Investigation of Middle School Students' Attitudes toward Turkish Lesson by CHAID Analysis [*]

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Abstract

This research aims to determine middle school students' attitudes towards the Turkish lesson and examine the variables that predict these attitudes by CHAID analysis. In this study which is based on the survey model and the relational research method, which are among the quantitative research methods, the sample consists of a total of 1187 middle school students, 604 girls, and 583 boys, studying in the Esenler district of Istanbul in the 2019-2020 academic year. Students' attitudes towards Turkish lessons were obtained through the ATLS developed by Topçuoğlu Ünal and Köse (2014). The variables that predict middle school students' attitudes towards the Turkish lesson were determined by CHAID analysis. According to the results obtained from the research, the students' attitudes towards the Turkish lesson are generally positive. According to the results, grade level was the most crucial variable predicting students' attitudes towards Turkish lessons. The other variables were time allotted to games and social media in the electronic environment, Turkish lesson grade point averages, time allotted to reading, school type, absenteeism, and gender.

Introduction

People, by nature, want to socialize by communicating to share their feelings and thoughts with the people in the society they live together, exchange information with the people they interact with, and understand these people. To fulfill this purpose, the most effective communication tool that people have used and continued to use for centuries is language. "It has its own laws, and it is a living entity that develops within the framework of these laws" (Ergin, 2009, p. 3). The individuals in the society, who have the most significant influence in the formation of these laws, give the same names to objects, actions, and phenomena by establishing connections between words in a similar way, using words in a particular order to ensure a closeness between all individuals living in the society. As a result of these individuals using the same language, shared values are formed in history, religion, and culture. This society continues to exist by transforming into a nation (Ercilasun, 1984). Nations' ability to maintain

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their existence by preserving this common heritage depends on them owning the language they have created by giving their own names and symbols to objects, facts, actions, and concepts.

As a result of this, the concept of mother tongue emerges. The mother tongue is the language in which individuals in a society can best communicate with each other. Korkmaz (1992, p. 8) defines his mother tongue as "the language that a person learns from the family he was born and grew up in, and the social environment to which he was born, that descends into his subconscious and forms the strongest bond in the relations between people and society". The individuals do not make any effort to acquire their mother tongue, which he is faced with at birth. The mother tongue is a language that is "acquired" as a result of hearing from family members and close environment. This acquisition, which is not sufficient for the conditions that the individual will encounter throughout his life, needs to be developed to establish effective communication with people and enable individuals to express themselves correctly and effectively both verbally and in writing. Meeting this need and using the language effectively and efficiently is possible by acquiring language-related knowledge and skills appropriately and at the appropriate time (Topçuoğlu Ünal & Köse, 2014). Therefore, the middle school period, also called the critical period in educational sciences, aims to provide students with knowledge and skills related to the mother tongue through Turkish lessons and create mother tongue awareness.

Turkish has an important place in our country because it is used in education, mother tongue, and in teaching other courses. Through this course, students acquire four basic language skills consisting of reading, writing, speaking, and listening/watching that they can use throughout their lives, and thanks to these skills, they communicate effectively with all individuals in the society and acquire a voluntary literacy habit (Ministry of National Education [MoNE], 2019). With students having these basic skills, their level of understanding of other lessons in the school increase, and their probability of success in these lessons become stronger. Turkish lessons improve their language skills and convey the national culture to them, make them like them, and enrich them culturally (Aşıcı, 2005). Being successful in the Turkish course requires that students have specific characteristics. Many variables affect the students' course success in the education and training processes. According to the mastery learning model introduced by Bloom (1995), learning takes place under the influence of two main variables. While student characteristics, including cognitive and affective entry behaviors, constitute the first, the quality of the teaching activities offered is the second. Cognitive entry behaviors include features such as problem-solving, reasoning, readiness, comprehension of reading and listening/watching, expressing what they understand verbally or in writing, and using language effectively. Attitudes towards the course, interest, and academic self-confidence/self can be given as examples of affective entry behaviors. Attitude is one of the critical variables that affect students' success in a course (Kaya, Arslantaş, & Şimşek, 2009).

Attitude is defined by Allport (1935, p. 810) as "a state of emotional and mental readiness that has a directive or dynamic influence on the behavior of the individual for all objects and situations to which it is related, resulting from experiences and experiences". If students develop a positive emotional and mental preparation for a lesson and all situations that may have an attitude towards it, their interest and desire for this lesson will increase, thus making it easier for students to learn the lesson. However, if there is a negative emotional and mental preparation for the lesson, in that case, the interest and desire of the students for that lesson will decrease, and it will be difficult for them to be successful in the lesson (Kaya et al., 2009). According to studies in the literature (Baş, Şentürk, & Ciğerci, 2016; Kazazoğlu, 2013; Tabuk, 2019; Tay & Akyürek Tay, 2006), students' positive attitudes towards a lesson increase their success in that lesson.

