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## Self-Regulation Behaviors of Music Education Students

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### Abstract

This research aims to examine the self-regulation behaviors of the undergraduate students which they display in their music education process and the differentiation of these behaviors according to various variables as well as collecting the opinions of the students about the musical instrument practice behaviors. In this study, where mixed method was used, data were collected by questionnaire for the survey model and interview techniques for the factual part. For the quantitative part of the study the 'Self-Regulation Behaviors of Music Students' scale adapted into Turkish by Ersözlü and Miksza (2015) and was used. The themes was acquired by coding the quantitative results obtained in the interviews conducted to discover the behaviors of the students in the instrument playing process. In the study group of the research, the quantitative part consists of 240 students (n=240) studying in music teaching undergraduate programs in Conservatories, Fine Arts, Art Design Faculties and Education Faculties located in different regions of Turkey and the qualitative part consists of (n=5) students. In the results, it was seen that there were significant differences between the 3rd and 4th grades in terms of Behavior dimension of the students. In the Method dimension, on the other hand, there were significant differences between the 1st and 3rd; 3rd and 4th grades in terms of the instrument study year. Furthermore, students have assumed that while they are not able to spare enough time for the study, they recording audios and listening to them again for self-control, evaluating themselves and using personal strategies such as taking notes.

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### Introduction

In general, as in many areas of education, in music education processes, students make the behaviors they want to acquire permanent with careful and accurate analysis and repetitions (Ericsson et al. 1993). In order to learn the correct behavior in these repetitions, the level of awareness should be developed as sufficiently as assessment knowledge (Carver & Scheier, 1981). Because the vocalizations that the student consider as correct may sometimes lay the foundations of wrong musical structures. It is only possible with conscious efforts to cope with such situations. When the music education processes are supported with conscious studying strategies, the achievement of success accelerates and the quality of results increases (Ericsson et al. 1993). Generally, students tend to be content with doing what they are told. However, as a result of forgetting situations, some of what is said goes out of memory and the work cannot be completed. Hence, learning environments are not sufficient when students simply do what they are told and do not take responsibility (Mills, 2002, p. 81). Instead, it is thought that

learning environments in which students take their own responsibilities, take an active role from the planning stage of learning to the evaluation stage, and therefore observing and managing their own learning may be more successful (Schon 1983 cited in Mills 2002).

There are many theories in the literature that have tried to explain how learning occurs. Out of these theories, Bandura's Social learning theory states that learning occurs through interaction environments among individual variables, environmental variables and behavior (1986). *The belief that individuals have the capacity for self-regulation*, which is one of the principles in this theory, laid the foundation of the ideas of self-regulation that would be discussed later in academic circles.

According to Zimmerman, self-regulation is “thoughts, feelings, and actions that someone produces and directs on his own to achieve academic goals” (1998, p. 73). In the self-regulation process, the individual organizes his/her own learning from planning stage to evaluation. In this process, the individual first set his goals and then tries to regulate his cognitions, motivations and behaviors, and then performs their learning experiences in an active and constructive manner by creating and controlling their learning experiences according to the variables in their environment. (Pintrich, 2000, p. 452). It is accepted that this process includes three basic stages: goal setting, performance and evaluation. In his study named Social Cognitive Self-Regulation Model, Zimmerman says that this process was handled cyclically and divided into three main areas. These stages are described as the forethought phase, the performance phase, and the self-reflection phase. In short, the process starts with goal setting. At this stage, the work schedule and processes are planned, and it continues with the second stage, self-teaching-control. At this stage, the teaching environment must be under the control of the student and he tries to keep it under control by self-observation. The last stage is the self-evaluation stage. At this stage, the efficiency of the learning outcome is evaluated and according to feedback, it is repeated by going back to the beginning or new cycles are established for new learning (Zimmerman, 2002).

