2013; Meydan, 2014; Pamukcu, 2011; Sivis Cetinkaya & Karairmak 2012; Ozyurek, 2009). To the best of our knowledge, no studies on online supervision and peer supervision are available in Turkey. Therefore, this study aims to examine the opinions of psychological counselors regarding online supervision and peer supervision. To achieve this purpose, we formulated our research questions as follows:

1. What are the opinions and experiences of psychological counselors about supervision?
2. What are the opinions and experiences of psychological counselors about peer supervision?
3. What are the opinions and experiences of psychological counselors about supervision and peer supervision provided in online environments?

## Method

### *Research Design*

This is a qualitative study which aimed to gain a deeper understanding of the experiences and opinions of the psychological counselors who participated in online supervision and peer supervision. This research was conducted in the case study design. In the case studies, factors related to certain situations (such as environment, individuals, events, and processes) are investigated in detail in a holistic way (Christensen, Johnson & Turner, 2015; Yildirim & Simsek, 2011). The subject of this research was the experience of online supervision and peer supervision. Moreover, thematic analysis was used since this method is based on a descriptive approach rather than constructing a theory or examining the nature of language/ talk (Braun & Clarke, 2006; Howitt, 2016; Tuckett, 2005). Inductive thematic analysis was used since no a priori themes were defined based on a theory or existing framework in the literature.

### *Participants*

Psychological counselors were identified based on a convenience sampling method. In this sampling method, participants are reached based on the availability to the researchers (Bryman, 2012). Psychological counselors who participated in the Scientific and Technological Research Council of Turkey (TUBITAK) project participated in online supervision and peer supervision. The participants of the study were three male and three female psychological counselors. All participants completed their bachelor's degree in Guidance and Psychological Counseling and they were master's students in the same program. All participants had already received supervision before the study as a requirement of their Master's degree courses. The ages of the participants ranged from 23 to 27. They had professional experience of 2 to 5 years.

Psychological counselors in this study conducted face-to-face and online psychological counseling sessions with several clients. Table 1 shows relevant information about each participant, with each of them being given a code (e.g., PC1, PC2, etc.) for anonymity.

**Table 1**

*Psychological Counselors' Sex, the Number of the Clients and the Completed Sessions*

Psychological counselors	Sex	Face-to-face		Online		Total	
		Clients	Sessions	Clients	Sessions	Clients	Sessions
PC1	Female	5	48	4	39	9	87
PC2	Male	4	35	2	15	6	50
PC3	Male	4	31	4	32	8	63
PC4	Female	5	35	3	28	8	63
PC5	Female	5	47	4	35	9	82
PC6	Male	4	32	4	31	8	63
Total		27	228	21	180	48	408

As seen in Table 1, a total of 228 face-to-face and 180 online sessions were conducted throughout the study. Twenty-seven clients in the face-to-face group and 21 clients in the online group participated in the sessions. All the clients were undergraduate students attending a public university in Istanbul. The supervisor in this study was an Assistant Professor in the Guidance and Psychological Counseling department who had experience in psychological counseling and supervision.

*Data Collection*

The data of the study were collected using a semi-structured interview form developed by the researchers. The question form was sent to three different independent experts who had experience in supervision and peer supervision with psychological counselors. After revisions based on the feedback, the final version of the form included the following three open-ended questions: "How would you describe the supervision experience in this study?", "How would you describe the peer supervision experience in this study?", "How would you describe online supervision and online peer supervision experience in this study?"

*Procedure*

*Training in online counseling, supervision, and peer supervision.*

The psychological counselors and the supervisor were trained by the researchers about online psychological counseling, standards and ethical principles of online supervision, online counseling, and online peer supervision. In addition, psychological counselors attended training sessions on technology use which was given by two experts from the field of Computer and Instructional Technologies.

*Online and face to face counseling sessions.*

Online psychological counseling sessions were conducted through video conferencing via Skype. Face-to-face sessions were conducted in counseling rooms at the campus. The counseling sessions, supervision, and peer supervision sessions took place within two months.

*Online supervision.*

Online group supervision meetings were held once a week and lasted approximately two hours. Prior to these meetings, psychological counselors sent the recordings and the transcripts of the counseling sessions to the supervisor via e-mail. Issues related to counseling sessions were discussed in group supervision via Skype. The supervisor watched the recordings of the sessions of each client before holding a supervision session. In supervision sessions, the supervisor provided feedback to the psychological counselors in terms of psychological counseling skills and case conceptualization. In addition to group supervision meetings, psychological counselors could contact their supervisors via telephone in case of urgent situations. However, no urgent situation occurred during this study that necessitated contact with the supervisor.

*Online peer supervision.*

Psychological counselors attended biweekly online peer supervision meetings, which lasted approximately two hours, without the presence of the supervisor. Psychological counselors discussed the main issues in the counseling sessions and gave feedback to each other.

*Informing participants.*

All psychological counselors were informed about the aim of the study before interviews. They were told that they would be included in the study only if they were volunteered for participation, and they were free to withdraw from the study or withdraw their data if they do not want to participate. All participants agreed to be included in the study and signed an informed consent form.

*Data collection*

The data were collected from the interview form sent to the psychological counselors via e-mails and later through a focus group interview. The focus group interview lasted approximately two hours, and one of the counselors (PC5) could not attend the interview because of personal reasons. Opinions of the psychological counselors were collected from all the participants via emails. In addition, the audio recording of the focus group interview was transcribed by the researchers and added to the data set.

*Validity and Reliability.*

In order to increase validity and reliability in qualitative studies, the role of the researcher should be well-defined in advance (Johnson, 1997; Merriam, 1995). In this study, the researchers did not conduct psychological counseling sessions and did not have a direct role in supervision and peer supervision. Limitations of the data collection can also be avoided using data triangulation (Yildirim, 2010). In this study, we conducted a focus group discussion to obtain the opinions of the participants as well as an interview to obtain more in-depth data. In addition, receiving expert opinions can be considered another measure to increase validity and reliability. Lastly, participant confirmation is another method that can be used to increase the credibility of the research (Johnson, 1997; Merriam, 1995; Yildirim, 2010). Therefore, the findings

were sent to the psychological counselors and they were asked to check their statements and confirm them.

### *Data Analysis*

In the study, the written documents and the voice recordings were analyzed using thematic analysis. After transcription of each interview and focus group discussion, codes and themes were generated separately by two researchers. In this process, the analysis unit was taken as “sentences” and “phrases”. Content under the themes and subthemes were separately constructed by two researchers. After discussing the discrepancies, the analysis was concluded. The finalized version of the themes was sent to the psychological counselors in order to get the final confirmation of the data.

## **Results**

### *Results of the Supervision Experience of the Psychological Counselors*

Psychological counselors’ experiences were categorized under four subthemes namely the role of the supervisor, supervision process, feedback from the supervisor, and the number of psychological counselors and clients. The findings can be seen in Table 2.

**Table 2**

#### *Subthemes of Supervision Experience of Psychological Counselors*

Subthemes	Psychological Counselors
<i>Role of Supervisor</i>	
Teacher role	PC1, PC2, PC4, PC5, PC6
Psychological counselor role	PC2, PC3, PC4, PC5, PC6
Encouraging and supportive role	PC2, PC3, PC4, PC5, PC6
Experience of the supervisor	PC1, PC3, PC4, PC6
Supervisor’s control and authority	PC1, PC4, PC6
<i>Supervision Process</i>	
Discussing ethical issues	PC2, PC3, PC4, PC5, PC6
Professional satisfaction	PC5
<i>Feedback from the Supervisor</i>	
Reacting to negative feedback	PC1, PC4
Feedback provided for peers	PC4
<i>The Number of Psychological Counselors and Clients</i>	
The number of psychological counselors	PC1, PC2, PC4, PC5, PC6
The number of clients	PC1, PC2, PC4, PC5

*Role of the supervisor.*

Five psychological counselors emphasized the teacher role of the supervisor. The metaphor used by PC2 about the supervision was as follows: *"I resembled it to a culinary school. We try to arrange everything according to each counselor, I mean according to his taste. And we receive support from a better cook"*. PC2 mentioned the teacher role of the supervisor and emphasized the advantage of being in a group: *"While the supervisor was supervising others, I learned something about myself. It was advantageous."*

Also, five psychological counselors mentioned the positive effect of the psychological counselor role of the supervisor. For instance, PC5 said: *"My supervisor helped me to clarify some issues just like a torch shining in the dark and realize more easily what I feel about my client."* Similarly, PC4 stated: *"I think my supervisor had a client-centered approach, I mean she took our positive and negative feelings into consideration and tried to understand them."*

Several psychological counselors emphasized that the supervisor encouraged them, calmed them down and helped them feel better. For instance, PC3 explained the supervisor's role as follows: *"Analyzer, negotiator, clarifier... I felt that I was not alone. She was trustworthy. I was quite satisfied."* Similarly, PC6 stated: *"It was a process I confided in. When I felt hopeless, the suggestions and guidance of my supervisor helped me a lot."*

Four psychological counselors (PC1, PC3, PC4, and PC6) emphasized the effects of the supervisor's professional experience on the process. For instance, PC3 stated that: *"Our supervisor has a long-time experience in the field, she had memberships to associations, and she is an advisor. I used to listen to her very carefully when she shared her experiences. Our supervisor was elaborating. She asked for more detailed questions etc."* Three psychological counselors (PC1, PC4, and PC6) stated that the supervisor provided a control mechanism and authority. For instance, PC1 addressed the control function of the supervisor as follows: *"I was comfortable during supervision because we were under the control of a professional counselor. There was an authority who wraps up what I said and gave us a scientific perspective. I believe that supervision is more controlled and more effective than peer supervision. We listened to each other, shared opinions, and the last words were told by the supervisor. She often had a more different point of view."*

*Supervision process.*

Five psychological counselors stated that discussion of ethical issues during supervision was important. For instance, PC2 said: *"Variety of cases was beneficial for the conceptualization of problems. Bringing ethical issues into the agenda was also useful, I was able to notice what information I forgot and lacked."* One psychological counselor (PC5) stated that supervision increased her job satisfaction: *"Sharing knowledge and experience helped me to increase my job satisfaction and increased my motivation"*.

*Feedback from the supervisor.*

Two psychological counselors emphasized feedback received from the supervisor: *"The first session... The supervisor said at the beginning: 'Don't get angry or offended...' I understood that something bad was coming. She did not say critically but I did not like to hear that much suddenly anyway. I felt bad because she was telling the truth. I found it difficult to make good sentences in the first sessions. Later I told to myself 'Of course, it won't go on like*

that.' In the following counseling and supervision sessions, I improved myself. The feedback I got worked well in professional terms... If supervision was face-to-face, the supervisor would smile, she would do something to make me feel good. If she had physical contact, I wouldn't feel like that. When I heard from a distance (online), it hurt (PC1)." PC4 also stated that: "During supervision, I felt anxious about receiving negative feedback about the method I used with my client. I used to think twice before I gave positive and negative feedback to my peers because I was trying to guess the reaction of my supervisor."

*The number of psychological counselors and clients.*

Five psychological counselors suggested that the number of counselors was a lot for supervision meetings, and it had a negative influence on the efficiency of the supervision. For instance, PC1 stated that the presence of many psychological counselors prolonged the duration of supervision and suggested that individual supervision would be better than group supervision: "The only thing I was not happy with was that supervision started late during the day and it lasted more than expected because of the crowd. I received face-to-face supervision too, it was not that much different. But it should have been conducted one-to-one. We started at 20:00 and finished around 22:00, so we almost fell asleep since we worked all day long. I was once late for one of the sessions. Later, the supervisor said let's talk one to one. It was my best supervision ever." On the other hand, PC5 stated that: "Group supervision is better. I mean, there should have been three people, maybe. For me, six people were too many. But you cannot get peer support when you are the only one. There should be at least three people. "

Four psychological counselors (PC1, PC2, PC4, and PC5) emphasized the difficulty in the supervision meeting because of the high number of clients: "Well, it goes better with fewer people. I mean, 'Who was whose counselor?' and let me confess, I sometimes got bored and did not listen to the rest. I often missed the story. (PC4)".

