

# Examining Perceived Self-Regulation Beliefs of Pre-Service Music Teachers in Musical Instrument Practice

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## Examining Perceived Self-Regulation Beliefs of Pre-Service Music Teachers in Musical Instrument Practice

### Abstract

The aim of this study is to investigate whether there are significant differences between perceived self-regulation beliefs of pre-service music teachers in their instrument practice and their genders, ages, universities, hours of daily practice, instruments and their career goals. Also under investigation is the correlation between perceived self-regulation beliefs of pre-service music teachers and their academic achievement scores of their principal instrument lessons. Participants of the study consisted of 249 pre-service music teachers (F=131; M=118). The participants were receiving education from the universities that are found in the western part of Turkey. Criterion sampling was used for the study. The Self-Regulation in Instrumental Practice Scale (Özmenteş, 2007) and a personal information form were used as data collection tools. The results showed that there are significant differences between levels of perceived self-regulation beliefs of participants and their career goals and the time they spent on instrument practice. Also discovered was a small positive significant correlation between perceived self-regulation beliefs of participants and their academic achievement scores on instrument practice/performance. The results were discussed in the light of the literature.

**Keywords:** self-regulation, music education, perceived self-regulation beliefs, pre-service music teachers, instrument education.

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### 1. Introduction

In this current era of increased technology and information, educators need to consider new approaches to research, as scientific knowledge within every field continues to increase. In this regard many terms regarding teaching and learning research are making their way into education literature for the last several decades, such as lifelong learning, critical thinking and self-regulated learning. These terms are not new to education literature. However, they are becoming more common in describing the act of learning as more than merely recording formal learning environment activity. In this sense individuals, who can set realistic goals, monitor their learning process, seek help if necessary and give feedback about their learning process and use this loop in new learning tasks, briefly; individuals, who can regulate their own learning, are more successful than the ones that don't have a learning strategy.

17 Self-regulation is one of the methods used in many fields, such as psychology, education,  
18 economy, 431 industry. It is also becoming a popular research area in educational psychology.  
19 Although there are several definitions of self-regulation in the literature, they are not completely  
20 dissimilar from each other. The differences arise from the distinct understanding of theoretical  
21 perspectives and conceptual frameworks on self-regulation. Here are some of the definitions that  
22 are currently used in the literature: 52

23 Albert Bandura, who is known as the originator of 15 the social learning theory, described self-  
24 regulation from a social cognitive perspective as an “interaction of personal, behavioral, and  
25 environmental triadic processes” (Bandura, 1986). According 38 educational psychologist Barry J.  
26 Zimmerman self-regulation is a “self-generated framework of thoughts, feelings, and actions used  
27 for attaining specific academic goals” (Zimmerman, 1998). Accord 6g to Pintrich, who is a  
28 foremost researcher on self-regulation described this phenomena as “an active, constructive  
29 process whereby learners set goals for their learning and then attempt to monitor, regulate, and  
30 control their cognition, motivation, and behavior, which is guided and constrained by their goals  
31 and the contextual features in the environment” (Pintrich, 2000). Numerous descriptions and  
32 models of self-regulation can be found in the literature. For example, Panadero (20 21 discussed  
33 and analysed the six models of self-regulation in his paper. They are the models of Zimmerman;  
34 Boekaes 37 Winne, & Hadwin; Pintrich; Efklides; and Hadwin, Järvelä, & Miller.