When the studies in the literature are examined (Ateş, 2008; Bağcı & İpekci, 2016; Bölükbaş, 2010; Karasakaloğlu & Saracaloğlu, 2009), it is seen that both the success of Turkish lessons and the general academic averages of students who develop a positive attitude towards Turkish lessons increase. In addition, it can be stated that learning the students' attitudes towards Turkish lessons and revealing the variables that affect these attitudes validly and reliably can guide the teachers in increasing

both the Turkish lesson success and the general academic success of the students. Since one of the critical variables affecting the success of a lesson is an attitude, and the Turkish lesson is an important lesson used both in teaching and in the transfer of culture, it is essential to examine students' attitudes towards Turkish lessons and the variables that affect these attitudes with an effective analysis method. For this reason, this study aims to determine the attitudes of 5th, 6th, 7th, and 8th-grade students towards the Turkish lesson and examine the variables that affect these attitudes. In this direction, answers were sought to the following questions:

1. What is the level of middle school students' attitudes towards the Turkish lesson?
2. What are the variables that predict middle school students' attitudes towards Turkish lessons

Method

Research Design

In this study, which aims to determine middle school students' attitudes toward the Turkish lesson and examine the variables that affect these attitudes, a correlational research design, a survey model, was used. A survey model is a research approach that aims to describe a past or present situation. In this model, it is out of the question to influence or change the elements on which research is conducted (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2018). With the survey model, survey arrangements can be made on all units in the population or on the group or sample representing the population to reach a general judgment about a population. The correlational research method is a non-experimental research method designed to predict whether there is a relationship between two or more variables and, if so, what kind of relationship it is (Christensen, Johnson, & Turner, 2010). In this direction, middle school students' attitude levels towards Turkish lessons were determined with a one-sample t-test, and the variables affecting students' attitudes towards Turkish lessons were also analyzed through CHAID analysis.

Research Group

The study group of this research consists of middle school students studying in the 5th, 6th, 7th and 8th grades in the Esenler district of Istanbul in the 2019-2020 academic year. The students constituting the study group were determined by using a convenient sampling method. Considering the school type variable, four imam hatip middle schools and five middle schools were randomly selected from 19 middle schools in the Esenler district, and nine schools were reached. In the middle schools reached, one class (5, 6, 7, and 8) from each grade level was randomly included in the study. Since the classes in imam hatip middle schools are divided into boy and girl classes, two classes from each grade level (i.e., one girl class and one boy class) were randomly included. Thus, 1622 students participated in the study. Since some of the students who participated in the study did not respond to some items in the Personal Information Form and the ATLS, the data of these students were not included in the study. The demographic information of the students who make up the study group are shown in Table 1.

Table 1. Demographic information related to Research Group

Variable	Category	F	%
Gender	Girl	604	50,9
	Boy	583	49,1
Grade level	5. grade	261	22,0
	6. grade	305	25,7
	7. grade	311	26,2
	8. grade	310	26,1
School type	Imam hatip middle school	590	49,7
	Middle school	597	50,3
Education type	Morning-afternoon groups	650	54,8
	Full day	537	45,2
Grade point averages	0-54	16	1,4
	55-69	115	9,7
	70-84	353	29,7
	85-100	703	59,2
Preschool	Yes	561	47,3
	No	626	52,7
Grade point averages for Turkish lesson	0-54	25	2,1
	55-69	122	10,3
	70-84	322	27,1
	85-100	718	60,5
Number of siblings	0	64	5,4
	1	407	34,3
	2	426	35,9
	3	180	15,1
	4	58	4,9
	5 and more	52	4,4
Absenteeism	0	276	23,2
	1-5	731	61,6
	6 and more	180	15,2
Time devoted to study	0 minute	24	2,0
	0-30 minutes	141	11,9
	30-60 minutes	291	24,5
	60-90 minutes	301	25,4
	90-120 minutes	189	15,9
	120 minutes and more	241	20,3
Internet	Yes	968	81,6
	No	219	18,4
Mobile phone	Yes	508	42,8
	No	679	57,2
Computer or tablet in home	Yes	954	80,4
	No	233	19,6
Income level	2000 TL and below	222	18,7
	2001 - 3000 TL	433	36,5
	3001 TL and above	532	44,8
Academic expectation (School level where they consider it sufficient to graduate in the future)	Middle school	40	3,4
	High school	85	7,1
	University	1062	89,5
Usage of smart board in Turkish lessons	Yes	866	73,0
	No	321	27,0

Table 1. Continued

Variable	Category	F	%
Mother education level	Illiterate	72	6,1
	Primary school graduate	551	46,4
	Middle school graduate	270	22,7
	High school graduate	210	17,7
	Associate degree graduate	11	0,9
	Bachelor's degree	66	5,6
	Master's / Ph.D.	7	0,6
Father education level	Illiterate	21	1,8
	Primary school graduate	394	33,2
	Middle school graduate	361	30,4
	High school graduate	291	24,5
	Associate degree graduate	10	0,8
	Bachelor's degree	89	7,5
	Master's / Ph.D.	21	1,8
Time devoted to gaming or social media	0 hour	109	9,2
	0-1 hour	451	38,0
	1-2 hours	335	28,2
	2-3 hours	161	13,6
	3 hours and more	131	11,0
Daily time spent by the student for reading	0 minute	76	6,4
	0-30 minutes	480	40,4
	30-45 minutes	333	28,1
	45-60 minutes	177	14,9
	60 minutes and more	121	10,2
Daily time devoted to reading by student's mother	0 minute	646	54,4
	0-30 minutes	283	23,8
	30-45 minutes	130	11,0
	45-60 minutes	71	6,0
	60 minutes and more	57	4,8
Daily time devoted to reading by student's father	0 minute	805	67,8
	0-30 minutes	213	17,9
	30-45 minutes	91	7,7
	45-60 minutes	47	4,0
	60 minutes and more	31	2,6
Weekend course or study center attendance	Yes	678	57,1
	No	509	42,9
Number of educators in the family	Yes	664	55,9
	No	523	44,1
Total		**1187**	**100,0**

As seen Table 1, 50.9% (n=604) of the study group were girls and 49.1% (n=583) were male students. Of those participants, 22% (n=261) were 5th grade students, 25.7% (n=305) were 6th grade students, 26.2% (n=311) were 7th grade students, and 26.1% were 8th grade students. While 49.7% (n=590) of the students attend imam hatip middle school students, 50.3% (n=597) attend middle school students. While 54.8% (n=650) of the participants attend schools where morning-afternoon groups are applied, 45.2% (n=537) of the students attend in schools where full-time education is applied.