As the self-regulation process takes place under one's own control, one of the most important variables of this process is internal beliefs. In order to reveal and control the metacognitive activities, self-sufficiency beliefs of a person are expected to be at a sufficient level (Özmenteş, 2014, Şeker, 2014). Self-efficacy beliefs are those that the individuals have achievement motive. This belief affects such personal issues as task selection, effort, perseverance, resistance and success (Schunk & Pajares, 2001). This belief, therefore, can be considered as the main source of self-regulation motivation. As music education processes require talent, the effect of a person's self-efficacy belief on musical performance is high and it also affects the self-regulation process. McPerson and Zimmerman (2011) searched for the answers to the concepts that account for why- questions in the self-regulated learning model in the instrument training process which they conducted together. In this model they claimed that, instrument education would begin with Motive, and it would be continued by setting goals and supporting indirectly or directly these goals with internal beliefs. This should be followed by the observation and evaluation of the instrument performance. Instrument-specific techniques, choosing and following guides help the person to prompt himself. Choosing an appropriate place which provides the right time and concentration for the study is another part of the process. Moreover, being open to learning in this process is considered to be necessary for the healthy functioning of the process (McPerson & Zimmerman, 2011, p. 134).

This model generally describes the self-regulation behaviors used in music education processes. Out of these behaviors, knowing the working method, controlling the behaviors, managing the skills of using time in the learning process and controlling social effects are regarded as necessary for self-regulation (Miksza, 2012). Music students take music education at different educational levels. Among them, the undergraduate level is the closest level for the individuals to start professional life. In this respect, it is important for the students studying in different programs at the undergraduate level to reveal the self-regulation behaviors and the differentiation of these behaviors according to various variables. Besides the quantitative data that can be obtained with the scales, the qualitative views of the students about their self-regulation behaviors may also be helpful to describe a meaningful picture. The organization of the own learning environment by the student in order to acquire the desired success in music education, and the description of the alteration of this effect according to various variables will not only give us an idea about the current educational environments but shed light on the management and planning stages of learning environments as well. In this context, besides the scale named "Self-Regulation Behaviors of Music Students", which was developed by Miksza during the research process and adapted to Turkish through the joint work of Ersözlü and Miksza (2015), the model that McPerson and Zimmerman (2011) tried to describe the music education processes set the theoretical basis for the interview questions.

This research aims to acquire data about the self-regulation behaviors of students in Turkey who receive different types of education at the undergraduate level in the music education process. In the literature, there are studies examining the use of self-regulation strategies in the music field according to different variables. While some of these studies examined the experimental method, others defined small groups. This study is noteworthy as it is a comprehensive study comprising different types of colleges and departments that provide education in the field of music. In the study, it has been tried to find an answer to the question "How are the students' self-regulation behaviors in the music education process who take musical education in different programs at the undergraduate level?"

## **Method**

This research is a mixed-method study that descriptively examines the students' self-regulation behaviors in their music education processes who take musical education in different genres at the undergraduate level. The quantitative part of the research will be conducted using the data to be obtained with the "screening model". This is a kind of research approach that aims to describe a past or present situation as it exists (Karasar, 2005). In the qualitative part, data obtained by interview technique are used for phenomenological methods. The scale named "Self-Regulation Behaviors of Music Students", which is used for the quantitative part of the study, was developed by Miksza (2012) and later adapted into Turkish by Ersözlü and Miksza (2015). For the use of the scale, necessary permissions were obtained from Ersözlü by getting contact with him.