#### *Results of Peer Supervision Experience of Psychological Counselors*

Psychological counselors' opinions were categorized under three subthemes: the effects of peers, professional development, and negative perceptions about peer supervision. The findings can be seen in Table 3.

**Table 3**

#### *Subthemes of Peer Supervision Experience of Psychological Counselors*

Subthemes	Psychological Counselors
<i>Effects of Peers</i>	
Peer support	PC1, PC2, PC4, PC5, PC6
Universality	PC1, PC4, PC5, PC6
Giving and receiving feedback	PC1, PC2, PC4, PC5
Working with peers from different gender	PC1, PC4
<i>Professional Development</i>	
Learning process	PC3, PC5, PC6
Working with different cases	PC2, PC4
<i>Negative perceptions about peer supervision</i>	
Lack of supervisor	PC1, PC3, PC5

*Effect of peers.*

Five participants (PC1, PC2, PC4, PC5, and PC6) emphasized the importance of peer support in this process. For instance, PC2 said: *"I was like a learner, an observer in peer supervision. I believe that I learned a lot from other psychological counselors."* PC1 also explained the support she received as follows: *"It was beneficial to learn about a method used by one of my peers; all the details from recording procedures to the questions asked. I can say that it also motivated me for the practice. Or I had the opportunity to question myself about whether I felt the same as my peers. We aimed to collaborate and help each other."* PC1 also explained an important function of peer supervision especially while working with difficult clients: *"I believe that my peers understand me and give the message that you are not alone, we also experience these problems. The feedback from my peers reflecting their understanding of my feelings was useful for difficult clients. Receiving feedback especially about my feelings helped me progress more. Once, I realized my anger with one of my clients when I received feedback from my peers. The emotion reflection of the group helped me realize."*

The findings revealed "universality" as another factor contributing to the peer supervision process. PC5 explained: *"Feeling of being understood due to similar experiences, comfort, and collaboration. Being aware of similar experiences made me feel good"*. PC6 emphasized the contribution of common experiences to objective self-evaluation of psychological counselors as stating: *"The similar experiences helped me to make healthy internal and external attributions."*

Four psychological counselors (PC1, PC2, PC4, and PC5) mentioned the importance of peer feedback, and the experiences of the psychological counselors whilst giving feedback. For instance PC4: *"Of course, how you say something is also important. When we say 'How would it be if it were like this and that?', the person perceives it in a relatively positive way, he or she would say 'Ah, yes, I can try it the next time or so'... Actually, we already wouldn't give very harsh feedback."* Two psychological counselors mentioned the advantages of working with peers from the other gender group: *"Peers from both genders were positive because it brought different ideas and opinions together. (PC4)."*

*Professional development.*

Three psychological counselors (PC3, PC5, and PC6) used similar phrases highlighting the peer supervision as a learning process. For instance, PC3 stated: *"It helped me to help my clients more self-confidently. It helped me to learn more."* and PC6 reported that: *"It was informative to listen to the stories directly from a first-hand resource"*.

According to two psychological counselors (PC2 and PC4), peer supervision was an opportunity to learn about different cases and perspectives. In this line, PC2 said: *"I noticed that it is possible to make mistakes in this process. I felt as if I have been experiencing different cases by thinking 'What would I do if I were in their shoes?'"*

*Negative perceptions about peer supervision.*

Although most of the participants consider peer supervision as an important support in the learning process, three psychological counselors (PC1, PC3, and PC5) stated that peer supervision had disadvantages when compared to supervision. For instance, PC1 described peer supervision meetings as stating: *"A more intimate*

atmosphere... Using slang or more comfortable self-expression. But someone had to take control because of the lack of authority. Since everybody was at the same level of the hierarchy, this was sometimes difficult. To deal with a person with low motivation in the group, and this often negatively affected the others in the group."

#### *Results of Online Supervision and Online Peer Supervision Experience of Psychological Counselors*

Opinions about online supervision and peer supervision had two subthemes: strengths and drawbacks of the online environment. The findings can be seen in Table 4.

**Table 4**

##### *Subthemes of Online Supervision and Online Peer Supervision Experience*

Subthemes	Psychological Counselors
<i>Strengths of the Online Environment</i>	PC1, PC3, PC5, PC6
Effective use of time and place	
<i>Drawbacks of Online Environment</i>	PC1, PC2, PC4, PC5
Technical problems	PC2
Distractors	

##### *Strengths of the online environment.*

Practical issues (i.e. use of time and place) were the most commonly stated advantages of online supervision and peer supervision. For instance, PC5 said: "If the supervision and the peer supervision had not been carried out online, there would have been some disadvantages in terms of time such as (the need to) commuting to the meeting area." PC6 explained his opinions as follows: "When we consider the limitations in daily life and working life such as distance and time, face-to-face would be more difficult."

##### *Drawbacks of the online environment.*

Four psychological counselors (PC1, PC2, PC4, and PC5) reported technical problems as the main drawback of the online setting. For instance, PC4 stated: "Face-to-face supervision is more effective. Because losing the connection due to technical problems affected the process negatively. In addition, someone wanted to give an opinion, but another talked suddenly at that moment..." and similarly PC5 said: "There were many interruptions. Even the supervisor lost the contact many times and the camera was freezing sometimes."

PC2 explained the distractions in the online setting as a limitation: "There were moments during supervision and peer supervision when I did something else since I was in front of the computer. If it was face-to-face, I think I would be involved in the process more."

### **Discussion, Conclusion and Recommendations**

The aim of this study was to investigate the experiences and opinions of psychological counselors regarding online supervision and peer supervision. Psychological counselors reported that different roles of supervisors contributed to

their professional development, that group supervision had both advantages and disadvantages, and that the number of clients and the number of psychological counselors participated in the discussions affected the efficiency of supervision. Psychological counselors reported that peers helped each other during peer supervision, and this process contributed to their professional development. Finally, it was found that although psychological counselors encountered some problems in the online setting, they stated their positive experiences with online supervision and peer supervision.

During supervision, psychological counselors received feedback from both the peers in the same peer supervision group and the supervisor on their counseling skills, which was considered an important opportunity for their professional development (Bakalim, Sanal-Karahan, & Sensoy, 2018). The findings of the present study also revealed that feedback from both the supervisor and peers was important for professional development. Group supervision is particularly advantageous because of the interaction in the group (Sivis Cetinkaya & Karairmak, 2012). In addition, feedback from supervisors and peers may contribute to the professional development of psychological counselors (Aladag, 2014). On the other hand, group supervision has been reported as a limitation since a high number of psychological counselors might have a negative impact on the effectiveness of supervision. This finding is in line with the results of the study of Akhurst and Kelly's (2006) in which the number of participants in a supervision group was found to be an important factor for the effectiveness of the supervision. Therefore, supervision meetings with a high number of participants might be disadvantageous.

In our study, we found several common characteristics of online supervision and face-to-face supervision. For instance, the most emphasized themes by psychological counselors receiving online supervision were the positive effects of the supervisor's role as a teacher and a psychological counselor in addition to getting benefit from the supervisor's experiences. This finding is similar to the studies conducted with psychological counselors who received face-to-face supervision. In a study focusing on the effects of supervision, it was concluded that supervision helped psychological counselors improve their counseling skills, increase self-efficacy, and provide social support (Wheeler & Richards, 2007).

Another study on supervision revealed that the main problem with supervision has been finding a suitable time for sessions (Kilminster & Jolly, 2000). However, psychological counselors receiving online supervision stated that online supervision was advantageous in terms of scheduling the sessions. This finding may imply that online tools can be used as an alternative when a supervisor and a psychological counselor have problems in arranging a common timetable for sessions. In addition, supervisors and psychological counselors should be aware of the limitations of online supervision and it is essential that feedback should be clear and comprehensible in the online sessions (Kilminster & Jolly, 2000). Therefore, the limitations related to the online setting should be taken into consideration while organizing and conducting sessions. In conclusion, our findings revealed that online supervision was perceived as similar to face-to-face supervision. However, there might be problems in

understanding the clues of communication in feedback provided by supervisors in the online setting.

A limited number of studies on peer supervision have also presented similar findings. Previous studies showed certain functions of peer supervision such as receiving feedback, support, improving personal and professional development due to experiencing different points of view, and learn from others (Borders, 1991). Similarly, the opinions of psychological counselors in this study emphasized the importance of peer supervision on personal development and professional competence. Psychological counselors who attended peer supervision stated that they received feedback from their peers about various issues and it was important for their professional development and personal awareness. Such feedback may also have a function as social support in mental health professionals (Lakeman & Glasgow, 2009). On the other hand, in some cases, it was reported that social support becomes dominant in the groups without a leader, as a result, supervision meetings can go off the topic (Counselman & Weber, 2004). Comparing supervision and peer supervision in the present study, some psychological counselors highlighted the negative effects of having no leader and suggested that they needed a leader in the meetings. Finally, it was stated that online supervision was advantageous in terms of time, however, the effectiveness of the supervision sessions might decrease because of the technical problems such as power cuts or slow Internet.

The strength of this study was that data were collected with an interview form and focus group interviews. This helped us to reach enriched information about the experiences and the opinions of the psychological counselors. In this way, the limitations of one data collection method were tried to be avoided using another method. We could obtain deeper insights into the experiences of psychological counselors using multi-methods for data collection. Another strength of this study is that researchers were not involved in online supervision, online peer supervision or online counseling. Therefore, we tried to minimize the researcher's allegiance. Last but not least, as far as we know, this is the first study focusing on online peer supervision in Turkey.

However, there are also some limitations. First, psychological counselors in our study were homogeneous in terms of age, educational level, and their professional experiences. Psychological counselors were relatively young and already embraced online tools. Therefore, we are not aware of the experiences of psychological counselors with diverse backgrounds such as older psychological counselors. The study is also limited to the supervision and peer supervision conducted with psychological counselors in Istanbul. Nevertheless, it is believed that this study has the potential to shed light on future studies on this subject in the Turkish context.

As a result of this study, it can be suggested that online applications of mental health such as online supervision and online peer supervision can be integrated into psychological counseling and guidance programs as an elective course or as part of a course as a result of the latest advancements in technology. Based on our findings, supervision provided in undergraduate and graduate education can be delivered via

online tools. Thus, inexperienced psychological counselors living in different cities or countries can benefit from supervision.

Psychological counselors and supervisors should also be aware of the limitations of online applications. Psychological counselors should take some technical and strategic precautions to prevent or reduce the effects of their disadvantages. In other words, an alternative action plan should be considered in advance when communication is interrupted because of the technical problems or slow Internet connection. Another problem with online supervision and peer supervision might be unclear feedback in the online setting. Therefore, psychological counselors and supervisors should check regularly for clarity and comprehensibility. Also, before sessions, supervisors can make necessary evaluations about counselors' competence and knowledge about Internet tools, whether they feel comfortable, and disclose themselves during online communication. Lastly, interviews can be conducted with psychological counselors with various characteristics to increase the generalizability of our findings. In this line, mixed-method studies related to online supervision could be carried out to obtain a deeper understanding of the experiences of psychological counselors.