35 From a social cognitive perspective, Zin 21 rman (2000) asserted a model of self-regulation  
36 as a triadic structured cycle, which resembles Bandura’s triadic model of social cognition. This  
37 model is known as reciprocal det 12 inism (Bandura, 1978), or triadic reciprocal causation which is  
38 clarified by Bandura as “internal personal factors in the form of cognitive, affective and biological  
39 events, behavioral patterns and environmental events which all operate as interacting determinants  
40 that influence one another bidirectionally” (Bandura, 1999). This triadic model is a 51 clical loop,  
41 interacting with each other, both in a positive as well as in a negative way. Likewise Zimmerman’s  
42 model of self-regulation operates in the same way that personal, behavioral and environmental  
43 factors affect each other cyclically because the prior performance consequences are used to make  
44 adjustments in new tasks. Zimmerman (2000) clai 7d that these were necessary adjustments.  
45 Because all factors are changing during the process of learning and performance, and “they must be  
46 observed or monitored using three self-oriented feedback loops.”

47 Regulating its own learning incorporating the triadic cyclic loop of self-regulation for its  
48 own benefit is useful for all learners in many fields, including instrument practice. Instrument  
49 practice in music education is a long-term commitment/process that practically never ends after it  
50 started. Therefore, instrument practice requires long hours of systematic, comparative and  
51 purposeful practicing over a long period of time. Jorgensen had stated that (2002) most of the  
52 masters have spent 7000-8000 hours of instrument practice l 50 ven the ages of 4-6 when they start  
53 to practice their instruments, to ages of 15-16. Likewise, pianists have accumulated r 25 e than  
54 10.000 hours of practice, including formal training from around the age of 6, up to the age of 20  
55 (Ericsson, Krampe, & Tesch-Romer, 1993). Formal training has a crucial role in instrument practice  
56 on the other hand, instrumental music students spend most of their time practicing away from the  
57 intervention of their teachers (Sloboda, Davidson, Howe, & Moore, 1996). In this sense instrument  
58 practice and managing this practice process purposefully, is as important as formal training. A large  
59 part of the instrument practice is individual music practice. Although the quantity of hours spent  
60 practicing 15 instrument plays a major role in the individual music practice, the quality and the  
61 content of practicing is more important than the quantity of time sp 40 practicing the instrument.

62 According to Bathgate, Sims-Knight, & Schunn, (2011) expertise and skill acquisition  
63 literature has been frequently used music education and performance as a platform for  
64 understanding the progression from novice to expert” (e.g. Ericsson, Krampe, & Tesch-Romer,  
65 1993; Sloboda, Davidson, Howe, & Moore, 1996). In this regard, examining the practice strategies  
66 of expert musicians is an excellent way for amateur musicians and music students to improve  
67 themselves. There are various strategies that can be used in music practice. According to Nielsen

(2001) all learners will attempt to self-regulate their learning and performances in some way, but their methods widely differ. It is the learners' responsibility to choose one or more strategy/strategies according to the task, monitor the strategies' effectiveness and then decide to continue in the same way or to modify it in a pragmatic fashion. Ericsson stated that (1997) "expert musicians use more effort and concentration during their practice than less skilled musicians, and they are more likely to monitor and control their playing by focusing their attention on what they are practicing and how it can be improved." Therefore, one of the most important questions in instrumental practice is, 'what do the master performers do differently and what are their beliefs about themselves when compared to novice instrumentalists'. For to improve the act of instrumental practice in music education, distinct levels of performers' practice habits must be examined from the point of view of their self-regulation strategies they employ, along with their perceived self-regulation beliefs and to which variables they are related.

In this regard the purpose of the present study is to investigate whether there are significant differences between perceived self-regulation beliefs of pre-service music teachers in their instrument practice and their genders, ages, universities, hours of daily practice, types of instruments and career goals. Also relationship between perceived self-regulation beliefs of pre-service music teachers and their academic achievement scores of instrument lessons was investigated.

Some possible limitations of this paper have to be emphasised. Primarily participants are music students who receive education from the faculty of education. Their priority is not becoming a performer. Although they are supposed play an instrument that they have selected for 8 semesters, nearly all will become music teachers at preschool, secondary school, or at the high school level. A research made by Lehimler (2015) with a sample of 270 music teachers in Turkey showed that 37% of music teachers in charge never use their instrument in the classroom, 39% of music teachers in charge rarely use their instrument in the classroom and 24% of music teachers in charge always use their instrument in the classroom. Due to participants' future expectations of becoming a music teacher, higher levels of motivation must not necessarily be expected from all participants on instrument practice.