Among the students participating in the research, students with a grade point average of 0-54 (n=16) constitute 1.4% of the group, and students with a grade point average of 55-69 (n=115) constitute 9.7% of the student group, students with a grade point average of 70-84 constitute 29.7% (n=353) of the

group, and students with a grade point average of 85-100 constitute 59.2% (n=703) of the group. Among the students participating in the research, the students whose Turkish course average is in the 0-54 grade range (n=25) constitute 2.1% of the group, and students in the 55-69 grade range (n=122) constitute 10.3% of the group, students in 70-84 grade point average (n=322) constitute 27.1% of the group, and lastly students in the 85-100 grade range (n=718) constitute 60.5% of the group.

47.3% (n=561) of the students in the study group stated that they went to preschool, while 52.7% (n=626) stated that they did not go to preschool. Of those students, 5.4% (n=64) had no siblings, 34.3% (n=407) had 1 sibling, 35.9% (n=426) had 2 siblings, 15.1% (n=180) had 3 siblings, 4.9% (n=58) had 4 siblings, and the remaining 4.4% (n=52) had 5 or more siblings. 23.2% (n=276) of the students who participated in the study have no absenteeism, 61.1% (n=731) were absent from school for 1-5 days, and the remaining 15.2% (n=180) were absent for 6 days or more. 2% (n=24) of the students do not spend any time for studying after school. Of them, 11.9% (n=141) spend 0-30 minutes, 24.5% (n=291) spend 30-60 minutes, 25.4% (n=301) spend 60-90 minutes, 15.9% (n=189) spend 90-120 minutes and 20.3% (n=241) spend 120 minutes and more for studying after school. While 81.6% (n=968) of the students had internet at home, 18.4% of them (n=219) did not have internet at home. 42.8% of the participants (n=508) had their own mobile phones, whereas 57.2% of them (n=679) did not have their own mobile phones. While 80.4% of the students (n=954) have at least one computer or tablet at home, 19.6% of them (n=233) do not have a computer or tablet at home.

The monthly family income of 18.7% (n=222) of the students participating in the study was 2000 TL and below. 36.5% (n=433) of the participants have a family income level between 2001-3000 TL, and the remaining 44.8% (n=532) have 3001 TL and above income level. While a small part (10.5%, n=125) of the students who constitute the study group think that they can complete middle school or high school, a large part (89.5%, n=1062) think that they can complete all education levels. Students who use a smart board in Turkish lessons make up 73% (n=866) of the group, and those who do not use a smart board constitute 27%. While 6.1% (n=72) of the mothers of the students were illiterate, 46.4% (n=551) were primary school graduates, 22.7% (n=270) were middle school graduates, 17.7% (n=210) were high school graduates. 0.9% (n=11) of them were associate degree graduates and 5.6% (n=66) completed undergraduate programs. A small part of the participants' mothers (0.6%, n=7) were master's or doctorate graduates. While 1.8% (n=21) of the fathers of the students were illiterate, 33.2% (n=394) were primary school graduates, 30.4% (n=361) were middle school graduates, 24.5% (n=291) were high school graduates, 0.8% (n=10) have associate degree graduates, 7.5% (n=89) were undergraduate graduates. A small part of the participants' fathers (1.8%, n=21) were master's or doctorate graduates. While 9.2% (n=109) of the students do not spend any time on electronic games or social media, 38% (n=451) allocate time between 0-1 hour. Of the participants, 28.2% (n=335) allocate time between 1-2 hours, 13.6% (n=161) allocate time between 2-3 hours, the remaining 11% (n=131) allocate 3 hours or more on electronic games or social media.

According to Table 1, 6.4% (n=76) of the students participating in the research do not read any books, 40.4% (n=480) 0-30 minutes, 28.1% (n=333) 30-45 minutes, 14.9% (n=177) 45-60 minutes, and 10.2% (n=121) read more than 60 minutes. 54.4% (n=646) of their mothers never read, 23.8% (n=283) 0-30 minutes, 11% (n=130) 30-45 minutes, 6% (n=71) 45-60 minutes, and 4.8% (n=57) read more than 60 minutes. 67.8% (n=805) of their fathers never read, 17.9% (n=213) 0-30 minutes, 7.7% (n=91) 30-45 minutes, % 4 (n=47) 45-60 minutes and 2.6% (n=31) read more than 60 minutes. While 57% (n=678) of the students in the study group receive reinforcement training from centers such as weekend courses or study centers, 42.9% (n=509) do not receive any supplementary training. 55.9% (n=664) of the students stated that there was an educator in their family or among their close relatives, and 44.1% (n=523) did not.

Measurement Instruments

In the research, "Demographic Information Form" and ATLS were used as data collection tools to collect demographic information of students and determine their attitudes of students toward Turkish lessons. Detailed information about data collection tools is given below.

Demographic Information Form

The demographic information form consisted of the variables that are thought to affect students' attitudes towards the Turkish lesson (gender, grade level, school type, education type, Turkish course average, grade point average, time allotted to study, time spent by the student's mother and father for reading, pre-school education status, school attendance, future academic expectation, use of smart boards in the classroom, having a computer/tablet/internet/own mobile phone at home, daily time allotted for games or social media, attendance of a weekend course or study center, income level, number of siblings in the family, number of educator/teacher in the family or close relatives, educational status of mother and father). The variables used in PISA and similar studies were used to prepare the form, and the use of the form was approved by the Human Research Ethics Committee of Bolu Abant İzzet Baysal University.