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## Çevrimiçi Süpervizyon ve Akran Süpervizyonu: Psikolojik Danışmanların Deneyimleri

### Atf:

Amanvermez, Y., Zeren, S. G., Erus, S. M., & Buyruk Genc, A. (2020). Supervision and peer supervision in online setting: Experiences of psychological counselors. *Eurasian Journal of Educational Research*, 86, 249-268, DOI: 10.14689/ejer.2020.86.12

### Özet

*Problem Durumu:* Son yıllarda çevrimiçi (online) iletişim araçlarını kullanarak yapılan psikolojik danışma, süpervizyon, akran süpervizyonu ve konsültasyon gibi hizmetler artmıştır. Bu artışla beraber internet üzerinden sağlanan hizmetlerin etkililiğine dair araştırma soruları gündeme gelmektedir. Alanyazındaki araştırmalar çoğunlukla yüz yüze süpervizyonun ve akran süpervizyonun etkililiğini incelemektedir. Bundan dolayı çevrimiçi süpervizyon ve akran süpervizyon süreçleriyle ilgili detaylı bilgilere ihtiyaç duyulduğu düşünülmektedir.

*Araştırmanın Amacı:* Bu çalışmada, çevrimiçi süpervizyon ve akran süpervizyonuna dair psikolojik danışmanların deneyimlerini ve görüşlerini ortaya koymak amaçlanmıştır. Bu amaçla şu sorulara cevap aranmıştır: (1) Psikolojik danışmanların aldıkları süpervizyona ilişkin görüşleri nelerdir? (2) Psikolojik danışmanların katıldıkları akran süpervizyonu konusundaki görüşleri nelerdir? (3) Psikolojik danışmanların süpervizyon ve akran süpervizyonunun çevrimiçi ortamda yürütülmesine yönelik görüşleri nelerdir?

*Araştırmanın Yöntemi:* Bu çalışma, durum çalışması deseninde tasarlanmış, nitel bir araştırmadır. Derinlemesine incelenmeye çalışılan durumlar, çevrimiçi süpervizyon ve akran süpervizyonu deneyimleridir. Araştırmaya çevrimiçi psikolojik danışma, süpervizyon ve akran süpervizyonu deneyimi yaşamış altı psikolojik danışman katılmıştır. Psikolojik danışmanlar Rehberlik ve Psikolojik Danışma alanında lisans eğitimlerini tamamlamış ve yüksek lisans eğitimlerine devam eden psikolojik danışmanlardır. Bu çalışmadaki süpervizör ise İstanbul'da bir devlet üniversitesinde Rehberlik ve Psikolojik Danışma alanında öğretim üyesi olarak çalışan, bireyle psikolojik danışma uygulamaları ve süpervizyon konusunda deneyimli bir profesyoneldir. Araştırmanın verileri, araştırmacılar tarafından hazırlanan yarı yapılandırılmış görüşme formu ile toplanmıştır. Görüşme formuna verilen cevaplar e-posta aracılığıyla psikolojik danışmanlardan toplanmış ve daha sonra psikolojik danışmanlarla odak grup görüşmesi yapılmıştır. Yazılı dokümanlar ve ses kayıtları türünde toplanan veriler, tematik analiz kullanılarak incelenmiştir. Veriler çözümlenirken, analiz birimi olarak cümleler ve sözcük öbekleri seçilmiştir.

*Araştırma Bulguları:* Bu çalışmada ilk araştırma sorusu, psikolojik danışmanların süpervizyon deneyimlerine yönelik görüşlerini anlamaya yöneliktir. Bu konudaki bulgular, süpervizörün rolü, süpervizyon süreci, süpervizörden geribildirim almakla ilgili konular, psikolojik danışman ve danışan sayısı olmak üzere dört alt tema altında

ortaya konulmuştur. Süpervizörün özellikleri teması altında, süpervizörün öğretmen ve psikolojik danışman rolünün, destekleyici, cesaretlendirici ve deneyimli olmasının, kontrol ve otorite sağlamasının psikolojik danışmanlar tarafından önemli görüldüğü sonucuna ulaşılmıştır. Ayrıca, süpervizyon sürecinde etik konuların tartışılmasının etkili olduğu, mesleki doyumu arttırdığı, grup süpervizyonunda süpervizörden geri bildirim almanın ve akranlara geri bildirim vermenin önemi ortaya konmuştur. Bir diğer bulgu ise grup süpervizyonu için altı kişinin fazla olduğu görüşünün, psikolojik danışmanlar tarafından vurgulanmasıdır.

Bu çalışmanın ikinci araştırma sorusu, akran süpervizyonu deneyimine yöneliktir. Elde edilen bulgulara göre, akranların etkisi, mesleki gelişim ve akran süpervizyonuna ilişkin olumsuz görüşler olmak üzere üç alt tema oluşmuştur. Psikolojik danışmanlar, akranların birbirlerine destek vermesinin ve benzer yaşantılara sahip olduklarını fark etmelerinin, geri bildirim verme ve almanın ve ayrıca farklı cinsiyetteki psikolojik danışmanların görüşlerini dinlemenin bu süreçte kolaylaştırıcı olduğu görüşündedirler. Ayrıca öğrenme sürecine katkı sağlaması ve farklı vakaları dinleme ve çözüm bulma açısından mesleki gelişimi desteklediği yönünde görüşler ifade edilmiştir. Psikolojik danışmanlar, süpervizörün olmaması yüzünden yaşadıkları otorite ve yönlendirme eksikliğini akran süpervizyonun olumsuzluğu olarak belirtmiştir.

Üçüncü araştırma sorusu, süpervizyonun ve akran süpervizyonunun çevrimiçi ortamda yürütülmesine yönelik psikolojik danışmanların görüşlerinin neler olduğudur. Bu bağlamda çevrimiçi ortamın güçlü yönleri ve çevrimiçi ortamın güçlükleri şeklinde iki alt tema ortaya çıkmıştır. Zaman ve mekanın etkili kullanılması çevrimiçi ortamın güçlü yönünü oluştururken, teknolojiden kaynaklı engeller ve çevrimiçi ortamda dikkat dağıtıcı unsurların varlığı çevrimiçi ortamın güçlükleri olarak ortaya konmuştur.

*Araştırmanın Sonuçları ve Öneriler:* Çalışmanın sonucunda psikolojik danışmanlar, süpervizyon sürecinde süpervizörün farklı rollerinin psikolojik danışmanların mesleki gelişimlerine katkı sağladığını, süpervizyonun grup ortamında yürütülmesinin hem zorluklarının hem de avantajlarının olduğunu, danışan ve psikolojik danışman sayısının süpervizyonun verimliliğini etkilediğini düşünmektedirler. Akran süpervizyonu ile ilgili olarak da, akranların birbirlerini etkiledikleri, mesleki gelişimlerini destekledikleri ve süpervizörün eksikliğini bu süreçte dikkatlerini çektiği sonucuna ulaşılmıştır. Süpervizyon ve akran süpervizyonunun çevrimiçi ortamdan yürütülmesinin psikolojik danışmanlar için olumlu bir deneyim olarak görüldüğü ve bununla birlikte çevrimiçi psikolojik danışmada bazı engeller yaşadıkları sonucuna ulaşılmıştır.

Bu çalışmanın sonucunda elde edilen bulgular düşünüldüğünde, çevrimiçi süpervizyon ve akran süpervizyonunun, gelişen teknolojiyle güncellenerek, psikolojik danışma ve rehberlik programlarında yer alması önerilebilir. Psikolojik danışmanlar ve süpervizörler, çevrimiçi ortamda yürütülen süpervizyon ya da akran süpervizyonunun sınırlı yönlerinin farkında olmalıdırlar. Psikolojik danışmanlar bu dezavantajlı durumları azaltmak veya hiç yaşamamak için hem teknolojik hem de stratejik bazı önlemler almalıdırlar. Bu önlemler, İnternetin yavaş olduğu veya

teknolojik araçlarda yaşanan problemlerin kurulan iletişimi sekteye uğrattığı durumlarda, psikolojik danışmanların bir yedek plana sahip olmaları şeklinde olabilir. Çevrimiçi yürütülen süpervizyon ve akran süpervizyonu gibi uygulamalarda geribildirimlerin yeterince açık ve anlaşılır olmaması sorunu doğabilmektedir. Buna karşılık oturumlarda geribildirimlerin açıklığının ve anlaşılabilirliğinin kontrol edilmesi önemlidir. Süpervizörler psikolojik danışmanların çevrimiçi oturumlara uygun olup olmadıklarını değerlendirebilir. Bu konu hem psikolojik danışmanın İnternet araçlarını kullanmadaki bilgisi ve yeterliliği, hem de psikolojik danışmanın çevrimiçi iletişimde kendisini ne kadar rahat hissettiği ve kendisini ne kadar açabildiği gibi birtakım değerlendirmelerin yapılmasını gerektirir. Bu çalışma, süpervizyon ve akran süpervizyonunun etkileri hakkında ipuçları verse de deneysel bir çalışma değildir. Gelecekte farklı özelliklere sahip psikolojik danışmanlarla derinlemesine görüşmelerin yapılması, farklı modellere ya da kuramsal yaklaşımlara dayalı süpervizyon süreçlerine yönelik yeni araştırmaların planlanması da önerilebilir.

*Anahtar Kelimeler:* Grup süpervizyonu, akran süpervizyonu, online süpervizyon, online akran süpervizyonu.



## Determining the Graphical Literacy Levels of the 8th Grade Students\*

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### ABSTRACT

**Purpose:** Previous research focused on graphical skills of the students, which remains a gap that exists, and there has not been comprehensive research on students' graphical literacy abilities. The present study aims to picture graphical literacy levels of the 8th grade students concerning the *reading, interpreting, drawing, comparing* and *evaluating* aspects.

**Method:** Participants in this study consisted of 46 students at 8th-grade from two different middle

school levels. The data were collected by graphical literacy test.

**Findings:** The findings showed that student's scores of the graphical literacy skill were low. Students had challenge at comparing two graphs, determining suitable context or graph type and realizing errors in the graphs. These results suggest that students are unable to fulfill advanced levels of the graph comprehension as read between and beyond the data.

**Implications for Research and Practice:** There is need to design the learning environment through these aspects to raise students as graphically literate. To achieve this, of course, graphical literacy level of teachers and quality of instructional activities are important. For future, graphical literacy levels of the teachers should be determined, necessary arrangements should be considered to raise teachers equipped with graphical literacy.

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## Introduction

Individuals are expected to be able to make effective decisions, to understand and interpret the information that they encounter in the media or newspapers, and to display a critical stance in daily-professional lives. These expectations are effective in raising the importance of statistics. Therefore, statistical literacy and raising individuals as statistical literate were mostly emphasized in statistics education research (Aliaga et al., 2005; Franklin et al., 2007; Gal, 2002).

### *Statistical Literacy*

As the need for statistics literate individuals increases, statistics education has an increasingly important place in mathematics curriculum (Aliaga et al., 2005). Gal (2002) defined statistical literacy as an ability to discuss the statistical information or interpreting and critically evaluating encountered situations. National Council of Teachers of Mathematics [NCTM] (2000) standards draw attention to experience students about posing research questions, selecting the sample and collecting-organizing-representing-interpreting the data. Friel, Curcio and Bright (2001) underlined that because of the increasing importance of statistics education, graphs become an important part of school mathematics. On the other hand, the information in our lives is generally presented with a numerical form, and data representations help us to summarize this information. Moreover, all individuals are expected to have basic graph comprehension skills to be effective in their lives. These expectations refer to graphical literacy, taking part in statistical literacy.

### *Graphical Literacy*

Graphs are an important part of statistics education (Franklin et al., 2007; NCTM, 2000). Chia (2016) drew attention to the importance of the graphs as a common theme throughout primary and secondary school statistics education. Thus, graphs are important part of our life, and we meet graphs in many fields (González, Espinel, & Ainley, 2011). Galesic and Garcia-Retamero (2011) point out that graphs provide important information for our choices. Thus, it is important to interpret graphs accurately and effectively. Parallel with the importance of skills as reading, interpreting, drawing graphs, raising students as equipped with graphical literacy is being an inevitable need. Galesic and Garcia-Retamero (2011) defined graph literacy as an ability to understand graphical representations, emphasized that graphs are ubiquitous in various data sources.