## 2. Method

### 2.1. Participants

The data was collected from 249 pre-service music teachers enrolled in the Department of Music Education at Adnan Menderes University (ADU), Aydın, Turkey, the Department of Music Education at Balıkesir University (BAU), Balıkesir, Turkey, and the Department of Music Education at Sıtkı Koçman University (MU), Muğla, Turkey. Criterion sampling was used for the study. Three of the music departments are found in the western part of Turkey and they were all established nearly in the same years (ADU, 2005; BAU, 2002; MU, 2001). They can be considered as "new music departments" in Turkey. It is thought that the year of establishment is important for the departments because physical environmental factors and experience of the academic staff will be similar in these departments. They are the only three departments of similar background in western Turkey. 52.6% of the participants were male ( $f=131$ ) and 47.4% were female ( $f=118$ ). 16.9% of the participants were between 17-19 years old ( $f=42$ ), 63.5% of the participants were between 19-21 years old ( $f=158$ ) and 19.7% of the participants were ages 23, and above 23 years old ( $f=49$ ). 36.1% of the participants were receiving education from Adnan Menderes University ( $f=90$ ), 31.7% of the participants were receiving their education from Balıkesir University ( $f=90$ ) and 32.1% of the participants were receiving their education from Muğla University ( $f=80$ ). 43.8% of the participants practice their instruments one hour or less for each day ( $f=109$ ), 42.2% of the participants practice their instruments above one hour and less than two hours for each day ( $f=105$ ) and 14.1% of the participants practice their instrument three or more hours for each day ( $f=35$ ). 25.7% of the participants play the violin ( $f=64$ ), 6.8% of the participants play the viola ( $f=17$ ),

118 11.6% of the participants play the cello ( $f=29$ ), %8.8 of the participants play the piano ( $f=22$ ),  
119 10.8% of the participants play the guitar ( $f=27$ ), 11.2% of the participants are singers ( $f=28$ ) and  
120 8.8% of the participants play the bağlama, and ney, which are Turkish traditional instruments  
121 ( $f=22$ ). 47.8% of the participants want to be preschool, secondary school or high school music  
122 teachers ( $f=119$ ), 32.1% of the participants want to be academicians ( $f=80$ ), 12.9% of the  
123 participants want to be music teachers in a fine arts high school ( $f=32$ ) and 7.2% of the participants  
124 want to have some other job that is not related with music and music teaching in the future. 24.8%  
125 of the participants are in the first grade ( $f=62$ ), 26.9% of the participants are in the second grade  
126 ( $f=67$ ), 24.5% of the participants are in the third grade ( $f=61$ ) and 23.7% of the participants are in  
127 the fourth grade ( $f=59$ ). Descriptive statistics are shown in Table 1.  
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Table 1: Descriptive statistics of the participants

| Variable   | n                 | %   | Variable | n                       | %                      |      |      |
|------------|-------------------|-----|----------|-------------------------|------------------------|------|------|
| Gender     | Male              | 131 | 52.6     | University              | ADU                    | 90   | 36.1 |
|            | Female            | 118 | 47.4     |                         | BAU                    | 79   | 31.7 |
| Instrument | Violin            | 64  | 25.7     |                         | MU                     | 80   | 32.1 |
|            | Viola             | 17  | 6.8      | Hours of daily practice | ≤ 1 hours              | 109  | 43.8 |
|            | Cello             | 29  | 11.6     |                         | 1-2 hours              | 105  | 42.2 |
|            | Piano             | 22  | 8.8      |                         | ≥ 3 hours              | 35   | 14.1 |
|            | Guitar            | 27  | 10.8     | Career goal             | M. Teacher             | 119  | 47.8 |
|            | Flute             | 40  | 16.1     |                         | Academician            | 80   | 32.1 |
|            | Bağlama, and, Ney | 22  | 8.8      |                         | M. Teacher F. A. H. S. | 32   | 12.9 |
|            | Singing           | 28  | 11.2     |                         | Others                 | 18   | 7.2  |
| Age        | 17-19             | 42  | 16.9     | Grade                   | 1.                     | 62   | 24.8 |
|            | 20-22             | 158 | 63.5     |                         | 2.                     | 67   | 26.9 |
|            | 23-above          | 49  | 19.7     |                         | 3.                     | 61   | 24.5 |
|            |                   |     | 4.       |                         | 59                     | 23.7 |      |