The scale consists of 38 items and investigates four dimensions: Method, Behavior, Time management and Social Impacts. According to the results of the original confirmatory factor analysis of the scale, it was realized that each of the subscales had the factors representing the whole, and this four-factor model was suitable for the collected data (CFI = .96, RMSEA = .04, SRMR = .08) (Ersözlü & Miksza, 2015). Thus, it was accepted that the adaptation

of the study into Turkish would help to produce valid and reliable information about the self-regulation behaviors of music students. The Cronbach's alpha coefficient of the original scale for the total scale scores is .91. The subscales, on the other hand, are significantly compatible with each other, with coefficients varying between .144 and .494 ( $p < .05$ ). Further, an information form with six questions was added to the questionnaire items that could reveal the basic demographic distributions and musical education experiences. For the qualitative part, there are interview questions prepared based on the model put forth by McPerson and Zimmerman in their study titled "Self-regulation of music learning: A social cognitive perspective to develop performance skills" (2011). The universe of the research consists of approximately 2000 students ( $N=2000$ ) studying in music undergraduate programs of Conservatories, Fine Arts, Art Design Faculties and Education Faculties selected from seven different regions of Turkey. The sample was formed with 240 students ( $n= 240$ ) from these colleges who volunteered to participate in the research, with a 5% margin of error and 90% confidence level (Kılıç, 2012). As the participation of the students in the sample group is essential, it was formed with the people determined by the random sampling method, (Arlı & Nazik, 2001, p. 75). In the qualitative part, the study group consisted of 5 people ( $n=5$ ). In order to reach these students, firstly necessary permission was obtained by contacting the relevant departments, then the questionnaires were conducted under the control of the researcher. Voluntary participation of students has been essential. Various distributions for the research are given in Table 1 and Table 2.

Table 1. Distribution of Students Who Filled Out the Questionnaire

Variables	Category	f	%
Gender	Female	131	54.60
	Male	109	45.40
Age	18-19	46	19.20
	20-21	60	25
	22	41	17.1
	23-25	54	22.5
	26+	39	16.2
Grade	1	75	31.25
	2	49	20.4
	3	59	24.6
	4	57	23.75
College Type	Faculty of Fine Arts	71	29.6
	Conservatory	69	28.7
	Faculty of Education	100	41.7
Instrument Study Year	1	42	17.5
	2	24	10
	3	40	16.7
	4	29	12.1
	5 6	30	12.5
	7 8	41	17.1
	9+	34	14.1

Field Instruments		f	%
	Guitar	36	15
	Piano	34	14.1
	Instrument with three double strings	23	9.6
	Violin	52	21.7
	Viola	11	4.6
	Cello	15	6.25
	Lute	8	3.3
	Singing	27	11.25
	Clarinet. Trumpet.	6	2.5
	Saxophone		
	Flute	11	4.6
	End-blown flute. Qanun.	17	7.1
	Tambour. Kemancha.		
	Rebab		

Table 2. Distribution of Interviewed Students

Variables	Category	f	%
Gender	Female	3	60
	Male	2	40
Age	19	3	60
	20	2	40
Grade	3	2	40
	2	2	40
	1	1	20

### Analysis of Data

In the study, the distribution status of the variables was firstly examined for the analyses performed on the quantitative data, and it was tried to apply appropriate parametric or nonparametric tests according to the results. As a result of these tests, it was found that while the college types and gender variables were normally distributed in terms of coefficient of skewness and kurtosis (+2.0 -2.0) (George & Mallery, 2010), it was seen that together with other variables, the total scale and sub-dimensions (+1.5 - 1.5) were normally distributed seen (Tabachnick & Fidell, 2013). Parametric tests, therefore, were preferred in this section. Independent sample T test was preferred for gender variable, and One Way ANOVA test was used for other analyses.

In addition, descriptive distributions were tabularized. In the qualitative part of the research, content analysis method was used. According to Weber, content analysis has some advantages such as providing direct access to interaction information of communication (1990, p. 117). For this reason, the analyzed data were converted into themes and presented in tables with frequency values.