Attitudes towards Turkish Lessons Scale (ATLS)

In this study, a 27-item ATLS developed by Topçuoğlu Ünal and Köse (2014) was used to determine the attitudes of middle school students towards the Turkish lesson. According to the results of the analysis made by Topçuoğlu Ünal and Köse (2014), the first sub-dimension of the ATLS consists of three sub-dimensions, "interest and love for the lesson", consists of 15 items and explains 27.6% of the variance. The Alpha internal consistency coefficient for the first sub-dimension is 0.927. The second sub-dimension of the ATLS, "negative attitudes towards the course", consists of 8 items and explains 15.9% of the variance. The Alpha Internal consistency coefficient for the second sub-dimension is 0.842. The third and last sub-dimension of the ATLS, "activities for the lesson", consists of 4 items and explains 9.1% of the variance. The Alpha Internal consistency coefficient for the third sub-dimension is 0.732. The total variance explained was 52.7%, and the Alpha internal consistency coefficient for the overall scale was 0.915. The scores that can be obtained from an item on the ATLS were calculated by using 5-point Likert type scale (1 = "strongly disagree", 2 = "disagree", 3 = "undecided", 4 = "agree" and 5 = "strongly agree". Negative items are scored reversely. Thus, the minimum score obtained from the ATLS is 27; the maximum score is 135. According to the results of the confirmatory factor analysis (CFA) made by Topçuoğlu Ünal and Köse (2014), the ATLS has sufficient fit indices (χ^2 = 610.08, χ^2/sd=1.90, RMSEA=0.06, GFI=0.85, SRMR=0.07, CFI=0.86, NFI=0.85, Topçuoğlu Ünal & Köse, 2014).

Validity and Reliability of the ATLS

In literature, when a previously applied scale's factor structure has been proven, it is recommended that CFA should be performed to examine the original factor structure of the scale in a new sample (Suhr, 2006). Many indices are used to test model data fit in CFA. In this study, CFI, RMSEA, TLI, and SRMR indexes were used to determine the adequacy of the model. CFI and TLI values above 0.90, RMSEA values below 0.06, and SRMR values above 0.08 indicate a relatively good fit (Hu & Bentler, 1999). According to the CFA results performed to determine whether the model-data fit was achieved and whether the ATLS was valid in the applied group, it was found that CFI was 0.90, RMSEA was 0.062, TLI was 0.89, and SRMR was 0.046. To increase the indexes of model data compatibility to a more acceptable level, the modification suggestions of the Amos program were examined. Modification suggestions can be made if the modifications are included in the same sub-factor, contribute positively to the fit indices, and the items are close to each other in meaning (Byrne, 2010; Jöreskog & Sörbom, 1993, modified items: M16 = I come to Turkish lesson with pleasure, M17 = Turkish lesson makes me happy, M18 = I would not lose anything without Turkish lesson, M24 = Turkish lesson is an unnecessary lesson for me, M22 = I would like my profession to be related to Turkish in the future, M25 = I would like to be a Turkish teacher in the future). After the modification processes, model fit indices increased

(CFI = 0.930, RMSEA = 0.049, TLI = 0.93, and SRMR = 0.040) and it was determined that a relatively good fit was achieved.

In the current study, the reliability of the ATLS was determined by the Alpha internal consistency coefficient calculated for the overall scale and its sub-dimensions. For interpreting alpha coefficient these cut-off points can be used: α value ≥ 0.9 excellent, $0.7 \le \alpha < 0.9$ good, $0.6 \le \alpha < 0.7$ acceptable, $0.5 \le \alpha < 0.6$ poor, $\alpha < 0.5$ unacceptable (Kılıç, 2016). In the current study, alpha coefficients shows that general scale and its sub-dimensions are reliable (the overall scale α = 0.93; interest and love for the lesson α = 0.92; negative attitudes towards the lesson α = 0.82, and activities α = 0.71).

CHAID Analysis

Decision tree algorithms, which started to be studied in the late 1950s, are a type of analysis based on machine learning. One of the most used algorithms among decision tree algorithms is Chi-squared Automatic Interaction Detection (CHAID) analysis, developed by Gordon Kass in 1980. This algorithm was initially used in medical and psychiatric research fields, but today it is mainly used to determine the orientation of marketing and consumer groups (Akpınar, 2017). Furthermore, CHAID analysis can reveal the variables that affect attitudes based on the answers given by individuals to the attitude scales and the essential variables thought to be related to the attitude object (Baron & Phillips, 1994).

When the studies in the field of Turkish education are examined, it is seen that traditional tests such as t-test and ANOVA are generally used for analysis (Demir, 2021; Varışoğlu, Şahin, & Göktaş, 2013). However, for such analyses to be applicable and yield valid and reliable results, the obtained data should be at least equal intervals, normally distributed, and the group variances should be homogeneous (Mendeş, 2012). Situations where these assumptions cannot be met, require nonparametric tests, but the use of nonparametric tests also causes a loss of power (Karagöz, 2010). However, in cases where researchers do not choose a suitable model and method, CHAID analysis, which can include continuous, discontinuous, categorical, ordinal, or nominal variables at the same time (Akpınar, 2017), was used to prevent the findings and results from being biased (Kayri & Boysan, 2007). For this reason, in this study, CHAID analysis was used, which does not require a normality prerequisite and can be utilized for classification or prediction. In addition, it is thought that this study will contribute to the literature by presenting an example of CHAID analysis, which researchers can choose from other than nonparametric tests and can perform analyses with an alternative technique that uses robust tests such as F (ANOVA) or chi-square in their calculations (Akpınar, 2017; Türe, Tokatlı, & Kurt, 2009). (For detailed information on the CHAID analysis, see: Akpınar, 2017; Baron & Phillips, 1994; Hoare, 2004; Kass, 1980; Kayri & Boysan, 2007; Smith & Grawe, 2003; Türe, Kurt, Kurum, & Özdamar, 2005; Türe et al., 2009).