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## 131 2.2. Instruments

### 132 2.2.1. Personal information form

133 For the purpose of this study, a personal information form was developed in order to  
134 investigate variables such as gender, age, university, instrument, performance scores of the  
135 instrument lessons, daily instrument practice time, and career goals and the of the participants.  
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### 137 2.2.2. The Self-Regulation Instrumental Practice Scale

138 Participants' levels of self-regulated learning beliefs in their instrumental practice were  
139 measured by the Self-Regulation In Instrumental Practice Scale, which was developed by Özmenteş  
140 (2007) in the light of Zimmerman's cyclic phase model of self-regulation (2002). It is a self-report  
141 scale, which is used to measure the self-regulated learning beliefs of the participants in their  
142 instrumental practice. The scale is a 36-item 5 point Likert scale ("strongly agree", "agree",  
143 "neutral", "disagree", "strongly disagree"). There are 30 positive items and 6 negative items in the  
144 scale. Cronbach alpha reliability coefficient of the scale is .89.  
145

## 146 2.3. Data Collecting Procedure

147 The "Self-Regulation in Instrumental Practice Scale" and the "Personal Information Form"  
148 were administered during the fall semester of the 2016-2017 academic year. Participants answered  
149 the questions in between 20 to 30 minutes in the classrooms, which they have been regularly  
150 attending.  
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## 154 2.4. Data Analysis

155 Before measuring the differences between gender, ages, universities, instruments, daily  
156 instrument practice times, academic achievements, career goals of the students, and the perceived  
157 self-regulation beliefs on their instrument practice, analysis were performed (Kolmogorov-Smirnov  
158  $p > .05$ ) to find out whether the data was distributed normally (Coakes, 2005) and whether the  
159 variances were homogenous (Levene  $F, p > .05$ ) (Morgan, Leech, Gloeckner, & Barret, 2004). After  
160 establishing that the groups were normally distributed, a t-test for independent samples was used to  
161 determine the difference between gender and perceived self-regulation beliefs of the participants. In  
162 order to investigate the differences between ages, universities, instruments, daily instrument practice  
163 times, career goals of the students and perceived self-regulation beliefs of the participants, a one-  
164 way analysis of variance tests (ANOVA) was performed after finding that the groups were  
165 homogenous. The Pearson Moments Correlation was used to analyse the relationship between the  
166 academic achievement on instrument practice and the perceived self-regulation beliefs of  
167 participants, on their instrument practice.  
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## 169 3. Results

170 In order to find out whether there is a significant difference between the perceived self-  
171 regulation beliefs of pre-service music teachers according to gender, independent samples t-test was  
172 used. Findings are shown in Table 2.