### Validity and Reliability

In order to determine the quality validity of the "Self-Regulation Behaviors of Music Students" scale used in our research, various tests were performed. Among them, the sample value of Kaiser Meyer Olkin (KMO) sample test was determined as (0.827). According to Field (2009, p. 647), this value is considered as acceptable when it is above 0.50 and as excellent when it is between 0.80-90. The sum of the degree of validity of the variances in our scale was found to be 59.977%. Since this value is over 50%, it is accepted that the measurement tool is valid (Field, 2009: 661). In the Cronbach's Alpha test, which was used to determine the reliability of the study, it is accepted as reliable with a value of (0.878). Moreover, this study was also investigated by Social Sciences and Humanities Committee of Mersin University and accepted to be ethical with 02.08.2020.36 decision number.

### Results

In this section, the findings obtained from the research are presented and explained with tables. The quantitative findings of the study are presented in Tables 3-12, while the qualitative findings are presented in Tables 13-20.

Table 3. Distribution of Students' Scores from the Self-Regulation Behaviors Scale and Its Sub-Dimensions

Factors	N	Minimum	Maximum	Mean	Std. Deviation
Social Impact	240	24.00	50.00	39.5750	5.75753
Method	240	34.00	75.00	60.7292	7.94895
Behavior	240	13.00	35.00	29.2167	3.79756
Time Management	240	7.00	30.00	18.5958	5.20130
Total	240	89.00	184.00	148.1167	17.08271

In Table 3, the values obtained by the music students from the self-regulation scale and its sub-dimensions are presented. The total score average of music students' self-regulation behaviors was determined as (Mean=148,1167). Besides these data, the proportion of the values obtained to the highest values that can be obtained from the total scale and its sub-dimensions are presented in Table 4.

Table 4. Percentage of Students' Scores from the Self-Regulation Behaviors Scale and Its Sub-Dimensions

Factors	N	Maximum	Mean	%
Social Impact	240	50.00	39.5750	79.15
Method	240	75.00	60.7292	80.97
Behavior	240	35.00	29.2167	83.47
Time Management	240	30.00	18.5958	61.99
Total	240	190.00	148.1167	77.96

According to Table 4, the total score of self-regulation behaviors of music students is (77.96%). In the sub-dimensions, the highest value (83.47%) belongs to the Behavior sub-dimension, and the lowest value (61.99%) belongs to the Time management sub-dimension.

Table 5. Distribution of Students' Scores from the Self-Regulation Behaviors Scale and Its Sub-Dimensions According to Gender

Factors	Gender	N	Mean	Std. Error Mean	F	Sig.
Social Impact	Female	131	40.0687	0.48805	0.592	0.442
	Male	109	38.9817	0.56785		
Method	Female	131	60.6489	0.64967	3.238	0.073
	Male	109	60.8257	0.8198		
Behavior	Female	131	29.4733	0.31321	2.353	0.126
	Male	109	28.9083	0.38634		
Time Management	Female	131	18.8397	0.46773	0.416	0.519
	Male	109	18.3028	0.48095		
Total	Female	131	149.031	1.49224	0.076	0.783
	Male	109	147.018	1.63793		

Music students' genders do not show a significant difference in terms of self-regulation behaviors and sub-dimensions ( $p > .05$ ).

Table 6. Distribution of Students' Scores from the Self-Regulation Behaviors Scale and Its Sub-Dimensions According to Their Ages

Factors		Sum of Squares	df	Mean Square	F	Sig.
Method	Between Groups	172.367	4	43.092	0.678	0.608
	Within Groups	14929.029	235	63.528		
	Total	15101.396	239			
Social Impact	Between Groups	70.226	4	17.557	0.525	0.717
	Within Groups	7852.424	235	33.415		
	Total	7922.65	239			
Behavior	Between Groups	48.016	4	12.004	0.83	0.507
	Within Groups	3398.717	235	14.463		
	Total	3446.733	239			
Time Management	Between Groups	109.322	4	27.331	1.01	0.403
	Within Groups	6356.474	235	27.049		
	Total	6465.796	239			
Total	Between Groups	1240.085	4	310.021	1.064	0.375
	Within Groups	68504.649	235	291.509		
	Total	69744.733	239			

Music students' ages do not show a significant difference in terms of self-regulation behaviors and sub-dimensions ( $p > .05$ ).