Results

A one-sample t-test was used to determine the middle school students' attitudes toward the Turkish lesson. The one-sample t-test is an analysis that reveals whether the arithmetic means of scores from an exam or scale differs statistically according to a determined score (Büyüköztürk, Çokluk, & Köklü, 2021; Pagano, 2007; Sheskin, 2004). Before applying the one-sample t-test, the normal distribution of the scores was examined. An essential issue in analysis with the assumption of a normal distribution is that the scores to be analyzed do not show a significant deviation from the normal distribution. Whether the scores of the group differ significantly from the normal distribution can be decided by looking at the skewness coefficient (Büyüköztürk, 2018). Some researchers also emphasized that the kurtosis coefficient should also be considered in addition to the skewness coefficient (Field, 2009; Tabachnick & Fidell, 2013). In data sets with a skewness coefficient between -1 and +1, the score distribution does not significantly differ from the normal distribution (Hair, Black, Babin, Anderson, & Tatham, 2013). Accordingly, in this study, the skewness coefficient of the scores obtained from the ATLS was -0.52, and the kurtosis coefficient was -0.47, revealing that the total scores of the students did not

differ from the normal distribution (Büyüköztürk, 2018; Tabachnick & Fidell, 2013; George & Mallery, 2010; Hair et al., 2013).

The one-sample t-test needs a constant value to determine whether students' attitudes toward the Turkish lesson are positive or negative. This fixed value, which we can also call the test average, is calculated by multiplying the midpoint (3) of the options prepared for the items in 5-Likert type scales by the number of items (27) (27 x 3 = 81, Büyüköztürk et al., 2021; Pagano, 2007; Sheskin, 2004). Thus, in this study, the test value for the total scores obtained from the ATLS was 81. Findings related to the analysis results are shown in Table 2.

Table 2. One sample T-test Results

N	Test value	Mean	Standard deviation	t	p	Effect size
1187	81	90,65	21,16	15,720	,000	0,45

Table 2 shows that a significant difference was found between the arithmetic mean of the scores ($\bar{x}$ = 90,655) obtained from the ATLS and the test value [t_{1187} = 15,720; p < 0.05; d = 0.45]. The scores obtained from the ATLS are significantly higher than 81. But effect size shows this difference is small, although it is significant (cut points for the effect size: 0.2 = low; 0.5 = medium; 0.8 = large effect, Cohen, 1988). In other words, the attitudes of the middle school students participating in the research towards the Turkish lesson are positive (with a small effect size). Those with an attitude score above 81 constitute 68.58% (n=814) of the group, while those with 81 and below constitute 31.42% (n=373).

The current study used CHAID analysis to determine the variables that predict middle school students' attitudes towards Turkish lessons. The total scores obtained from the ATLS are the dependent variable of this study. Gender, grade level, type of school, type of education applied, Turkish lesson point average, grade point average, time allotted to study, time spent for reading by student's parents, pre-school education, school attendance status, future academic expectation, usage of a smart board in Turkish lessons, having a computer, tablet, internet or own mobile phone at home, daily time allocated to the game or social media, attending to weekend course or study center, monthly family income status, number of siblings in the family, educators in the family or close relatives, mother's and father's education status were included in the model as independent variables. As the growth limit, at the 95% significance level, the command to stop the division process was given when at least 40 students remained for the primary nodes and at least 20 students for the other nodes. Findings related to the analysis results are shown in Figure 1.

When Figure 1 was examined, it was determined that the most critical variable predicting middle school students' attitudes towards Turkish lessons is the class variable, and students' attitudes towards Turkish lessons show a significant difference according to the grade level (F=51,597; p=0,000). According to the research results, the 5th-grade students ($\bar{x}$=100,096), have the highest attitude scores, followed by the 6th-grade students ($\bar{x}$=93,292). On the other hand, the 7th and 8th-grade students had the lowest attitude score ($\bar{x}$=85,393). According to these findings, it is understood that there is a significant decrease in the attitudes of the students towards the Turkish lesson as the grade levels increase.

It has been determined that the most critical variable predicting the attitudes of 5th-grade students towards Turkish lessons is the time students spend on games or social media, computers, smartphones, tablets, game consoles (GSMCSPTGC), and the attitudes of 5th-grade students towards Turkish lesson differ significantly according to these variables (F = 31,650; p = 0,000). It is seen that students who spend up to 1 hour for GSMCSPTGC ($\bar{x}$=104,602), have a more positive attitude than students who spend more than 1 hour ($\bar{x}$ =92,221). It is seen that the most important variable predicting the attitudes of the students who spend up to 1 hour for GSMCSPTGC is the point average of the Turkish lesson, and the attitudes of these students towards the Turkish lessons differ significantly compared to the general point average of the Turkish lessons (F=15,522; p=0,000). It was determined that students whose Turkish course point averages are up to 84 have fewer positive attitudes towards Turkish courses

than students who are higher than 84. The Turkish lesson point averages are the most important variable predicting the attitudes of the students who spend more than 1 hour for GSMCSPTGC. The attitudes of these students toward the Turkish lessons differ significantly compared to the Turkish lesson general averages (F=7,592; p=0,021). In this group, students whose Turkish course point average is up to 84 ($\bar{x}$=84,606) have fewer positive attitudes towards Turkish courses than students whose Turkish course point average is higher than 84 ($\bar{x}$=96,274).