Parallel with the importance of graphs, many countries give an important place to graphs in the math curriculum. Therefore, increasing attention to data analysis and statistics subjects provided to graphs take a large part in math curriculum. González et al. (2011) stressed that instruction about graphs is an important aspect of the math curriculum in many countries. In these curricula, drawing, interpreting and analyzing graphs are basic skills in which students are expected to be equipped (Ministry of National Education [MoNE], 2009, 2018; NCTM, 2000). In Turkey, with the revisions of the elementary mathematics curriculum, the importance of graphs is increased. Also, MoNE (2009) curriculum, at sixth-grade level it was aimed to represent data with

proper graph and to interpret graphs, to realize possible misinterpretations of bar graphs. For the 7th-grade level, students learn to create and interpret bar and line graphs, to draw pie graphs, to make predictions based on data. For the 8th-grade level, students learn to create and interpret histogram. Through all these grade levels, students are generally expected to have certain aspects, such as drawing, interpreting, being aware of incorrect graphs, determining the appropriate graphs for a given context.

Through the main goal of raising students as statistically or graphically literate have an important role in the importance of the graphs in mathematics lessons or curriculum. Parallel with the importance of graphs in math curricula, research about the competences of students about graphs was carried out (Bragdon, Pandiscio, & Speer, 2019; Curcio, 1987; Kaynar & Halat, 2012; Schield, 2006; Wu, 2004). Similarly, in Turkey, studies were carried out related graphs. These studies revealed that students have not enough literacy or thinking level for graphs (Kaynar & Halat, 2012; Sezgin-Memnun, 2013; Yayla & Ozsevgec, 2015; Yilmaz & Ay, 2016). In these studies, students faced various challenges related to the graphs. Kaynar and Halat (2012) investigated reading, interpreting and drawing skills of 8th-grade students for the frequency table. They draw attention to the low percentage for interpreting and drawing skills. Dunder and Yaman (2015) aimed to examine the interpreting skills of class teacher candidates for tables and graphs according to their mathematical reasoning skills and class levels. They found that there was a statistically significant relationship between the table and graph interpretation skills concerning mathematical reasoning skill levels. Schield (2006) investigated the reading and interpreting skills of graphs. Many studies focused on interpreting the graph skills of students, or pre-service teachers (Bragdon et al., 2019; Curcio, 1987). Bayazit (2011) investigated the preservice teachers' understanding and interpreting graphical representations. Based on research findings, Bayazit noted that pre-service teachers had difficulties in interpreting the relationships between the variables in the graphs. They could be successful in dealing with the graph point-by-point or making calculations based on the graphs. In other words, they could be able to read the graphs in a basic level. As many studies focused on limited aspects (such as reading, interpreting and creating), some of the studies focused on a graph type. Yayla and Ozsevgec (2015) examined the graphical skills of the 6th, 7th and 8th-grade students concerning the interpretation and construction of the line graphs. They noted that students are more successful in interpreting the line graphs rather than drawing the line graphs. Similarly, Sezgin-Memnun (2013) investigated the reading and drawing of the line graph skills of the 7th-grade students and examine the differentiation of these skills according to students' mathematics course grades. Her findings showed that drawings of the line graphs by students were inadequate. They were more successful in reading the line graphs. In their studies, Yilmaz and Ay (2016) aimed to examine 8th-grade students' knowledge and skills about histograms. They found that students had difficulty drawing and interpreting histograms. They also stated that students are unaware of the differences between histogram and bar graph. In addition to these studies, Curcio (1987) defined three graphic comprehension levels: read the data, read between the data, read beyond the data.

- Reading the data, requires a literal reading of the graph and the information is explicitly stated or directly found in the graph (URL-1, 2019). Curcio (1987) underlined that it is very low-level cognitive task. There is no need to make interpretation at this level. González et al. (2011) stated that this level focuses on extracting data from the graph directly.
- Reading between the data, includes interpretation and integration of data (URL-1, 2019). Friel, Curcio, and Bright (2001) drew attention to find relationships as integrating and interpreting data. It is necessary to find and realize relationships expressed in graphs (González et al., 2011).
- Reading beyond the data, requires predicting about unknown data and inferring from data which is not explicitly stated in graph (URL-1, 2019). This is called as advanced level and requires moving beyond the data (Friel et al., 2001). González et al. (2011) stated that it requires realizing extrapolation of relationships, making predictions about unknown.

In this way, Curcio's (1987) framework is an essential structure for graph comprehension. Besides, Friel et al. (2001) underlined that research on determining the difficulties regarding three graph comprehension levels for readers is needed. Due to increasing importance of graphs, a need to determine graphical literacy levels of students in different aspects emerges. Although there are many studies about students' graph reading skills, they generally focused on certain aspects of graphical literacy. In general, reading, drawing, interpreting graph aspects are investigated. However, in math curricula not only reading, drawing, interpreting but also comparing graphs, realizing errors within the graph, and evaluating graph aspects were considered.

#### *Research Question*

Although previous research focused on graphical skills of students, a gap exists that there has not been conducted comprehensive research on students' graphical literacy abilities. When common core standards and math curricula are reviewed students are expected to interpret, draw, read, compare, and evaluate graphs. Also, in literature graphical abilities are generally limited with certain aspects. The aim of the study is determining graphical literacy levels of 8th-grade students concerning reading, interpreting, drawing, comparing and evaluating aspects. Graphical literacy aspects were also examined through graph comprehension levels of Curcio (1987). In this regard, the present study aims to fill the gap existing literature with a wider framework. This study aims to address the following research question:

*How are the graphical literacy skills of 8th-grade students concerning reading, interpreting, drawing, comparing, evaluating aspects?*

#### **Method**

Graphical literacy test was used to investigate students' success related graphical literacy aspects and to determine what challenges students had. Categorical scoring

table, open-ended questions were used to obtain in depth understanding of students' success.

### *Research Sample*

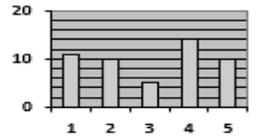
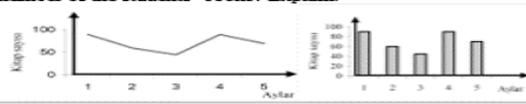
The study group consisted of 46 students attending 8th-grade from two different middle school levels. Due to all subjects and learning outcomes related graphs were taught up to the grade 8 is effective on determining the participants. Two middle schools were determined as one of them has lower, and the other one has higher success to provide variability. While the success of the schools was determined, nationwide exam results were considered. Students participating of this study were coded as S1, S2, ....., S46.

### *Data Collection*

The data of this study were collected with graphical literacy test. Open-ended questions, including the graphical literacy aspects, were asked to students. After the test was developed, a field expert examined the test. For reliability analysis, Cronbach Alpha coefficient was calculated as 0.82. Then, necessary corrections were made, and final version of the test was given.

There were ten questions with 24 sub-questions in the test. Because four questions belonged to both drawing and evaluating the graphs aspects, students' answers were evaluated based on the 28 sub-questions. When the questions were written, graph comprehension levels of Curcio (1987) were considered. Sample questions are given in Table 1.

**Table 1**  
Questions related the Graphical Literacy Aspects

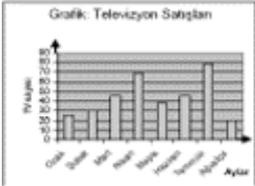
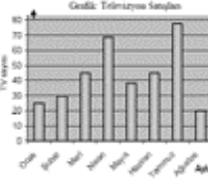
Aspect	Level	Question	Sample Questions	Explanation																
Reading the Graphs (RG)	Read the data	Q9a-b	<p><b>Q9)</b> The graph shows the amount (mm) of the rain between 2010 and 2013 in Trabzon city. Using the data on this graph, answer the questions: a) Which year has the most rain amount?</p> 	Students are expected to be able to read data on graphs in a basic form.																
Interpreting the Graphs (IG)	Read between the data Read beyond the data	Q2a Q6 Q7a-b Q9c	<p><b>Q7)</b> The distribution of the mathematics scores of the students were given with the graph at below.</p>  <p>b) If the students have 2 or more scores, they will be evaluated as "successful. Therefore, what percent of the students are successful at mathematics lessons?</p>	Students are expected to be able to make inferences and associate data on the graphs.																
Drawing the Graphs (DG)	Read between the data	Q1a-b Q8	<table border="1"> <thead> <tr> <th>Time</th> <th>Body Temperature</th> </tr> </thead> <tbody> <tr><td>06:00</td><td>36</td></tr> <tr><td>09:00</td><td>37</td></tr> <tr><td>12:00</td><td>40</td></tr> <tr><td>15:00</td><td>38</td></tr> <tr><td>18:00</td><td>39</td></tr> <tr><td>21:00</td><td>37</td></tr> <tr><td>00:00</td><td>38</td></tr> </tbody> </table> <p><b>Q1a)</b> The body temperature of a patient is measured by 3-hour range time. Data related these temperatures were given at table. Depending on this table, draw a graph displaying the variation of the patient's body temperature in a day.</p>	Time	Body Temperature	06:00	36	09:00	37	12:00	40	15:00	38	18:00	39	21:00	37	00:00	38	Students should draw the graphs correctly. Besides, they should determine the proper chart type for the given context.
Time	Body Temperature																			
06:00	36																			
09:00	37																			
12:00	40																			
15:00	38																			
18:00	39																			
21:00	37																			
00:00	38																			
Comparing the Graphs (CG)	Read beyond the data	Q4 Q5a-b-c	<p><b>Q4)</b> Number of the books which students read during the 5 months were given with bar and line graphs. Which of the graphs belonging the same data set, present the better understanding about the number of the students' books? Explain.</p> 	Determining that which graph type is meaningful for data.																
Evaluating the Graphs (EG)	Read between the data Read beyond the data	Q3 Q8 Q10 Q2b	<p><b>Q3)</b> There are some context and graph types at below. For all context, determine the proper graph type and write the letter of the context on the box where the graphs do you think the most proper. Explain your reason.</p> <p>A) A graph, displaying the average scores of a student for all lessons  <input type="text"/></p> <p>B) A graph, displaying the heartbeat, when a child gets on the stock-car  <input type="text"/></p> <p>C) A graph, displaying the daily stock exchange  <input type="text"/></p> <p>D) A graph, displaying the Face book usage purposes  <input type="text"/></p> <p>E) A graph, displaying the number of the tourists in June  <input type="text"/></p> <p>Bar Charts Line Charts Pie Charts</p>	It is aimed to evaluate the appropriateness of graph type or drawings of graphs.																

### Data Analyses

Data were analyzed both quantitatively and qualitatively. Although test scores are obtained as quantitative data, students' answers, justifications, possible errors or misconceptions regarding items are important to evaluate their graphical literacy. In this way, quantitative data were referred to use for descriptive analysis. Because the present study aimed to picture students' graphical literacy abilities in-depth, more emphasis was placed on qualitative analysis. Students' responses to the items were analyzed by the categorical scoring table. This scoring table was created with two steps: all possible answers were determined; categories were established according to the degree of rationality. As an example, the coding procedure is given in Table 2.