Table 7. Distribution of Students' Scores from the Self-Regulation Behaviors Scale and Its Sub-Dimensions  
According to College Types

Factors		Sum of Squares	df	Mean Square	F	Sig.
Social Impact	Between Groups	77.458	2	38.729	1.17	0.312
	Within Groups	7845.192	237	33.102		
	Total	7922.65	239			
Method	Between Groups	336.798	2	168.399	2.703	0.069
	Within Groups	14764.598	237	62.298		
	Total	15101.396	239			
Behavior	Between Groups	47.515	2	23.758	1.656	0.193
	Within Groups	3399.218	237	14.343		
	Total	3446.733	239			
Time Management	Between Groups	5.169	2	2.584	0.095	0.91
	Within Groups	6460.627	237	27.26		
	Total	6465.796	239			
Total	Between Groups	1077.438	2	538.719	1.859	0.158
	Within Groups	68667.296	237	289.735		
	Total	69744.733	239			

Music students' college types do not show a significant difference according to self-regulation behaviors and sub-dimensions ( $p > .05$ ).

Table 8. Distribution of Students' Scores from the Self-Regulation Behaviors Scale and Its Sub-Dimensions  
According to Grade Level

Factors		Sum of Squares	df	Mean Square	F	Sig.
Social Impact	Between Groups	142.556	3	47.519	1.441	0.231
	Within Groups	7780.094	236	32.966		
	Total	7922.65	239			
Method	Between Groups	300.123	3	100.041	1.595	0.191
	Within Groups	14801.273	236	62.717		
	Total	15101.396	239			
Behavior	Between Groups	118.083	3	39.361	2.791	0.041
	Within Groups	3328.651	236	14.104		
	Total	3446.733	239			
Time Management	Between Groups	169.024	3	56.341	2.112	0.099
	Within Groups	6296.771	236	26.681		
	Total	6465.796	239			
Total	Between Groups	981.934	3	327.311	1.123	0.34
	Within Groups	68762.799	236	291.368		
	Total	69744.733	239			

Music students' grade levels do not show a significant difference in terms of self-regulation behaviors and some sub-dimensions ( $p > .05$ ). But in the Behavior sub-dimension ( $p = .041$ ). Significant difference was observed ( $p < .05$ ). Post hoc test was applied to determine the direction and degree of differentiation.

Table 9. Post Hoc Test Results of Behavior Dimension Scores of Self-Regulation Behaviors Scale According to Students' Grade Level

	(I) grade	(J) grade	Mean Difference (I-J)	Std. Error	Sig.
Dunnett t (2-sided)b	3	4	1.78174*	0.6975	0.03

In the post hoc test results, there was a significant difference between the 3rd and 4th grades ( $p = .03$ ) in the behavioral dimension ( $p < .05$ ).

Table 10. Distribution of the Scores from the Self-Regulation Behaviors Scale and Its Sub-Dimensions According to Students' Instrument Study Years

Factors		Sum of Squares	df	Mean Square	F	Sig.	
Behavior	Between Groups	119.7796013	6	19.9632669	1.398	0.216	
	Within Groups	3326.953732	233	14.2787714			
	Total	3446.733333	239				
Social Impact	Between Groups	72.52609819	6	12.087683	0.359	0.904	
	Within Groups	7850.123902	233	33.6915189			
	Total	7922.65	239				
Method	Between Groups	1003.641162	6	167.273527	2.765	0.013	Tukey
	Within Groups	14097.75467	233	60.5053849			1-3
	Total	15101.39583	239				4-3
Time Management	Between Groups	227.649335	6	37.9415558	1.417	0.209	
	Within Groups	6238.146498	233	26.7731609			
	Total	6465.795833	239				
Total	Between Groups	3362.686674	6	560.447779	1.967	0.71	
	Within Groups	66382.04666	233	284.901488			
	Total	69744.73333	239				

Music students' instrument study years do not show a significant difference in terms of self-regulation behaviors and some sub-dimensions ( $p > .05$ ). However, a significant difference was found in the Method sub-dimension ( $p = .013$ ) ( $p < .05$ ). Post hoc test was applied to determine the direction and degree of differentiation.