It has been determined that the most critical variable predicting the attitudes of 6th-grade students towards the Turkish lesson is the time students spend reading, and the attitudes of 6th-grade students towards the Turkish lesson differ significantly according to the time they read books (F=14,332; p=0,000). Students who attend 6th-grade and do not read a book have the lowest attitude score ($\bar{x}$=79,550). Furthermore, 6th-grade students who read up to 45 minutes a day ($\bar{x}$=91,885) have a lower positive attitude than 6th-grade students who read more than 45 minutes ($\bar{x}$=101,970). It was determined that the attitudes of 6th-grade students who read up to 45 minutes a day towards Turkish lessons differ significantly according to school type (F=10,201; p=0,000). It was determined that students studying at middle school ($\bar{x}$=95,388) had a more positive attitude than students studying at imam hatip middle school ($\bar{x}$=87,902). Furthermore, it was determined that the most critical variable predicting the attitudes of 6th-grade students who read more than 45 minutes a day towards the Turkish lesson was their absenteeism. The attitudes of 6th-grade students who read more than 45 minutes towards Turkish lessons differ significantly according to their absenteeism (F=6,135; p=0,048). Furthermore, students who have never been absent ($\bar{x}$=110,600) have a more positive attitude than students who have absenteeism ($\bar{x}$=98,298).

The most crucial variable predicting the attitudes of 7th and 8th-grade students towards Turkish lessons is the time students spend on computers, smart phones, tablets, computer games, or social media (GSMCSPTGC). The attitudes of 7th and 8th-grade students towards Turkish lessons differ significantly according to these variables (F=16,010; p=0,000). Students who spend up to 1 hour on GSMCSPTG ($\bar{x}$=89,936), have a more positive attitude than students who spend 1 hour to 4 hours ($\bar{x}$=84,210), and students who spend more than 4 hours ($\bar{x}$=71,479). The most important variable predicting students' attitudes who spend up to 1 hour for GSMCSPTG towards Turkish lessons is gender (F=17,245; p=0,000). According to the research findings, the attitude scores of the 7th and 8th-grade girl students ($\bar{x}$=94,077) are higher than the boys' attitude scores ($\bar{x}$=83,613). The attitudes of students who spend 1 hour to 4 hours for GSMCSPTGC towards Turkish lessons differ significantly according to the type of school they attend (F=12,798; p=0,000). It was determined that students studying in middle school ($\bar{x}$=88,436) had more positive attitudes than students studying in imam hatip middle school ($\bar{x}$=79,831).
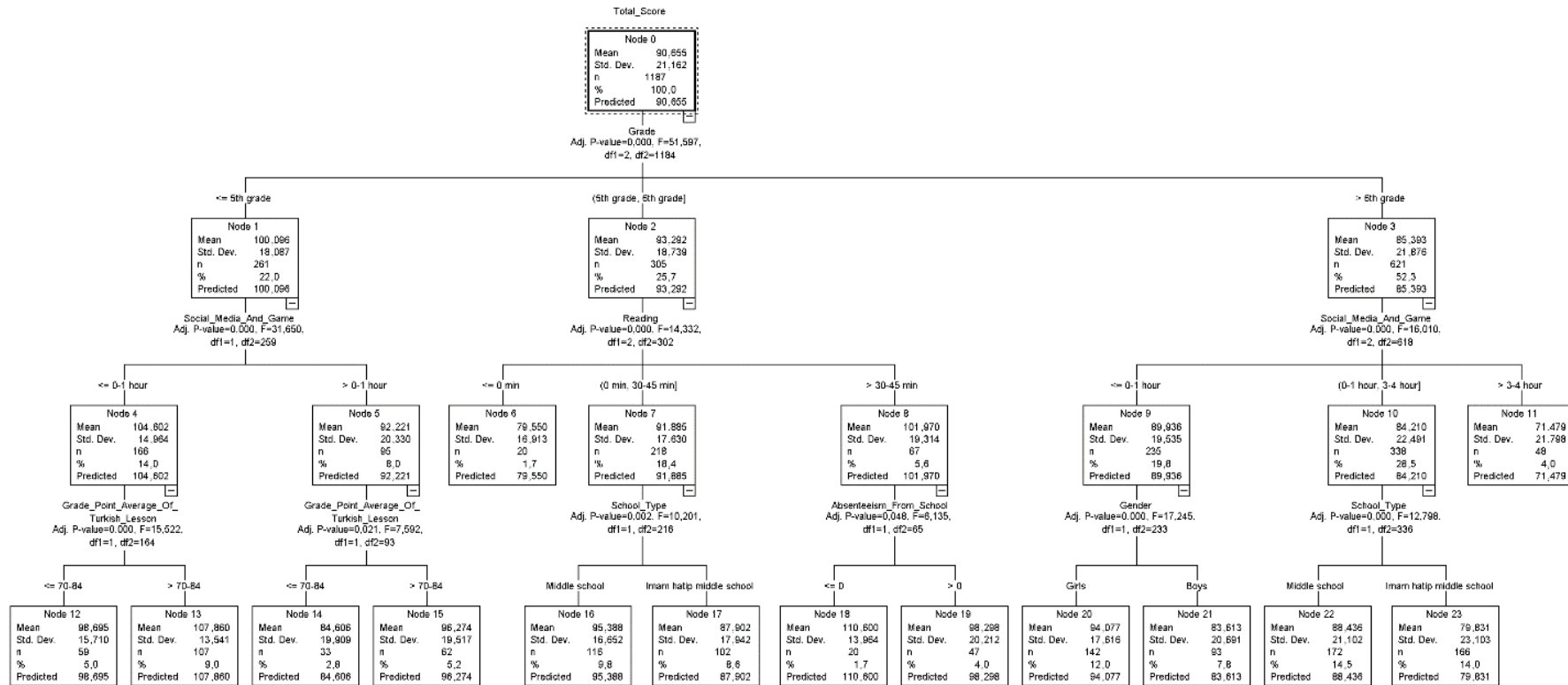
Figure 1. Decision tree of the variables affecting the attitude towards the Turkish lessons