**Table 2**

*Sample Answers for the Analyzing Procedure*

Question	Coding Score
<p><b>5) Sales of two companies by months are given with two graphs at below:</b></p> <div style="display: flex; justify-content: space-around;">   </div> <p><i>Therefore,</i></p> <p>a) Which company has more sales? Why?                      b) Which company sells cheaper? Why?                      c) Which company has higher quality? Why?</p>	<p>a) 2: Two companies have the same sales with the reasons                      1: Two companies have same sales.                      0: No answer or choosing one of the graph.</p> <hr/> <p>b-c) 3: Due not to graph have the data through wanted situations, absolute answer could not be given.                      2: They have the same tendency; they could have the same prizes or quality                      1: Only answer as "same" or "equal"                      0: No answer. Choosing one of the graphs.</p>

The maximum score that a student could have from the test was 38. After students' answers were scored, distributions of the frequencies and percentages for each question were calculated, total scores were determined.

### Result

#### *Results about the Reading the Graphs Aspect*

There were two questions related to the RG aspect. Frequencies and percentages of items are shown in Table 3.

**Table 3***Distribution of Students' Scores for Reading Graph Aspect*

Scores		1		0*		0	
Level	Question	f	%	f	%	f	%
Read the data	Q9a	44	96	2	4	-	-
	Q9b	40	88	3	6	3	6

0\*: No answer 0: Incorrect answer

When the Table 3 was analyzed, it was seen that almost all students answered these questions. In other words, students were successful in reading the data on the graphs and following necessary operations. In other words, students could answer the questions related read the data level. Because this aspect requires only reading data on graphs and basic literacy skills, students could be successful.

*Results about Interpreting the Graphs Aspect*

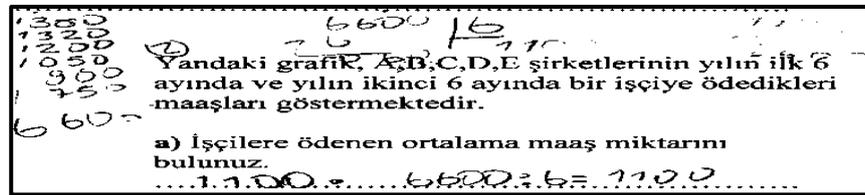
There were five questions related to IG aspect. Frequencies and percentages of the items are given in Table 4.

**Table 4***Distribution of Students' Scores for Interpreting the Graph Aspect*

Scores		2		1		0*		0	
Level	Question	f	%	f	%	f	%	f	%
Read between the data	Q2a	5	11	9	20	12	26	20	43
	Q6	32	70	9	20	2	4	3	6
	Q7a	4	9	4	9	7	15	31	67
Read beyond the data	Q7b	8	17	6	13	5	11	27	59
	Q9c	4	9	5	11	3	6	34	74

0\*: No answer 0: Incorrect answer

In this aspect, students generally presented irrelevant or incorrect answers. Students had difficulties in reaching unknown information based on data. While students were more successful in Q6, they had more difficulties in Q7a, Q9c. Because students could not consider all data or frequencies, students calculated average incorrectly. For example, S42 tried to calculate average score only using data on the y-axis.

**Figure 1.** S42's written work for Q7a

S42 added all values on the y-axis and divided this value into 6. At this point, student could not interpret all values on the graphs and presented incorrect solution. In other words, she did not consider frequencies of the values and calculated average salaries without considering the frequencies. For Q7b, students considered the criteria of being successful incorrectly and misinterpreted the graph. Students interpreted the information incorrectly as students getting more than two points were called as successful. These students generally answered the question as 11 or 22%. For example, S15 answered Q7b as follows:



The image shows a student's handwritten work on a grid background. On the left, there is a calculation:  $\frac{11}{50}$ . To the right of this, the fraction  $\frac{22}{100}$  is written and circled in black. Further to the right, the text "0/22" is written.

Figure 2. S15's written work for Q7b

S15 thought that students who had one point were unsuccessful. Therefore, he stated that 11 students were unsuccessful. And, he found the failure rate of the students as 22%. Due to misinterpreting the data on the graphs and question, this answer was assigned as 0 point.

Students had lower success on Q9c which required interpreting about an unknown data, following up the data set. Students, answering incorrectly interpreted this question, referred to *pattern based on increase/decrease on graphs, interpreting based on personal thoughts*.

*Interpreting based on personal thoughts:* Some of the students referred to personal thoughts rather than focusing on tendency of graphs, while they interpreted Q9c. For example, S21 answered "I think, it would be lower, because this year has very little rainfall." and linked to daily life observation in her answer. While students predicted or interpreted the rainfall of next years, they referred to daily life observations rather than considering data and tendency of graph.

*Finding a pattern based on increase or decrease on the graphs:* Some of the students made predictions based on the patterns on the graphs. For example, S45 "It is 400. Because, there is 100 increase and then 200 decrease. When we subtract 200 from 600, we find 400." S45 answered the question as finding a pattern between years and rainfall amount. Also, it was seen that this pattern was incorrect.

Students asked to answer that how they could more time on studying lesson based on pie graph displaying daily activities and spending times of these activities for one student in Q6. Students generally took 2 points owing to correct interpretations. They increased or decreased these activities in it and reorganized pie graph without any damage to its nature. Although some students realized that pie graph must be a whole, they failed to support their answers with an appropriate or clear justification. For example, S30 answered as: "If he/she increases the duration of the studying, he/she should reduce other data in the pie graph. Because the total value of the pie graph must be equal to 100". He thought that he must reduce other parts in the graphs to increase the duration

of studying and total value must be equal to 100 in graph. Otherwise, in this answer it is not clear that whether total value (100) refers to angle measurements or percentages.

When students' answers related interpreting the graphs aspect was evaluated, it was seen that students had difficulties at determining relationship between given and wanted information on the graphs. On the other hand, while they calculated the average of the data in the graph, they ignored the frequencies of the bars while they were calculating the average value and they calculated average of the values on x or y axis.

#### *Results about Drawing the Graphs Aspect*

There were six questions related to DG aspect. Frequencies and percentages of the items related DG are given in Table 5.

**Table 5**

*Distribution of Students' Scores for Drawing the Graph Aspect*

Scores		3		2		1		0*		0	
Level	Question	f	%	f	%	f	%	f	%	f	%
Read between the data	Q1a	21	46	9	20	3	6	2	4	11	24
	Q1b	16	35	9	20	2	4	-	-	19	41
	Q8a					12	26	4	9	30	65
	Q8b					27	59	5	11	14	30
	Q8c					25	55	7	15	14	30
	Q8d					2	4	17	37	27	59

0\*: No answer 0: Incorrect answer

Although Q1a and Q1b questions were parallel, success of the students differed. Similarly, it was seen that success of the students differed at Q8 by referring the relevant graph types. In this aspect, students made mistakes at *determining the irrelevant graphs, scaling errors, and inability to place the data appropriately.*

*Determining the irrelevant graphs or drawing the incorrect graphs:* Some of the students preferred to draw with same graphs for Q1a and Q1b. For example, S9 preferred the same graph type without considering the context of the problem.

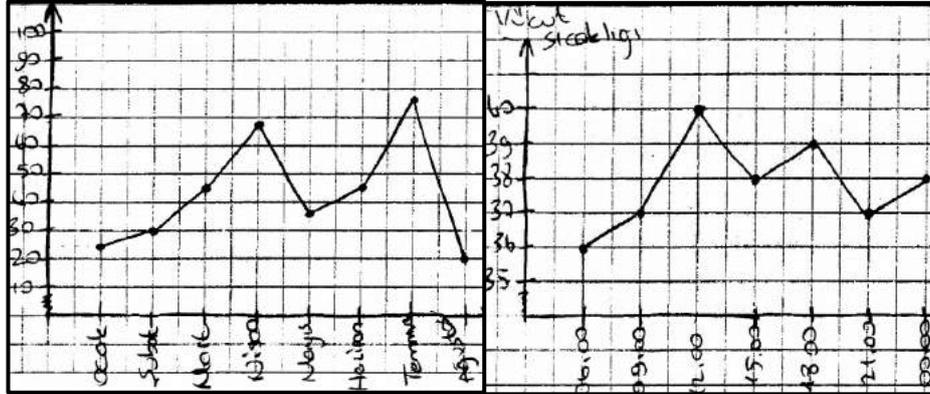


Figure 3. S9's drawn works for Q1a and Q1b

S9 could draw the line graph as a relevant graph type for the Q1b related the body temperature of a patient with a three-hour interval. On the contrary, S9 preferred the line graph for the Q1a which was about TV sales of a company and he preferred irrelevant graph type. On the other hand, some of the students preferred the bar graph both contexts. This finding suggest that students had difficulties in determining the most representative graph type for given context. For Q8, students could determine relevant graph type. However, students generally preferred to use bar graph rather than histogram. Also, students could not consider the total angle measurements of pie graphs that must be equal to 360. For example, drawn works of the S33 and S2 are given at below.

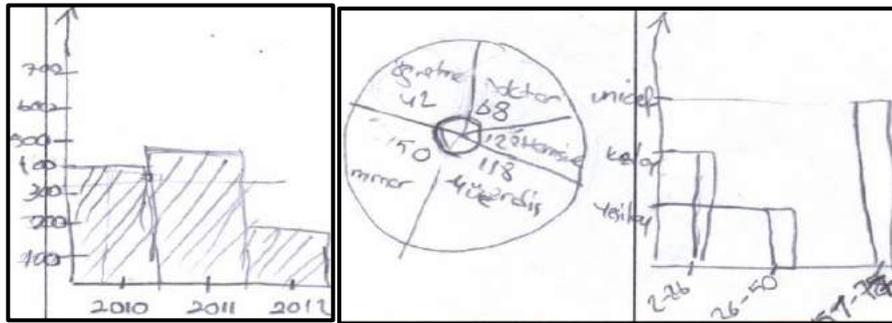


Figure 4. S33's and S2's drawn works for Q8

While S33 represented the PC sales of a company by month with the bar graph, she drew contiguous columns. Therefore, she could not draw appropriately for bar graph. On the other hand, S2 represented the distribution of professional preferences of the students aged 12-18. However, she did not consider the knowledge that the total angle measurement of the pie graph must be equal to 360°. She drew histogram with the non-contiguous columns.

*Scaling errors:* Some of the students did not consider scaling while they were drawing the graphs. Students failed to determine the units corresponding to the columns in proportion to the numerical values. For example, S4 displayed the distance that athlete ran according to days with the bar graph and made scaling errors in his drawing as below:

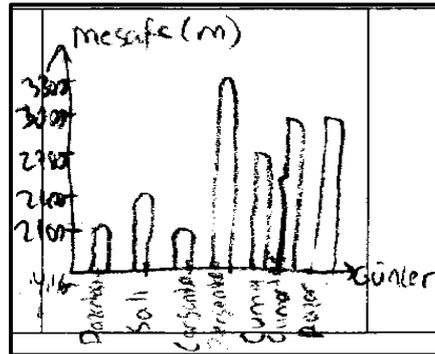


Figure 5. S4's drawn work for Q8

Although 3300 m was equal to the one and half times of 2200 m, she scaled the columns as 3300 m was approximately equal to the three times of the 2200 m and made scaling errors.