Table 11. Post Hoc Test Results of the Scores Obtained in the Method Dimension of the Self-Regulation Behaviors Scale According to The Students' Instrument Study Years.

	(I) grade	(J) grade	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	1	3	-5.75000	1.71850	0.016
	4	3	-5.69828	1.89711	0.046

In the post hoc test results, it was determined that in the method dimension, there was a significant difference between the 1st and 3rd years ( $p=.016$ ) and the 4th and 3rd years ( $p=.046$ ) ( $p< .05$ ).

Table 12. Distribution of Students' Scores from the Scale of Self-Regulation Behaviors and Sub-Dimensions According to Instrument Type

Factors		Sum of Squares	df	Mean Square	F	Sig.
Social Impact	Between Groups	293.927	10	29.393	0.882	0.55
	Within Groups	7628.723	229	33.313		
	Total	7922.65	239			
Method	Between Groups	686.13	10	68.613	1.09	0.371
	Within Groups	14415.266	229	62.949		
	Total	15101.396	239			
Behavior	Between Groups	228.425	10	22.843	1.625	0.1
	Within Groups	3218.308	229	14.054		
	Total	3446.733	239			
Time Management	Between Groups	275.502	10	27.55	1.019	0.428
	Within Groups	6190.293	229	27.032		
	Total	6465.796	239			
Total	Between Groups	2850.725	10	285.073	0.976	0.465
	Within Groups	66894.008	229	292.114		
	Total	69744.733	239			

The type of instrument or vocal type on which students take education do not show a significant difference according to self -regulation behaviors and sub-dimensions of it. ( $p>.05$ ). The data obtained from the interviews about the self-regulation behaviors acted by the students in their musical education, which constitute the qualitative dimension of the research, are presented in tables below.

Table 13. Students' Opinions about Starting a New Work Behavior

	Code	f	%
Being motivated	I get excited	1	6.7
	I wonder	3	20
Preparation	I examine the notes	5	33.3
	I analyze	4	26.7
	I listen to the piece	2	13.3

Table 14 Students' Opinions about Completion Time Planning Behaviors at the Beginning of the Study

	Code	f	%
Plan	I plan	3	60
	I don't plan	2	40

Students are excited and curious when they first encounter a new piece, and their first behavior is to examine the notes, analyze the piece, and listen to it if possible. While some of the students plan the time that they complete their work, some do not.

Table 15. Students' Opinions about Their Self-Observation Behaviors.

	Code	f	%
Students observe themselves	I listen during the performance	1	14.3
	I take sound recording	3	45.8
	I take video recording	1	14.3
	I study in front of the mirror	1	14.3
	I use a metronome	1	14.3

Students take sound recordings for their self-observation behaviors, or seek other solutions.

Table 16. Students' Opinions about Self-Evaluation Behaviors

	Code	f	%
They make evaluations then, study according to results	I determine my study time by evaluating	1	20
	I evaluate by watching videos	1	20
	I sometimes evaluate	1	20
	I evaluate	2	40

Students make evaluations as a result of their observations and plan their study processes.

Table 17. Opinions of Students about Using a Strategy Behavior

	Code	f	%
I determine my own strategy	I determine my own strategy	4	40
	I take notes	4	40
I use special strategies	Simplified working strategy	1	10
	Special working strategy for difficult area	1	10

Students maintain their studies by determining their own learning strategies.