Discussion, Conclusion, and Recommendations

In this study, it has been tried to reveal the level of middle school students' attitudes towards Turkish lessons and what the variables are that predict students' attitudes towards Turkish lessons. According to the findings, it was determined that the majority of middle school students (68.58%) had positive attitudes towards Turkish lessons. When similar studies conducted in Turkey are examined, an attitude scale towards Turkish lessons was applied to students before and after the pilot application of the 2006 Turkish Teaching Program, and it was determined that students developed negative attitudes towards Turkish lessons both in the old program and in the new program (Zorbaz & Habeş, 2015). However, many studies have been carried out on attitudes towards the Turkish lesson since the study in 2006. In these studies, it was determined that primary and middle school students generally have a positive attitude toward Turkish lessons (Akçam, 2019; Bağcı & İpekci, 2016; Bölükbaş, 2010; Erdem & Gözüküçük, 2013; Zorbaz & Habeş, 2015). However, in the study conducted by Dursun and Özenç (2019) with 556 primary school 4th-grade students, the scores of the students on the attitude scale are below the test average. The reason for the different results obtained with the current study may be the different school levels. It can be thought that the new Turkish teaching programs developed in the light of the constructivist approach, qualified teachers, and the usage of tools that will enrich the lecture can help the attitudes towards the Turkish lesson become positive. Indeed, this view is consistent with the research results, which shows that teachers' views on the Turkish curriculum are positive (e.g., Bıçak & Alver, 2018). Positive opinions were also obtained in the studies in which the opinions of teachers and students about Turkish textbooks were taken (e.g., Durukan, 2011; Şahin, 2010). The study conducted by Akın and Çeçen (2015) shows that middle school students have positive views on using multimedia-based teaching and tools in Turkish lessons. Furthermore, the fact that students have positive opinions about the texts in the Turkish textbook (Çeçen, Öz, & Kurnaz, 2016) may have increased their positive attitude toward the Turkish lesson curriculum.

According to the findings obtained from the CHAID analysis, the most critical variable predicting the attitudes of middle school students towards the Turkish lesson is the class variable. The grade level variable is the most crucial variable predicting the total (general) score that student get from the attitude scale towards Turkish lessons. The students' attitude scores towards the Turkish lesson differ significantly according to the grade level. For example, 5th-grade students' attitude scores are higher than 6th, 7th, and 8th-grade students, and 6th-grade students' attitude scores are higher than 7th and 8th-grade students' attitude scores. The findings obtained in this study are consistent with the studies in the literature. For example, similar results were found in the study conducted by Bıyıklı (2014). Students' attitude scores towards the Turkish lesson decreased with the increase in grade level. In the studies conducted by Deniz and Tuna (2006) and Zorbaz and Habeş (2015), it was determined that the 5th-grade students' attitude scores towards the Turkish lesson were significantly higher than those of the 6th, 7th, and 8th grades. In the study conducted by Bağcı and İpekci (2016), it was observed that the attitudes of 8th-grade students towards Turkish lessons decreased significantly compared to 5th, 6th, and 7th-grade students. Similar results emerged in the study conducted by Akçam (2019), and the attitude scores of the 5th-grade students towards the Turkish lesson were significantly higher than the other grade levels. Turkish lesson is the most critical tool of mother tongue education and cultural transfer in our country. However, it is also used in the teaching of other courses. For this reason, students' interest, desire, awareness, and attitudes toward Turkish lessons should be increased by taking special measures for Turkish lessons. According to the principle of relevance to the student, course teachers should develop activities that will involve and motivate students at each grade level, taking into account their cognitive, physical, and affective characteristics.

According to the research findings, another critical variable that predicts middle school students' attitudes towards the Turkish lesson is the time they devote to games, social media (GSMCSPTGC) on a computer, smart phone, tablet, or game console. It was determined that as the time spent by the students on such activities increased, their attitude scores towards the Turkish lesson decreased. Akçam (2019) also reached a similar conclusion in his study and found that students who do

not use social media have significantly higher attitudes towards Turkish lessons than students who use social media. A similar result was found in Kılıç's (2018) study, in which he examined the attitudes of 11th-grade students towards the Turkish literature lesson. In this respect, the effect of such activities on education should be examined, spending time for such activities should be included more in research, and seminars should be given by school counselors to enable students to use technology consciously and efficiently. In addition to this, students should be provided with e-book content over the Education Information Network to spend more productive time in electronic environments, online debates, competitions, etc., for Turkish lessons. By organizing activities and developing game-based software, students should be encouraged to be interested in Turkish lessons in these environments.