*Failure to drawing the graph based on the data:* Although the origin was not included in between the data, students assumed that the graph passed through the origin point, especially for the line graphs. For example, S22 could give place to data in the graph correctly. However, she assumed that the graph started from the origin point. Drawings of S22 and S15 for Q1b and Q8a are given below:

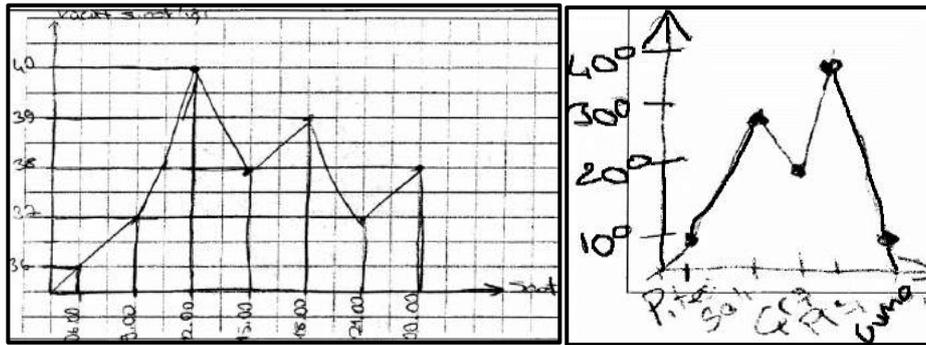


Figure 6. S22's drawn work for Q1b and S15's drawn work for Q8a

S22 could determine the relevant graph type and give place to data in her graph correctly. On the other hand, S15 could prefer the relevant graph as a line graph type for the variation of the temperature according to days. Also, they made mistakes as starting the graph from the origin.

*Results about Comparing the Graphs Aspect*

There were four questions related to CG aspect. Frequencies and percentages of the items are given in Table 6.

**Table 6**

*Distribution of Students' Scores for Comparing the Graph Aspect*

Scores		3		2		1		0*		0	
Level	Questions	f	%	f	%	f	%	f	%	f	%
Read beyond the data	Q4	1	2	4	9	35	76	2	4	4	9
	Q5a			20	43	17	37	1	2	8	17
	Q5b	6	13	9	20	22	48	1	2	8	17
	Q5c	8	17	12	27	15	33	3	6	8	17

0\*: No answer 0: Incorrect answer

Students were unsuccessful in Q4. Although the number of the students who gave an incorrect answer or did not answer was fewer, students generally got 1 point from the Q4. Therefore, most of the students could not have two or more points and they were unsuccessful in this question. Also, students were more successful in Q5a. For example, S2 answered:

*The first bar graph is the relevant one. All students could not understand the second graph, and this graph displayed numbers within a wide range. If they give more data and points correspond to data are increased, it could be better.*

It was seen that S2 compared the graphs considering the ease of the reading rather than the relevance of the context. Besides, there were few students considering the relevance of the graph for the context. They compared graphs not only explaining why the bar graph is relevant one but also drawing attention to reasons for the irrelevance of line graphs.

Students could realize that TV sales and data were the same for two graphs. However, students generally failed to explain the difference between graphs that arose from different scaling. There were students, answering why two graphs had the same sales. Students answering incorrectly stated that the second company had more sales. Students made mistakes by thinking that the second company had more sales due to having higher columns. While students were successful in Q5a, they could not display similar success in Q5b-Q5c. In these questions, they were asked to compare the companies concerning prize and quality. Students generally answered referring the equality as "equal" or "same". S25 answered:

*Due to both graphs are the same, they would have the same prize.*

S25 thought that TV prizes must be equal due to having the same TV sales. Students ignored that the information on the graphs was not enough to compare companies concerning prize or quality. It was seen that students' answers were only limited to the appearance of graphs.

*Results Evaluating the Graphs Aspect*

There were 11 questions related to EG aspect. Frequencies and percentages of the items are given in Table 7.

**Table 7**

*Distribution of Students' Scores for Evaluating the Graph Aspect*

Scores		3		2		1		0*		0	
Level	Question	f	%	f	%	f	%	f	%	f	%
Read between the data	Q3a			-	-	28	61	1	2	17	37
	Q3b			12	26	26	57	1	2	7	15
	Q3c			12	26	23	50	1	2	10	22
	Q3d			8	17	26	57	2	4	10	22
	Q3e			1	2	26	57	2	4	17	37
	Q8a					21	46	4	9	21	46
	Q8b					35	77	5	11	6	13
	Q8c					34	74	7	15	5	11
Read beyond the data	Q8d					7	15	17	37	22	48
	Q2b			-	-	2	4	16	35	7	15
	Q10	6	13	7	15	5	11	3	6	25	55

0\*: No answer 0: Incorrect answer

It was seen that students' scores for this aspect were differed according to the questions. Students were more successful in determining the relevant context for the graph type and assessing the graph type for the given context. On the other hand, they were unsuccessful in evaluating the errors in the graphs and whether the presented graphs had relevant drawings. For Q2b, students were asked to evaluate whether the graph type was relevant or drawn correctly. Students' answers were generally limited with one point due to drawing attention to be clear and understandable. For example, S31 explained why bar graph was relevant:

*I think the relevant one is the bar graph to see in detail.*

Although S31 realized that the bar graph was the correct choice, he could not explain why it was relevant.

For Q10, the context related to the change of the heat temperature is displayed with the bar graph. In addition, students were asked to evaluate the preference of the graph type. Most of the students failed to evaluate the relevance of the graph type. For example, S39 answered:

*It is true. Because we could understand which time it is hot or cold.*

S39 could take any point due to this preference. On the other hand, S28 answered:

*It is incorrect. They should use a line graph. We could not understand from the graph that how the heat temperature changes. Does it suddenly increase or decrease?*

S26 could answer not only drawing is relevant but also it is relevant for context, have 3 points.

Students could determine the relevant graph type for a given context. However, they are failed to explain their justification. It was seen that students preferred to refer their daily life experience or the appearance. Besides, some students could explain in which situation graph types are relevant to use. S11 explained about the preference of pie graph:

*Because the percentage rates are calculated and displayed in this form.*

S11 was able to explain the preference of the pie chart associating with the percentile. Q8 requires writing the relevant context for graph types. While students are more successful in evaluating the bar and pie graphs, they could have similar performance on the histograms. Students often present contexts related discrete variables. Students ignored that histogram is proper for continuous variables. Students could determine whether the graph type is appropriate for the context. However, they failed to realize the scaling errors. The success of students is changed according to graph type. While students are more successful in pie and bar graphs, they could not display similar success on histogram and line graphs. However, students could determine proper context or graph type. They could not give justification. The average scores of students for graphical literacy aspects and success rates are shown in Table 8.

**Table 8**

*Average Scores of Students for Graphical Literacy Aspects*

Aspect	Maximum score	Average Score	%
RG	2	1.85	92.4
IG	10	4.74	47.4
DG	10	3.02	30.2
CG	11	4.83	43.9
EG	20	7.80	39

As Table 8 demonstrates, students have lower success in DG, higher success in RG. Almost all students answer the questions related RG aspect. However, they could not display similar success on other aspects.

### **Discussion, Conclusions and Recommendations**

Students are more successful in reading the graphs aspect. In other words, they could be able to read the data. Reading the graph, by its very nature, requires the basic understanding and analyses of the data on the graph. It could be effective on this result. Studies agreed that students are more successful in reading data (Güven, Özmen, Baki, Uzun, & Arslan, 2018; Özmen, 2015; Sezgin-Memnun, 2013).

For interpreting the graphs, students failed to carry out operational steps. Studies stressed that students have difficulties in interpreting graphs (delMas, Garfield, Ooms, & Chance, 2007; Friel et al., 2001; Kramarski, 2004; Yun, Ko, & Yoo, 2016). Questions involving operational steps as calculating the average or making predictions based on data. Students generally made mistakes in this aspect by carrying out operations. While students calculate the average, they directly add up data on the x-y axis without considering the frequencies. The failure of operational skills is effective for students' misinterpretations. Yun et al. (2016) underlined that students have difficulties while they interpret graphs and make statistical inferences due to lack of understanding of data. Yilmaz and Ay (2016) also found that students failed to interpret the histogram. They point out that students tend to read the graph rather than interpreting the graph. Involving the more complex and interrelated thinking process of this aspect could be effective on this failure. It could be inferred that students generally tend to read the data despite reading between the data if we adopt rich context and use the questions requiring higher thinking level (such as critical, creative thinking, reasoning skills) rather than the familiar context in our classroom practices, we can raise students' graphical interpretation skills.

Students had challenges and lower success in representing data with the graphs. Similarly, Yayla and Ozsevgec (2015) underlined that students have lower success in drawing the graphs rather than interpreting the graph skills. Moreover, Sezgin-Memnun (2013) drew attention to similar results that students were not successful in drawing the line graphs. Maybe, not giving enough place to this kind of in-class practice related to representing the data may lead to these challenges. Although all graph type was centered on math curriculum, students were more successful in representing data with bar and pie graphs. Watson (2006) underlined that students frequently encounter bar and pie graphs in school years and tend to display data with the line, pie or bar graphs. However, Watson (2006) stressed that students have not enough knowledge to display data with graphs and determine relevant graph type. Due to lack of knowledge about in which context histogram, bar graphs are relevant, was effective on this failure. In addition, using columns for both is another factor in incorrect drawings of the histogram. Similarly, Yilmaz and Ay (2016) stressed that students had challenges to distinguish the difference between two graphs.

Thinking that graphs must start from origin, it is not included in the data, and scaling errors are effective on students' failure. Bragdon et al. (2019) also found that college students have difficulties in scaling. They underlined that college students have this difficulty with a similar rate of high school students. Again, Watson (2006) stressed that students have insufficient knowledge about naming and scaling the axis. Yayla and Ozsevgec (2015) also pointed out that students were unable to naming the axes and combining the points on the graphs. Friel et al. (2001) drew attention to the errors related to "read between data" questions. They stated that these errors might be related to insufficient mathematics knowledge, scaling or reading the axes errors. In this study, another difficulty that is effective on students' incorrect drawings is the belief that graphs must start from the origin. Bragdon et al. (2019) also underlined that college students have similar difficulties if graphs passed through the origin. Graphs,

students often met in their life mostly started from origin could be effective on this difficulty. In this way, it was understood that students had difficulties and lower success regardless of the grade level and graph types.

Students compare graphs depending on their personal thoughts or informal criteria rather than focusing on the relevance of graph type for context. They focused on neither context nor prerequisites of graph type. When they compare two graphs, they mostly consider how it looks at. Watson (2006) also stressed that students compare the graphs without suitable justifications. She underlined that students only compare the graphs apparently. In this study, students mostly prefer to bar graphs due to informal reasons, such as better, easier reading and understanding.

Being of students more familiar with the bar graphs rather than line graphs could be effective on these preferences. Students agree that the two graphs are the same. They realized that the difference between graphs is only about scaling. Therefore, students are successful in Q5a (comparing total sales). Although there is not enough knowledge of graphs related to quality or prizes, students think that quality and prize of products must be equal. Therefore, students could not think that comparing two graphs is not possible based on the given data. In this way, students are unsuccessful in determining what kind of information could be available from the graphs. This result suggests that students are unsuccessful in reading beyond the data.

Students are successful in determining the relevance of context or graphical representation. Similarly, Yun et al. (2016) found that students could choose a proper graph representation. Besides, it was seen that students' success changed depending on the graph type. While students perform better at bar or pie graphs, they are unsuccessful in histogram or line graphs. It is thought that this result could stem from the confusion with different graph type each other. Especially histogram and bar graphs were effective on this confusion. Sezgin-Memnun (2013) also stressed that students' confused line and bar graphs in their answers. However, both graphs have quite different nature.

In the present study, we did not meet this kind of result. The grade level of the students could be effective on the differentiation of the results. In her study, Sezgin-Memnun (2013) worked with 7th-grade students. On the other hand, students from 8th-grade level participated in the present study. Although students first met line graph at 7th-grade level, they could confuse these graphs. Koparan (2012) underlined that students have not enough knowledge when they determine the relevant graph type. delMas et al. (2007) stressed that university students had difficulty as determining appropriate graph type. It is understood that students had difficulties in choosing the best graph type regardless of grade level.