Table 18. Opinions on Time Use Behaviors during the Study

	Code	f	%
They don't think time is enough	I don't spare enough time	3	60
They use personal working time	I study when I feel well	2	40

Students claim that they cannot find enough time to study. When they feel well enough to work efficiently, they keep working.

Table 19. Opinions about the Workplace

	Code	f	%
Working environment is appropriate	It is appropriate	5	71.4
	I look for a quiet place	2	28.6

Students look for a quiet environment to work, and they generally say that they have appropriate environments.

Table 20. Students Opinions about Being Open to Help and Internalizing Behaviors

	Code	f	%
Receiving help	I receive help	3	37.5
	I don't receive help. I can handle it myself	2	25
	I internalize the help I receive	3	37.5

While some students said that they were open to getting help when they needed and that they could internalize this help, other students said that they were trying to find a solution on their own.

## Discussion

The self-regulation behavior average of the music students was determined as (Mean=148,1167). The proportion of mean scores of the self-regulation scores of the music students to the highest score that can be obtained from the scale was calculated as (77.956%). Kesawa and Primana, (2017) used the same scale in their study, but applied it as a six-point Likert scale. In their researches, they presented the results with item values. In these results, the scale score was determined as ( $\bar{x}=4.46$ ) (p. 340). If this value is equalized to our value, it corresponds to (Mean=141.23). When our research result is compared with this result, it is understood that music students exhibit more positive attitude towards using self-regulation behaviors. It can be said that more intensive use of self-regulation behaviors in music education fields can promote success (McPherson & Zimmerman, 2011).

When we examine the proportion of the scale sub-dimensions to the maximum score, the Behavior dimension has the highest ratio (83.47%) and the Time management dimension has the lowest ratio (61.99%). This finding has also parallels with the findings obtained through the interviews with the students. In the study of Kesawa and Primana, (2017, p. 340), while the Time Management dimension has the lowest value again among the sub-dimensions, the Method dimension has the highest value unlike the former highest sub-dimension. This result has partially parallels with our research. In the qualitative data of the research, the students assert that they cannot spare enough time to practice. With this result, qualitative data support quantitative data and prove that students are not sufficient in using time. In our age, it is likely for students to fall into time traps (Durmaz, Hüseyinli & Güçlü, 2016, p. 2293). For this reason, in order to urge students to behave more consciously, it is recommended to prepare various seminars and educational environments as well as enlightening them. (Durmaz, Hüseyinli & Güçlü, 2016: 2301). However, Gerçeker (2018) observed in his study that there was no significant difference in the use of time by music students (p. 459). This result is not in line with the research results. It is thought that the reason of this difference may be stem from the contextual distinctions. According to gender, there was no

significant difference in terms of self-regulation behaviors scale scores and sub-dimensions. In his study on self-regulation of teacher candidates, Güler (2015) found a significant difference in favor of women. This finding exhibit opposite result to our research. It is thought that the reason of this difference may be stem from our different study group.

According to age variable, there was no significant difference in terms of self-regulation behaviors scale scores and sub-dimensions. In his study, Varela (2017) mentioned that students at the age of 25 and over question their internal motivation more, but they are more prone to create a classical repertoire by reading notes. In addition, in their study on instrument students, Özmenteş and Özmenteş (2009) found that there was a significant difference in the age variable Students aged 17-19 have higher attitudes towards playing instruments than students at the age of 23 and over. These findings are different from the research results. It is thought that this difference may be due to the different study group. According to school type, there was no significant difference in self-regulation behaviors scale scores and sub-dimensions. Turhal and Akgül Barış (2019) investigated the self-regulation perceptions of instrument students in their study. In this study, it was observed that there were significant differences between the self-regulation perceptions of the students of the faculty of education and the faculty of fine arts. This result is in a different direction with the research results. It is thought that this difference may be stem from the involvement of the Conservatory students in the research.