One variable that predicts middle school students' attitudes towards Turkish lessons is the average of Turkish lessons. It was determined that the 5th-grade students whose Turkish course average is 85 and above have a significantly higher attitude than the 5th-grade students whose Turkish course average is less than 85. In the study of Bağcı and İpekci (2016), it was determined that the attitude scores of the students with a score of 5 in the Turkish course were significantly higher than the attitude scores of the students with a score of 4, 3, and below. In the study conducted by Erdem and Gözüküçük (2013) with 3rd, 4th and 5th-grade students, it was determined that students with high grades on the report card had high attitudes toward Turkish lessons. Zorbaz and Habeş (2015) also found that students with grade point averages of 5 and 4 have a significantly more positive attitude toward the Turkish lesson than students with grade point averages of 3 or lower and students with grade point averages of 3 towards the Turkish lesson. In the study conducted by Akçam (2019), it was found that the students' attitudes differ significantly according to their perceptions of success in Turkish lessons. Students who perceive themselves as highly successful in Turkish lessons have more positive attitudes towards Turkish lessons than those who perceive themselves as moderately successful in Turkish lessons.

Similarly, those who perceive themselves as moderately successful in Turkish lessons have higher positive attitudes than those who perceive themselves as lowly successful in Turkish lessons. There are also studies in the literature that contradict these findings. For example, in the study conducted by Mercan (2017), it was determined that the students' attitudes towards the Turkish lesson did not differ significantly according to the grade point averages. The current study does not show parallelism with the mentioned research results. Based on these findings, it should be ensured that every student feels successful in that lesson, and activities that will motivate students should be carried out. Teachers' perspectives on the effects and importance of these variables on the course should be expanded by giving in-service training seminars on variables that affect the course such as attitude, interest, motivation, and academic expectation.

According to the research findings, another variable that predicts students' attitudes towards Turkish lessons is the time allocated to reading books. The 6th-grade students who read books for more than 45 minutes a day have higher positive attitudes toward Turkish lessons than those who spend less time reading. At this point, the current study is in parallel with the literature. In the study conducted by Zorbaz and Habeş (2015), it was determined that the students' attitudes towards the Turkish lesson differed significantly according to the number of books they read apart from the textbook. It has been determined that students who read between 4-15 books annually have higher attitude scores towards Turkish lessons than students who read less. Bağcı and İpekci (2016), on the other hand, found that the attitudes of students who spend their free time reading books toward Turkish lessons are significantly higher than those of students who do not read books in their spare time. Kılıç (2018) also determined that the attitudes of 11th-grade students towards the Turkish literature course differ significantly according to the frequency of reading books, and the attitudes of the students who read books every day are higher. Akçam (2019) determined that students' attitudes towards the Turkish lesson differ according to their reading skills. It has been determined that those with high-level reading skills have a significantly higher attitude towards the Turkish lesson than those at a moderate level. At this point, along with the lesson teacher, parents should also take a great responsibility. Book recommendations should be made for each student in line with their interests. In addition to reading hours at schools,

activities such as reading hours at home with the family and question-answer activities from books should be carried out, and students' bonds with books should be strengthened.

Another important variable that predicts middle school students' attitudes towards Turkish lessons is the type of school. Among the 6th grade students who read books 45 minutes a day, the attitude scores of the middle school students towards the Turkish lesson are significantly higher than the students studying at the imam hatip middle school. When the literature was examined, no study was found in which the attitude towards the Turkish lesson was examined according to the school type. In this context, in future research, qualitative studies should be carried out to investigate the reasons for this difference between imam hatip middle schools and middle schools, and solutions that will increase students' attitudes towards Turkish lessons should be produced. Another variable predicting middle school students' attitudes towards Turkish lessons is their gender. The 7th and 8th-grade girls who spend up to 1 hour a day for GSMCSPTGC have higher attitude scores towards the Turkish lesson than the boys. Looking at the literature, many studies support the current study in terms of gender variables and investigate the attitudes of students toward the Turkish lesson (Akçam, 2019; Ateş, 2008; Bağcı & İpekci, 2016; Bıyıklı, 2014; Bölükbaş, 2010; Erdem & Gözüküçük, 2013; Kaya et al., 2009; Zorbaz & Habeş, 2015). However, in the study conducted by Mercan (2017) with 8th-grade students, it was determined that the attitude towards Turkish lessons did not differ statistically according to gender. Based on this result, the number of quantitative and qualitative studies conducted for boys studying at middle school should be increased, the reasons for the low attitudes of boys towards the course should be investigated in more detail and solutions should be produced in this direction.

The last variable predicting middle school students' attitudes towards Turkish lessons is their number of absences days. The 6th-grade students who are never absent and read more than 45 minutes a day have higher attitude levels toward Turkish lessons than the attitude scores of the absent students. When the literature was examined, no study was found in which the attitude towards the Turkish lesson was examined according to the students' absenteeism. However, in the study of Adıgüzel and Karadaş (2013) on middle school students' attitudes toward school, a similar finding was reached. It was determined that students with low absenteeism attitudes toward school were more positive than students with high absenteeism. Based on this result, the reasons for students' absenteeism should be examined, social and sports activities should be organized according to their interests and abilities, and educational environments should be offered to them.

Limitations

This research is limited to the data obtained from the attitude scale towards the Turkish lesson and the demographic information form of 1187 students studying in the 5th, 6th, 7th, and 8th-grades in Esenler (Turkey, Istanbul) in the 2019-2020 academic year. The study group consists of a sufficient number of students. However, this research can yield more generalizable results with the participation of students from different provinces and districts. By including private schools in the research, the attitudes of private school students and students studying in public schools towards Turkish lessons can be compared. In studies to be carried out with students who are in adolescence and are easily influenced by their close friends, studies can be carried out with variables for students' friends. Quantitative research methods were used in the study. Appropriate qualitative methods (interviews, observations, open-ended survey questions, etc.) can be used. Thus, more effective suggestions can be made regarding the solutions to the problems. In addition, student attitudes in this study are limited to the Turkish lesson. In future studies, attitudes towards other courses and variables related to attitude can be investigated.

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