173 Table 2: The difference between perceived self-regulation beliefs of pre-service music  
174 teachers according to gender

| Self-Regulation Beliefs | Gender | n   | Mean   | t     | p    |
|-------------------------|--------|-----|--------|-------|------|
|                         | Female | 131 | 129.24 | 17.35 | .247 |
|                         | Male   | 118 | 128.69 | 18.26 | 247  |

175 As illustrated in Table 2, there is no significant difference between levels of perceived self-  
176 regulation beliefs of pre-service music teachers and their genders ( $t_{247} = .247, p = .805$ ). In order to  
177 find out whether there is a significant difference between the perceived self-regulation beliefs of  
178 pre-service music teachers according to their ages and educational variables, one-way analysis of  
179 variance (ANOVA) was performed. Findings are shown in Table 3.  
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Table 3: The difference between perceived self-regulation beliefs of pre-service music teachers according to their ages and educational variables

| Educational Variables   | Source of variance | Sum of squares | df  | Mean square | F     | p     | Significant difference |
|-------------------------|--------------------|----------------|-----|-------------|-------|-------|------------------------|
| Age                     | Between groups     | 315.54         | 2   | 157.77      | 0.626 | 0.536 |                        |
|                         | Within groups      | 77868.06       | 246 | 316.54      |       |       |                        |
|                         | Total              | 78183.60       | 248 |             |       |       |                        |
| University              | Between groups     | 441.03         | 2   | 220.52      | 0.698 | 0.449 |                        |
|                         | Within groups      | 77742.57       | 246 | 316.03      |       |       |                        |
|                         | Total              | 78183.60       | 248 |             |       |       |                        |
| Grade                   | Between groups     | 2850.31        | 3   | 950.01      | 3.090 | 0.028 |                        |
|                         | Within groups      | 75333.57       | 245 | 307.48      |       |       |                        |
|                         | Total              | 10359.80       | 248 |             |       |       |                        |
| Instrument              | Between groups     | 54406.32       | 7   | 772.33      | 2.558 | 0.015 |                        |
|                         | Within groups      | 72777.27       | 241 | 301.98      |       |       |                        |
|                         | Total              | 78183.60       | 248 |             |       |       |                        |
| Hours of Daily Practice | Between groups     | 9272.75        | 2   | 4636.38     | 16.55 | 0.000 | 1- ≤1 h.-1-2 h.        |
|                         | Within groups      | 68910.85       | 246 | 280.12      |       |       | 2- ≤1 h.-≥ 3 h.        |
|                         | Total              | 78183.60       | 248 |             |       |       |                        |
| Career Goal             | Between groups     | 4416.20        | 3   | 1472.07     | 4.889 | 0.003 | academician-           |
|                         | Within groups      | 73767.40       | 245 | 301.09      |       |       | others                 |
|                         | Total              | 78183.60       | 248 |             |       |       |                        |

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The results of ANOVA analysis (Table 3) have shown that there is no significant difference between levels of self-regulation beliefs of pre-service music teachers and their ages ( $F_{2,246} = .626, p = .536$ ), their universities ( $F_{2,246} = .698, p = .449$ ), their grades ( $F_{3,245} = 3.090, p = .028$ ), or their instruments ( $F_{7,241} = 2.558, p = .015$ ). For grade and instrument variables the Bonferroni correction method was applied in order to reduce 'type II' errors. The Bonferroni correction is determined by the level of significance/number of groups formula (Miller, 1991). In this study, grade variable has 4 groups, and the 'instrument variable' has 8 groups. In this regard the level of significance for grade is determined as  $(.05/4) .012$  and level of significance is determined as  $(.05/8) .006$ . Likewise Bonferroni correction is also applied for hours of daily practice variable, which has 3 groups, and for career goal variable, which has 4 groups. In this sense the level of significance for the hours of daily practice variable is determined as  $(.05/3) .016$  and the level of significance for career goal is determined as  $(.05/4) .012$ . The results in Table 3 display that there is a significant difference between levels of self-regulation beliefs of pre-service music teachers and their hours of playing their instruments ( $F_{2,246} = 16.55, p = .000$ ). A complementary post-hoc test was used to compare and to determine which groups were significantly different. The results have shown that the levels of perceived self-regulation beliefs of pre-service music teachers who practice their instruments between one and two hours are significantly higher than the levels of perceived self-regulation beliefs of pre-service music teachers who practice their instruments less than one hour every day. Likewise, the levels of perceived self-regulation beliefs of pre-service music teachers who practice their instruments more than three hours are significantly higher than the levels of perceived self-regulation beliefs of pre-service music teachers who practice their instruments less than one hour every day. The results have also shown that there is a significant difference between levels of self-regulation beliefs of pre-service music teachers and career goals in the future ( $F_{3,245} = 4.889, p = .003$ ). The complementary post-hoc test has demonstrated that the significant difference had arisen from the perceived self-regulation beliefs of the participants who want to be academicians and the participants who want to have some other job that is not related with music and music teaching in the future. In the interest of finding the relationship between the levels of perceived self-regulation beliefs and the academic achievement on instrument practice, the participants' final scores of