Evaluating the graph aspect, students are not able to realize graphical errors or the incorrect graph type. Wu (2004) stated that students had a basic ability to solve graphs, and students are unsuccessful in evaluating the graphs. In our instructions, we usually use a data set and ask students to summarize data with a suitable graph. Otherwise, a graph is given, and students are asked to answer the related questions. These questions are mostly about reading data or basic interpretations. However, students are not

familiar with questions about scaling errors, reading between or beyond data. Moreover, we could neglect to evaluate, compare and draw the graph aspects in our instructions. Thus, making real of the goal as raising students as graphically literate would be a failure. We should arrange the curriculum and design our instructions as serving to raise the graphical literacy of students.

Graphs should be taught, giving place to reading between or beyond data activities. Watson (2006) stressed that when the math curricula or the instructions are planned, practices should be centered upon not only drawing the graph but also determining errors or bias in graphs. Yun et al. (2016) also suggest that students should be taught with more stress on context and scaling. The results of the present study also support this recommendation. Students have a tendency not to consider different scaling of the same graphs. Therefore, they could think that these graphs are different. Similarly, Bragdon et al. (2019) and Watson (2006) recommended on this failure. This result could be stem from not giving enough place in different activities encouraging students to think statistically in-class practices. When we design in-class practices, we should consider both graphical literacy aspects and daily-life contexts.

This paper showed that students were unsuccessful in fulfilling the graphical literacy aspects (especially comparing and evaluating aspects). Their answers generally limited to reading data. They were unsuccessful in reading between and beyond the data. Therefore, students could not display graph comprehension skills defined by Curcio (1987). Similarly, Friel et al. (2001) stated that students are more successful in reading the data, make errors at between data questions. They underlined that questions related "*read beyond the data*" were even more challenging. Because this level requires making inferences and predictions about unknown cases, students may have more challenges. Also, studies in Turkey revealed that students have not enough graphical skills (Kaynar & Halat, 2012; Yayla & Ozsevgec, 2015; Yilmaz & Ay, 2016). The present study has also confirmed that students have difficulties in displaying graphical literacy behavior. Therefore, there is a need to improve the graphical comprehension levels of students. Also, this failure may stem from a lack of instructional activities.

There is a need to design of learning environment through these aspects to raise students as graphically literate. To achieve this, of course, graphical literacy level of teachers and quality of instructional activities are important. Required arrangements to deal with students' difficulties should be integrated into our statistics teaching. To design better classroom practices, it is also important for teachers to have an opportunity to be a guide for teaching graphs or to cope with the difficulties that students faced. This takes us the idea that the math curriculum in Turkey should also be revised to develop students' graphical literacy skills. Further studies should also focus on how graphical literacy emerges in the learning environment. Wu (2004) suggests that teachers should assist students in realizing graphical errors, help students to properly use their contextual knowledge of graphs. Friel et al. (2001) stressed that teachers need to increase their knowledge of graphs and be aware of how they would teach graphs providing effective instructions. For the future, graphical literacy levels of teachers should be determined. Necessary arrangements should be

considered to raise teachers as equipped with graphical literacy. Also, in this study, we built graphical literacy aspects and this structure should be considered in further studies.

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## 8. Sınıf Öğrencilerinin Grafik Okuryazarlığı Düzeylerinin Belirlenmesi

### Atıf:

Ozmen, Z. M., Guven, B., & Kurak, Y. (2020). Determining the graphical literacy levels of 8th grade students. *Eurasian Journal of Educational Research*, 86, 269-292, DOI: 10.14689/ejer.2020.86.13

### Özet

*Problem Durumu:* Grafikler konusunun yaşamımızda ve matematik öğretim programlarında önemli bir yere sahip olması, öğrencilerin grafikler konusu ile ilgili zorluklar yaşadıklarının ortaya koyulması öğrencilerin grafiklerle ilgili yeterliklerinin belirlenmesi ihtiyacını ortaya çıkarmaktadır. Araştırmalarda grafiklerle ilgili farklı boyutlar üzerinde odaklanılmaktadır. Genellikle grafik okuma, oluşturma ve yorumlama boyutları ile ilgili araştırmalar yapılmaktadır. Ancak öğretim programı incelendiğinde öğrencilerin sadece grafikleri okuma, oluşturma ve yorumlama becerileri değil aynı zamanda farklı grafikler üzerinde karşılaştırma yapmaları ve grafiklerdeki hatalı durumları fark ederek uygun değerlendirmeler yapmaları da beklenmektedir. Grafikleri doğru kullanabilmek ve grafiklerden uygun şekilde faydalanabilmek için grafiklere tüm yönleriyle hâkim olmak gerekir. Yani grafikleri

okuma, anlama, yorumlama, oluşturma, oluşturulan grafiklerin uygunluğunu değerlendirme ve hatalı oluşturulmuş grafiklerin farkında olma gibi yeterliliklere sahip olmak gerekmektedir. Bu anlamda öğrencilerin grafik okuryazarlığının okuma, oluşturma, yorumlama, karşılaştırma, değerlendirme boyutları açısından resmedilmesi önemli görülmektedir.

*Araştırmanın Amacı:* Bu çalışmada 8. sınıf öğrencilerinin grafik okuryazarlığının grafikleri okuma, yorumlama, oluşturma, karşılaştırma ve değerlendirme boyutları ve grafik okuma düzeyleri açısından resmedilmesi amaçlanmıştır. Bu amaç doğrultusunda grafik karşılaştırmaya ilişkin geliştirilen yapıda yer alan üç temel düzey (veri okuma, veriler arası okuma, verilerin ötesinde okuma) dikkate alınmıştır.

*Araştırmanın Yöntemi:* Ortaokul 8. sınıf öğrencilerinin grafik okuryazarlığının grafik okuma, oluşturma, yorumlama, karşılaştırma ve değerlendirme boyutları bakımından incelenmesini amaçlayan bu çalışmada betimsel araştırma yöntemi tercih edilmiştir. Bu çalışmanın örneklemini iki ortaokulun 8. sınıfına devam eden 46 öğrenci oluşturmaktadır. Örneklem olarak 8. sınıf öğrencilerinin seçilmesinde ortaokul matematik öğretim programında grafik konusu ile ilgili kazanımların hepsinin bu sınıf seviyesine kadar görülmesi etkili olmuştur.

Çalışmanın veri toplama aracını grafik okuryazarlığı testi oluşturmaktadır. Bu testte grafik okuryazarlığı boyutlarına yönelik toplam 10 soruya yer verilmiştir. Testte yer alan sorular hazırlandıktan sonra uzman görüşüne başvurulmuştur. Uzman görüşü sonrası sorularda gerekli düzenleme ve değişiklikler yapılarak testin son hali verilmiştir. Öğrencilerin testte yönelik cevapları nitel olarak analiz edilecektir. Her bir soru için olası cevaplar mantıklılık derecesine göre kategorik olarak puanlanmıştır. Öğrencilerin her soru için cevapları kategorik puanlama cetveline göre değerlendirilmiştir.

*Araştırmanın Bulguları:* Öğrencilerin testte ilişkin başarılarının 22,1 puan ortalama ve 8 standart sapma olduğu görülmüştür. Testten alınabilecek maksimum puan 53 iken en başarılı öğrenci 38, en başarısız öğrenci ise 3 puan alabilmiştir. Öğrencilerin tamamına yakınının grafik okuma boyutuna yönelik soruları doğru cevapladığı görülmektedir. Grafikteki verileri okuyarak doğrudan bu veriler yardımıyla işlem yapmalarını gerektiren veri okuma ile ilgili sorularda öğrenciler başarılı olabilmıştır. Öğrencilerin grafik yorumlama boyutu ile ilgili cevapları değerlendirildiğinde üst düzey cevapların çok az yer aldığı görülmektedir. Öğrenciler grafikte verilen bilgileri, soruda istenilen bilgiler arasında ilişkiyi kurmada zorlanmışlardır. Grafiklerde verilerin ortalamalarını almaları gereken durumlarda frekans sayısını göz ardı ederek doğrudan x veya y ekseninde yazan değerlerin aritmetik ortalamasını almışlardır. Ayrıca öğrenciler grafik yorumlama boyutunda matematiksel işlem gerektiren sorularda daha çok hata yapmışlardır. Öğrencilerin grafikleri oluşturma boyutunda başarılarının grafik türüne göre değiştiği görülmektedir. Grafik oluşturmada öğrenciler uygun grafik türü seçmeme, yanlış ölçeklendirme yapma ve verileri uygun şekilde yerleştirememe şeklinde hatalar yapmışlardır. Grafikleri karşılaştırma ve değerlendirme boyutunda öğrenciler genel olarak başarısız olmuşlardır. Özellikle de verilerin ötesinde okuma düzeyinde cevaplar sunamamaları bu boyutlarda başarısız olmalarında etkili olmuştur. Bu

anlamda öğrenciler grafik okuma ile ilgili tanımlanan düzeylerden veri okumada başarılı iken verilerin ötesinde okuma düzeyinde etkili cevaplar sunamamışlardır.

*Araştırma Sonuç ve Önerileri:* Bu çalışmada öğrencilerin grafik okuryazarlığına ilişkin başarılarının düşük olduğu görülmektedir. Başka bir deyişle grafik okuryazarlığı ile ilgili beklenen düzeyde bir davranış sergileyememişlerdir. Öğrenciler özellikle grafikleri karşılaştırma, uygun bağlam veya grafik türünü belirleme, grafiklerdeki hataları fark edebilmede başarısız olmuşlardır. Başka bir ifadeyle, veriler arası okuma ve verilerin ötesinde okuma düzeylerine ilişkin zorluk yaşamışlardır. Bu başarısızlıklar grafiklerle ilgili etkinliklere dayalı öğretimlerin yetersiz olmasından da kaynaklanabilir. Bu anlamda öğrencilerin grafik okuryazarı olarak yetiştirilmelerinde grafik okuryazarlığı boyutlarını temel alan öğrenme ortamlarının tasarlanmasına olan ihtiyaç ortaya çıkmaktadır. Bunu başarmada ise kuşkusuz öğretmenlerin grafik okuryazarlığı seviyeleri ve öğretimsel aktivitelerin niteliği de önemli olmaktadır. Öğrenme ortamlarında grafik okuryazarlığının nasıl ortaya çıktığına yönelik çalışmalar yapılabilir. İlerleyen çalışmalarda öğretmenlerin grafik okuryazarlık düzeylerini belirleyen çalışmalar yapılabilir ve öğretmenlerin grafik okuryazarlığı açısından donanımlı olmalarını sağlayacak düzenlemeler dikkate alınabilir.

Öğrencilerin grafik okuryazarlığı boyutlarını başarmada yeterli düzeyde olmadıkları görülmektedir. Bu ise grafik karşılaştırma düzeylerinde de başarısız olduklarına işaret etmektedir. Öğrencilerin cevapları genel olarak veri okuma düzeyi ile sınırlı kalmıştır. Çalışmalarda öğrencilerin veri okuma düzeyinde daha başarılı olduklarını, veriler arası okumada hatalar yaptıklarını belirtmişlerdir. Ayrıca öğrencilerin “verilerin ötesinde okuma” düzeyinde en çok zorluk yaşadıklarına dikkat çekmişlerdir. Bu düzeyin bilinmeyen durumlara yönelik tahminde bulunma ve çıkarım yapmayı gerektirmesinin bu başarısızlıkta etkili olduğu düşünülmektedir. Bu anlamda öğrencilerin grafik okuryazarlığı düzeylerinin geliştirilmesi gerektiği ihtiyacı ortaya çıkmaktadır. Grafikleri öğretirken sadece veri okuma değil aynı zamanda veriler arası ve veri ötesinde okuma gibi farklı düzeylere de odaklanılmalıdır. Grafik okuma düzeyleri ve bu çalışmada ele alınan grafik okuryazarlığı boyutlarına ilişkin yapı grafik okuryazarlığı ile ilgili gelecekteki çalışmalarda kullanılabilir.

