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The relations among musical instrument performance self-efficacy, self-esteem and music performance anxiety in pre-service music teachers

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This study investigated the relations among pre-service music teachers' musical instrument performance self-efficacy, music performance anxiety and self-esteem. This study was designed as a correlative survey, and was conducted with a total of 527 pre-service music teachers. The data were collected by using the Musical Instrument Performance Self-Efficacy Scale, the Coopersmith Self-Esteem Inventory and the Kenny Music Performance Anxiety Scale. Correlation and regression analyses were used in analyzing the data. The study findings showed the following results; there was an inverse low level significant relation between the musical instrument performance self-efficacy and the self-esteem levels of pre-service music teachers; there was a positive medium level significant relation between the musical instrument performance self-efficacy and the music performance anxiety levels of pre-service music teachers; there was an inverse medium level significant relation between the self-esteem levels and the music performance anxiety levels of pre-service music teachers.

Key words: Instrument education, pre-service music teacher, musical instrument performance self-efficacy, self-esteem, musical performance anxiety.

INTRODUCTION

Educating people and getting them to conform to social realities are closely associated with the education of teachers (Kılıç, 2017; Gürşimşek, 1998). This means that teacher education should be strongly emphasized in national education policies. This opinion is supported by the considerable amount of research on pre-service teachers (Çevik, 2011; Kılıç, 2014; Fajet et al., 2005; Gitlin et al., 1999).

Teacher education programs are known to have similar features in all the world's nations. These programs try to

improve knowledge in three fundamental areas: field knowledge, pedagogical formation and general culture (Ayas, 2009). As in other countries, music teacher education is part of teacher training in Turkey.

In Turkey, pre-service music teachers assume the title of music teacher after four years of undergraduate music teacher education. When pre-service teachers graduate, they can teach general music education in elementary, middle and high schools. Pre-service teachers take many field courses as part of their educational curricula. One of

such course is instrumental education. Pre-service music teachers are taught more than one instrument within the scope of individual instrument (violin, viola, cello, etc.), piano and school instrument (recorder, guitar) courses in their department.

For this reason, individual instruments were considered in this study. As it is known, instrumental education has always played a significant role in music education and pre-service music teachers' education. The many studies of this subject in the literature can be regarded as evidence of this (Haston and Leon-Guerrero, 2008). Instrumental education is based on organized one-to-one contact that has been likened to a master and apprentice approach to teaching musical instruments (Jorgensen, 2000).

However, instrumental education is considered a challenging process. Instrumental education intrinsically requires students to practice a great deal. It also requires highly motivating students to perform routine exercises and studies. High musical instrument performance self-efficacy may ensure that pre-service teachers are more motivated to practice their instruments (Schunk, 1995). The literature suggests that teachers' self-efficacy affect students' self-efficacy, motivation and achievement positively (Ashton and Webb, 1986).

Teachers with self-efficacy can also be more effective, and have higher professional satisfaction (Barnes, 1999; Betoret 2009). Considering this information, it can be stated that strong musical instrument self-efficacy helps pre-service music teachers to learn their musical instruments better and affect the development of their students' self-efficacy and their professional satisfaction with teaching.

Accordingly, this study examined the relations among pre-service music teachers' musical instrument performance self-efficacy, music performance anxiety and self-esteem, whether self-esteem and musical performance anxiety predict musical instrument performance self-efficacy.

METHODOLOGY

Participants

This study was conducted with 527 pre-service music teachers in their first, second, third or fourth years in Uludag University , Abant Izzet Baysal University, Adnan Menderes University, Balikesir University, Mehmet Akif Ersoy University, Mugla Sitki Kocman University, Ondokuz Mayis University, Trakya University and Yüzüncü Yil University education faculties during the 2014 to 2015 academic year in Turkey. Of the participants, 61.9% were female and 38.1% were male. Their mean age (M_{age}) was 20.2.

Data collection instruments

The musical instrument performance self-efficacy scale

The Musical Instrument Performance Self-Efficacy Scale (MIPSS), which was developed by Girgin (2015), was used in this study to measure the musical instrument performance self-efficacy levels of pre-service music teachers. In the process of developing the scale, Girgin (2015) found that it has three sub-dimensions, namely, self-efficacy, self-inefficacy and psychological indicators. Girgin (2015) found the Cronbach alpha value for the entire scale is 0.72. The Cronbach alpha values for the scale's sub-dimensions are 0.86 for self-efficacy, 0.76 for self-inefficacy and 0.61 for "psychological indicators." The scores range from 1="strongly disagree" to 5="strongly agree" for the items on this five-point Likert-type scale. The MIPSBS has 20 items. Therefore, the highest and lowest possible scores are 100 and 20, respectively. A high score on the entire scale indicates a high level of musical instrument performance self-efficacy. This scale's reliability was found to be .86 in this study.