instrument lessons and the participants' "Self-Regulation in Instrument Practice Scale" scores were compared by using the Pearson Moments Correlation Technique. Results of the correlation analysis are shown in Table 4.

Table 4. Correlation between perceived self-regulation beliefs of pre-service music teachers and their academic achievement scores of instrument lessons

|                             | <i>Academic achievement</i> | <i>Self-regulation</i> |
|-----------------------------|-----------------------------|------------------------|
| <i>Academic achievement</i> | 1                           | 0.29*                  |
| <i>Self-regulation</i>      |                             | 1                      |

\* $p < .01$

Results of correlational analysis showed (Table 4) positive, small correlations between perceived self-regulation beliefs and academic achievement scores of instrument lessons of the participants ( $r = .29, p = .000$ ). When the effect size of this finding is established ( $r^2 = .8$ ) it is proven that the variances' 8% can be explained by academic achievement scores of instrument lessons.

#### 4. Discussion and Conclusion

The study investigated differences between perceived self-regulation beliefs of pre-service music teachers in their instrument practice, including gender, age, universities, hours of daily practice, kinds of instruments, career goals and the relationship between perceived self-regulation beliefs of pre-service music teachers and the academic achievement scores of their instrument lessons.

The results show that although female participants' perceived self-regulation beliefs are higher than male participants' the difference is not significant. In the literature there are various results indicating the difference between self-regulation and gender among diverse fields. Sağrılı, & Azapağacı (2009) found no significant difference between university students' self-regulated learning abilities and their genders in their studies. To the contrary, according to an investigation of year 11 students by Bezzina (2010) showed that that girls reported greater use of self-regulated learning strategies, while boys were more self-efficacious and intrinsically motivated to learn. Bidjerano (2005) found in her study that female students tended to use rehearsal, organization, metacognition, time management skills, elaboration, and effort more effectively than boys. There were no statistically significant differences between genders regarded to studying with peers, help seeking, and critical thinking skills in the related study.

In the literature there are various results between self-regulated learning and gender. These results can differ from the characteristics of the samples and the difference of fields that are compared with self-regulated learning (instrument practice, mathematics, science etc.). The developmental differences in the acquisition of self-regulated learning skills and knowledge must also be taken into consideration (Wigfield, Klaudia, & Cambria, 2011). Although age is an important variable in self-regulated learning, the results indicated that there is no significant difference between the students' perceived self-regulation beliefs and their ages. This can be observed from the proximity of age groups. This result aligns the study of Tezel Şahin (2015) who investigated the self-regulation sufficiency's of the students attending universities of physical education and sport. The results of the study also showed that there are no significant differences between the students' perceived self-regulation beliefs and their universities. This result can be originated from similar characteristics of the universities themselves. Since the universities are in the same region of Turkey and therefore have similar features, the student profile does not greatly differ from one another. Featured music departments in different regions can be investigated and compared in further studies.