*Anahtar Kelimeler:* Grafikler, grafik okuryazarlığı, grafik okuryazarlığı boyutları, öğrencilerin grafik okuryazarlığı düzeyleri.



**Submission Checklist**  
**Makale Sunumu Kontrol Çizelgesi**

\* Aday makalenin değerlendirilmeye hazır olduğunu aşağıdakilerin her biri ile karşılaştırarak kontrol ediniz.

\* Indicate that this submission is ready to be considered by this journal by checking off the following.

<b>Manuscript Agreement:</b> <i>I / We hereby accept that, the article after being accepted for publication in the Eurasian Journal of Educational Research (EJER), the author (s) as, all rights related to the article has been transferred to the ANI PUBLISHING under the laws of the, "copyright transfer".</i> Makale Eurasian Journal of Educational Research (EJER) dergisinde basıma kabul edildikten sonra, yazar(lar) olarak; makale ile ilgili tüm hakları, "Telif Hakkı Devir" yasaları uyarınca, ANI YAYINCILIK'A devrettiğimizi kabul ediyoruz.		
<b>Manuscript Submission:</b> <i>I have prepared my manuscript based on the criteria listed below and I accept all submission conditions.</i> Makalemi aşağıda belirtilen kriterlere göre hazırladım ve makale gönderme koşullarının tamamını kabul ediyorum. <i>Indicate that this submission is ready to be considered by this journal by checking off the following.</i> Aday makalenin değerlendirilmeye hazır olduğunu aşağıdakilerin her biri ile karşılaştırarak kontrol ediniz.		
1	<input checked="" type="checkbox"/>	<i>The manuscript is a report of original educational research or a discussion article on research topics in education.</i> Aday makale, eğitim alanıyla doğrudan ilgili bir araştırma ya da tartışma yazısıdır.
2	<input checked="" type="checkbox"/>	<i>The submission has not been previously published, nor sent to another journal for consideration.</i> Sunulan çalışma daha önce herhangi bir yerde yayınlanmamıştır, başka bir derginin incelemesinde değildir.
3	<input checked="" type="checkbox"/>	<i>Within a year, I have not submitted a manuscript to EJER as an author or co-author for review other than this manuscript.</i> Son bir yıl içerisinde, yazarı olduğum ya da yazarları arasında bulunduğum başka bir çalışma değerlendirilmek üzere EJER'e sunulmamıştır.
4	<input checked="" type="checkbox"/>	<i>The entire manuscript is written in English.</i> Aday makalenin bütünü yazım dili İngilizcedir.
5	<input checked="" type="checkbox"/>	<i>The original manuscript is typed on A4 paper. The margins are 2.5 cm.</i> Aday makale kenar boşlukları 2.5 cm olan A4 kağıda yazılmıştır.
6	<input checked="" type="checkbox"/>	<i>Each paragraph is longer than two sentences.</i> Her bir paragraf en az üç cümle içermektedir.
7	<input checked="" type="checkbox"/>	<i>The entire manuscript - including quotations, references, author note, content footnotes, figure captions, and all parts of tables – is double-spaced.</i> Aday makalenin tamamı, alıntılar, kaynakça, şekil ve tablo başlıkları da dâhil olmak üzere çift aralıklı yazılmıştır.

8	<input checked="" type="checkbox"/>	<p>The submission file is in Microsoft Word document file format. 12-point Times New Roman font is used in entire manuscript.</p> <p>Aday makale, tamamında 12 punto Times New Roman yazı tipi kullanılarak hazırlanmış bir Microsoft Word dokümanıdır.</p>
9	<input checked="" type="checkbox"/>	<p>The text has had the authors' names removed. If an author is cited, "Author" and year are used in the bibliography and footnotes, instead of author's name, paper title, etc. The author's name has also been removed from the attached document.</p> <p><b>Aday makale, yazar adları çıkarılarak sunulmuştur.</b> Eğer yazar kendisine atıfta bulunduysa yazarın adına ve çalışma başlığına yer verilmeyecek, sadece "Author" yazılarak çalışmanın yılı belirtilecektir. Eklenen dosyada yazar adı belirtilmeyecektir.</p>
10	<input checked="" type="checkbox"/>	<p>The title is 10 to 12 words.</p> <p>Aday makalenin başlığı 10-12 sözcük uzunluğundadır.</p>
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12	<input checked="" type="checkbox"/>	<p>The article is preceded by <b>English Structured Abstract of not more than 250 words</b> and not less than 200 using five required headings: <b>Purpose:</b> State the problem in field. Then explain the purpose of the study. <b>Method:</b> Specify the research design, sample, and research instrument and data analysis in brief. <b>Findings:</b> Highlight the significant, interesting or surprising results. <b>Implications for Research and Practice.</b> (These headings may need some adaptation in the case of discussion papers: <i>Background, Purpose of Study, Sources of Evidence, Main Argument, and Conclusions</i>). More information available from <a href="http://www.tandf.co.uk/journals/authors/rereabstracts.asp">http://www.tandf.co.uk/journals/authors/rereabstracts.asp</a></p> <p>Yapılandırılmış İngilizce öz 200-250 sözcük uzunluğunda olup, aday makalenin başında yer almakta ve <b>Purpose</b> (ilk önce alanda karşılaşılan sorunu belirtelim. Daha sonra araştırmanın amacını bir cümle ile veriniz ), <b>Method</b> (Araştırma deseni, örneklem, veri toplama aracı ve verilerin analizini kısaca açıklayınız), <b>Findings</b> (En önemli ve çarpıcı araştırma bulgularını verelim) <b>Implications for Research and Practice</b>, (Uygulama ve ileriye dönük araştırmalar için olası çıkarımlarınız ) başlıklarını içermektedir. Bu başlıklar tartışma yazıları için: <i>Çalışmanın Temeli, Çalışmanın Amacı, Kanıt Kaynakları, Ana Tartışma ve Sonuçlar</i> şeklinde olabilir. Daha fazla bilgi için; <a href="http://www.tandf.co.uk/journals/authors/rereabstracts.asp">http://www.tandf.co.uk/journals/authors/rereabstracts.asp</a> adresine başvurunuz.</p>
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14	<input checked="" type="checkbox"/>	<p>An extended (750-1000 words) Turkish structured abstract is placed following the "References" section using five required headings: Problem Statement, Purpose of Study, Methods, Findings and Results, and Conclusions and Recommendations. (These headings may need some adaptation in the case of discussion papers: Background, Purpose of Study, Sources of Evidence, Main Argument, and Conclusions). More information available from <a href="http://www.tandf.co.uk/journals/authors/rereabstracts.asp">http://www.tandf.co.uk/journals/authors/rereabstracts.asp</a></p> <p>Kaynakça'dan sonra 750-1000 sözcükten oluşan Türkçe yapılandırılmış öze yer verilmiştir. Türkçe yapılandırılmış öz <i>Problem Durumu, Araştırmanın Amacı, Araştırmanın Yöntemi, Araştırmanın Bulguları, Araştırmanın Sonuçları ve Önerileri</i> başlıklarını içermektedir. Bu başlıklar tartışma yazıları için: <i>Çalışmanın Temeli, Çalışmanın Amacı, Kanıt Kaynakları, Ana Tartışma ve Sonuçlar</i> şeklinde olabilir. Daha fazla bilgi için; <a href="http://www.tandf.co.uk/journals/authors/rereabstracts.asp">http://www.tandf.co.uk/journals/authors/rereabstracts.asp</a></p>
15	<input checked="" type="checkbox"/>	<p>Following the Turkish structured abstract, four to six keywords are included. Uzun Türkçe özetten sonra 4-6 anahtar sözcüğe yer verilmelidir.</p>
16	<input checked="" type="checkbox"/>	<p>References are not cited in the structured abstracts in English and in Turkish. İngilizce abstract ve Türkçe öz içerisinde atıfta bulunulmamıştır.</p>
17	<input checked="" type="checkbox"/>	<p>The format of headings, tables, figures, citations, references, and other details follow the <b>APA 6 style</b> as described in the <i>Publication Manual of the American Psychological Association, 6th edition</i>, available from <a href="http://www.apa.org">http://www.apa.org</a></p> <p>Aday makalenin başlıkları, tabloları, şekilleri, atıfları, kaynakçası ve diğer özellikleri tamamen APA altıncı baskıda belirtildiği şekildedir.</p>
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20	<input checked="" type="checkbox"/>	<p>Three levels of headings are used: Level 1, Level 3 and Level 4. The headings are formatted as follows: Centered Uppercase and Lowercase Heading (Level 1)  <i>Flush Left, Italicized, Uppercase and Lowercase Side Heading</i> (Level 3)  <i>Indented, italicized, lowercase paragraph heading ending with a period.</i> Start writing after the period (Level 4).</p> <p>Aday makale içerisinde üç farklı düzey başlık kullanılmıştır. Düzey 1, Düzey 2, Düzey 3. Başlıklar bu düzeylere uygun olarak aşağıdaki şekilde biçimlendirilmiştir:</p> <p>Ortalı ve Her Sözcüğün İlk Harfi Büyük Yazılmış Başlık (Düzey 1)  <i>Tam Sola Dayalı, İtalik ve Her Sözcüğün İlk Harfi Büyük Yazılmış Başlık</i> (Düzey 3)  <i>İçeriden, italik, tamamı küçük harflerle yazılmış ve nokta ile biten başlık.</i>  Noktadan sonra normal metin yazımına devam edilmeli (Düzey 4).</p>
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22	<input checked="" type="checkbox"/>	<p><b>Order of the main parts in the manuscript is as follows: Main title in English (max. 12 words)</b>  <b>Structured abstract (min. 200-max. 250 words length)</b>  <b>Keywords (in English, min. four-max. six)</b>  <b>Main text</b>  <b>References</b></p> <p><b>Main Title in Turkish (max. 12 words)</b>  <b>Extended structured abstract (min. 750-max. 1000 words length in Turkish)</b>  <b>Keywords (in Turkish, min. four-max. six)</b></p> <p>Aday makaleyi oluşturan ana öğeler aşağıdaki düzendedir:</p> <p>İngilizce Ana Başlık (En fazla 12 sözcük)  Yapılandırılmış İngilizce Abstract (En az 200, en fazla 250 sözcük)  Anahtar Sözcükler (İngilizce, en az dört, en fazla altı)  Ana Metin</p>

		<p>Kaynakça  Türkçe Ana Başlık (En fazla 12 sözcük)  Yapılandırılmış Türkçe Öz (En az 750, en fazla 1000 sözcük)  Anahtar Sözcükler (Türkçe, en az dört, en fazla altı)</p>
23	<input checked="" type="checkbox"/>	<p><b>Structure of the Manuscript should be as follows:</b>  Manuscript Title  <b>English Abstract (200-250 words) Sub-headings:</b>  <i>Purpose:...</i>  <i>Purpose of Study:...</i>  <i>Method:...</i>  <i>Findings:...</i>  <i>Implications for Research and Parctice:...</i>  <i>Keywords:...</i>  <b>Introduction Method (sub-headings):</b>  <i>Research Design</i>  <i>Research Sample</i>  <i>*Research Instrument and Procedure</i>  <i>Data Analysis</i>  <b>Results, Discussion and Conclusion, References</b>  <b>Extended Turkish Abstract (750-1000 words) Sub-headings:</b>  <i>Problem Durumu:...</i>  <i>Araştırmanın Amacı:...</i>  <i>Araştırmanın Yöntemi:...</i>  <i>Araştırmanın Bulguları:...</i>  <i>Araştırmanın Sonuçları ve Önerileri:...</i></p>
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\* Reliability and the validity of the research instrument used or adapted in the work must be provided, and explained in detail.

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