The Coopersmith self-esteem inventory

The Coopersmith Self-Esteem Inventory (C-SI), which was developed by Coopersmith (1967) and adapted to Turkish by Pişkin (1996) was used. The Turkish version of the scale was used in this study to determine the self-esteem levels of pre-service music teachers. The C-SI is intended to measure people's personal assessments of their self-worth in their social, academic, familial and individual lives.

Coopersmith found the test-retest reliability coefficient of the inventory to be 0.88 at a 5-week interval and 0.70 at a 3-year interval. C-SI has been revised several times since it was developed. There are two versions of the scale, a 25-item short form and a 58-item long form. The 58-item long form was used in this study. The inventory consists of 58 questions. Among these questions, eight lie items, which are not included in the total score, are inserted in the inventory to measure the consistency of the participants' responses. They simply repeat other items on the form. For the lie scale items, scales with a consistency of 5 or more were not included in the assessment.

The inventory's response choices are "like me" and "not like me" and are scored 2 and 1, respectively. The highest self-esteem score of the 58 questions is 100 because 8 questions are the lie items. The scale consists of four sub-dimensions, namely, 'general self-esteem', 'social self-esteem', 'self-esteem concerning family and home' and finally, 'academic self-esteem'. A high score on the scale indicates high self-esteem. The long form of the inventory that comprises 58 questions was used in this study. The KR-20 reliability coefficient of the inventory was determined to be 0.87.

The Kenny music performance anxiety scale

The Kenny Music Performance Anxiety Scale (K-MPAS), which was developed by Kenny et al. (2004), and adapted to Turkish by Tokinan (2013). This study used the Turkish version to determine pre-service music teachers' music performance anxiety levels. The K-MPAS was revised in 2009, and the revised version has 40 questions in 12 sub-factors that are divided into the following three categories:

(1) Early relationship (transfer of the anxiety through generations; familial empathy)
(2) Psychological vulnerability (depression/hopelessness, controllability, trust, constant performance anxiety)
(3) Related performance situations (related somatic anxiety, fear/terror (negative perception), thinking before and after the performance, self-control/control by others, opportunity value, memory reliability).

The Turkish form of the inventory consists of 25 questions on 5 factors based on the analysis of the data that was obtained from

Table 1. Descriptive statistics of the studied variables.

Variable	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
MIPSS	1.00	5.00	3.09	0.62	-0.090	0.203
Self-efficacy (SE)	1.00	5.00	3.08	0.81	-0.08	-0.44
Self-inefficacy(SI)	1.00	5.00	3.35	0.85	-0.04	-0.47
Psychological indicators (PI)	1.00	5.00	2.84	0.75	0.12	-0.36
C-SI	1.00	2.00	1.28	0.16	0.46	-.0.62
General Self-esteem (GSE)	1.00	2.00	1.29	0.18	0.57	-0.49
Social Self-esteem(SSE)	1.00	2.00	1.22	0.20	0.87	0.13
Home/Family self-esteem (HFSE)	1.00	2.00	1.25	0.23	0.84	0.03
Academic-school self-esteem (ASSE)	1.00	2.00	1.40	0.24	0.28	-0.58
K-MPAS	0.00	6.00	3.42	1.18	-0.081	-0.441
Negative performance perception (NPP)	0.00	6.00	3.41	1.31	-0.12	-0.54
Psychological vulnerability (PSV)	0.00	6.00	3.64	1.15	-0.28	-0.16
Somatic anxiety (SA)	0.00	6.00	2.52	1.75	0.17	-0.95
Self-control (SC)	0.00	6.00	2.71	1.83	0.19	-1.01
Physiological vulnerability (PHV)	0.00	6.00	3.38	1.97	-0.18	-1.14

n=527.

696 students during its Turkish adaptation. The sub-dimensions of the inventory are negative performance perception, psychological vulnerability, somatic anxiety, self-control and physiological vulnerability.

Tokinan (2013) found the Cronbach alpha reliability coefficient of the inventory to be 0.89. The scores range from 0="strongly disagree" to 6="strongly agree" on a seven-point Likert-type scale. The highest and lowest possible scores on the entire scale are 150 and 0, respectively. A high score indicates a high level of music performance anxiety. This scale's Cronbach alpha 550reliability coefficient was found to be .93 in this study.