According to the class variable, there was no significant difference in terms of self-regulation behaviors scale scores and some sub-dimensions, but there was a significant difference in the Behavior dimension ( $p=0.041$ ) ( $p<0.05$ ). According to the results of the Post hoc test, when the 3rd grades compared to the 4th grades there was a significant differentiation in favor of the 3rd grades in the dimension of behavior. In their study on teacher candidate, Aybek and Aslan (2017) found that there is a significant difference in favor of 1st grades in the self-assessment dimension when compared 1st and 4th grades (p. 467). While this finding is in parallel with the research finding, the change in different classes prove a remarkable result.

In his study, Doğan examined (2021), the musical instrument study habits of the music teacher candidates and their motivation for the instrument lesson. In this study, individual instrument practice differs significantly in the dimensions of success motivation and study motivation according to the grade variable. It has been reported that this differentiation has a decreasing mean score from 1<sup>st</sup> grade to 4<sup>th</sup> grade, and there is just a statistically significant difference between 1st and 3rd grade students. When compared the first and 4th grade, Güler (2015), found a significant difference in favor of 4th grade in the sub-dimensions of "Regulation of Effort" and "Organization of Time and Study", which are sub-dimensions of a scale for self-regulation of teacher candidates. (p. 70). These findings are in parallel with the research results. There was no significant difference in terms of scale scores of self-regulation behaviors according to the instrument working year and some sub-dimensions, but there was a significant difference in the Method dimension ( $p=0.013$ ) ( $p<0.05$ ). According to the results of the Post hoc test, there is a significant difference in the method dimension of the students who are in third instrument study year in comparison with the students who are in their 1st and 4th years. Schmidt, Zdzinski, and Ballard, (2006) and Seker (2014), on the other hand, state in their studies on similar subjects that there were no significant differences in terms of the year variable.

There was no significant difference in terms of scale scores of self-regulation behaviors according to the instrument variable and sub-dimensions of them. Gerceker (2018) determined that in the preparation for education subscale, music teacher candidates' instrument training habits differ in instrument types. It was observed that there were significant differences in the distribution of the scores of the "appreciating the education" subscale of the educational habits of the music teacher candidates according to the individual instrument variable. This result is not in direct proportion to the research results.

In the qualitative results of the research, music students say that they are curious when starting a new piece and that they first examine the notes and plan how long it will take to complete it. Horsley (2019) similarly emphasized the importance of planning in his findings (p.150). Students maintain their observations through some methods like voice recording. They say that they evaluate themselves with the data they get from various records. In a conducted study, it is said that while working with their students, it is necessary for music teachers to teach them how to recognize and evaluate themselves (Horsley, 2019, p.160). Students who set their own study strategies say that they take notes and try to overcome difficult sections by simplifying and doing specific passage works. Junior, et al. (2018) state that students produce their own learning strategies (p.70). Hence, students get a more efficient study process.

Students allege that they cannot give enough time to study. In the quantitative findings of the research, this situation is also supported in the sub-dimension of time management. Today, scheming and conscious use of time by students is being manipulated by various effects. They stated that they have appropriate places for their work. What teachers and parents need to do for self-regulated learning is to prepare a suitable environment for students (Junior, Montandon, & Marins. 2018, p.72). While some of the students mentioned that they were able to get help in the areas that they felt deficiency, others stated that they tried to solve them on their own without any help. Contrary to popular belief, students who apply self-regulation are not anti-social and are actually open to receiving support (Zimmerman, 2002, pp. 69-70). Further, those who received support mentioned that they did not have any difficulties in internalizing this support.

## **Recommendations**

In the results of the research, the self-regulation behaviors of music students differ according to the grade level and the year that they play an instrument. For this reason, it is recommended to examine this finding in more detail in studies conducted on similar topics. In addition, it is revealed that students should be more conscious about time management. For this reason, it is recommended to provide students training for time management issues. It is recommended that music teachers should aid students to organize various self-regulation behaviors and support them in managing their educational processes.

## **Note**

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