According to the results there is no significant difference between perceived self-regulation beliefs of participants and their grades. As such it is expected that university training should increase the level of self-regulated learning dispositions hence self-regulated learning beliefs ought to be increased. This can be observed from the similar learning dispositions of the participants. These results also show that music education and instrument practice do not improve the self-



281 regulated learning beliefs of the students unless the lessons are taught in a self-regulatory fashion.  
282 To investigate this phenomenon of different music departments, different grade levels of  
283 elementary and high schools in music education must also be investigated. The results of the study  
284 also demonstrated that there is no significant difference between the students' perceived self-  
285 regulation beliefs and their instruments, but the perceived self-regulation beliefs of participants who  
286 practice their instruments between one and two hours are significantly higher than the levels of  
287 perceived self-regulation beliefs of participants who practice their instruments less than one hour  
288 every day. Also, the levels of perceived self-regulation beliefs of participants who practice their  
289 instruments more than three hours are significantly higher than the levels of perceived self-  
290 regulation beliefs of participants who practice their instruments less than 45 hour every day. In  
291 fact, according to the literature, musical instrument achievement is closely related to the length of  
292 time spent for daily instrument practice (Ericsson, Krampe, & Tesch-Romer, 1993; Hallam, 2001;  
293 Sosniak, 1990). According to Jorgensen (2002) musicians whom spent much time for practicing are  
294 more successful musicians than the ones who spent less time. But this statement does not mean  
295 that time spent for daily instrument practice will foster self-regulatory processes as having intrinsic  
296 interest, setting realistic goals, self-observing and monitoring the practice process, self-evaluating  
297 and self-judging after the task, having satisfaction regarding the process of learning/practicing and  
298 having much more intrinsic interest and self-efficacy, which drives the cyclic loop of self-regulation  
299 (Schunk & Pajares, 2001) for the new task.

300 However, this result may also indicate that the participants whom spent less than one hour  
301 for daily instrument practice do not have enough time to organise their instrument practice process.  
302 In this sense further studies investigating the relationships between self-regulation and instrument  
303 practice time must be made. The results of the study also showed that pre-service music teachers  
304 who are planning to become academicians in the future have significantly higher scores on  
305 perceived self-regulation beliefs than those who are planning to have some other job that is 41 t  
306 related to music and/or music teaching. Abele & Spurk (2007) indicated in their study that self-  
307 regulatory thoughts of individuals have an influence in their career. If 53 her words, having positive  
308 future expectations and having higher career 40 als for the future may have a positive effect on self-  
309 regulation in music practice. Goal setting is one of the inherent components of self-regulated  
310 learning process and career goals can be distinguished as long-term goals. Further studies can be  
311 made for investigating the relationship between self-regulation, setting long-term goals, future time  
312 expectations and career goals. The results of the study also showed that there is a small positive  
313 correlation between perceived self-regulation beliefs and academic achievement scores of  
314 instrument lessons of the participants and 8% of the variances can be explained by academic  
315 achievement scores of instrument lessons. There is considerable evidence in the literature that  
316 emphasizes the relationship between self-regulation and academic achievement (Chye, Walker, &  
317 Smith, 1997; Kovach, 1997; Turan, & Demirel, 2010; Pintrich, & De Groot, 1990; Young, &  
318 Vrongistinos 2002). Likewise, this study results show that self-regulation on instrument practice  
319 correlates positively with academic achievement on instrument practice. In this sense for enhancing  
320 instrument practice achievement of music students, instrument lessons must be thought in a  
321 fashion that enables them to use self-regulation strategies. Studio teaching is a very suitable setting  
322 for using and enhancing the self-regulatory processes of students. Doubtlessly music students use a  
323 set of the self-regulation strategies in their instrument practice unavoidably. It is the instrument  
324 instructors' responsibility to organize these strategies and make students use these in a systematic  
325 way and provide feedback for previous tasks. Further studies are recommended with different  
326 samples in various instrument levels, conservatories, ages and future time expectations. The use of  
327 self-regulation strategies of these diverse samples must be examined as the self-regulation beliefs are  
328 investigated.

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