Data analysis

The arithmetic averages and standard deviation values of the pre-service music teachers are presented in this study as the descriptive statistics for their scores on MIPSS, C-SI and K-MPAS. A correlation analysis was performed to determine the relations among musical instrument performance self-efficacy belief, self-esteem and music performance anxiety. A stepwise multiple regression analysis was conducted to determine how self-esteem and music performance anxiety predict musical instrument performance self-efficacy.

FINDINGS

The findings of the research are presented below.

Descriptive statistics

The descriptive statistics that were obtained from MIPSS, C-SI and K-MPAS are shown in Table 1. It can be concluded from Table 1 that the musical instrument performance self-efficacy belief (M=3.09) and self-esteem (M=1.28) averages of the pre-service music teachers were moderately high, and their average level of music

performance anxiety (M=3.42) was in moderate level.

Findings of the correlation analysis

The significant relations among MIPSS, C-SI and K-MPAS were tested with a Pearson correlation coefficient, and the results are shown in Table 2.

As Table 2 indicates, an inverse low level significant relation was found between the musical instrument performance self-efficacy and the self-esteem levels of pre-service music teachers (r=-0.279; p<0.01). A positive medium level significant relation was found between the musical instrument performance self-efficacy beliefs and the music performance anxiety levels of pre-service music teachers (r=0.511; p<0.01). An inverse medium level significant relation was found between the self-esteem levels and the music performance anxiety levels of pre-service music teachers (r=-0.383; p<0.01).

The highest correlation between K-MPAS and the sub-dimensions was; K-MPAS and Negative Performance Perception (NPP) (r=0.972; p<0.01). The highest correlation between C-SI and the sub-dimensions was; C-SI and General Self-Esteem (GSE) (r=.926; p<0.01). The highest correlation between MIPSS and the sub-dimensions was; MIPSS and Self-Efficacy (SE) (r=.849; p<0.01). The highest correlation between C-SI and K-MPAS was; C-SI and Psychological Vulnerability (PSV) (r=-.480; p<0.01). The highest correlation between MIPSS and K-MPAS was; MIPSS and K-MPAS (r=511; p<0.01).

Finally, the highest correlation between MIPSS and C-SI was; Self-Inefficacy (SI) and Academic-School Self-Esteem (ASSE) (r=-348; p<0.01).

Table 2. Correlations among the variables.

Variable	K-MPAS	2	3	4	5	6	7	8	9	10	11	12	13
2-NPP	0.972 (**)	-	-	-	-	-	-	-	-	-	-	-	-
3-PSV	0.868 (**)	0.747 (**)	-	-	-	-	-	-	-	-	-	-	-
4-SA	0.667 (**)	0.622 (**)	0.497 (**)	-	-	-	-	-	-	-	-	-	-
5-SC	0.673 (**)	0.632 (**)	0.488 (**)	0.534 (**)	-	-	-	-	-	-	-	-	-
6-PHV	0.701 (**)	0.665 (**)	0.509 (**)	0.524 (**)	0.534 (**)	-	-	-	-	-	-	-	-
7- C-SI	-0.383 (**)	-0.342 (**)	-0.480 (**)	-0.151 (**)	-.0100 (*)	-0.102	-	-	-	-	-	-	-
8-GSE	-0.382 (**)	-0.339 (**)	-0.476 (**)	-0.160 (**)	-0.100 (*)	-0.115 (**)	0.926 (**)	-	-	-	-	-	-
9-SSE	-0.107 (*)	-0.113 (**)	-0.086 (*)	-0.217 (**)	0.041	0.054	0.706 (**)	0.554 (**)	-	-	-	-	-
10-HFSE	-0.152 (**)	-0.140 (**)	-0.211 (**)	-0.014	-0.002	0.012	0.684 (**)	0.503 (**)	0.463 (**)	-	-	-	-
11-ASSE	-0.455 (**)	-0.414 (**)	-0.474 (**)	-0.284 (**)	-0.244 (**)	-0.287 (**)	0.637 (**)	0.476 (**)	0.265 (**)	0.258 (**)	-	-	-
12MIPSS	0.511 (**)	0.509 (**)	0.411 (**)	0.402 (**)	0.350 (**)	0.343 (**)	-0.279 (**)	-0.242 (**)	-0.113 (**)	-0.077	-0.401 (**)	-	-
13-SE	0.347 (**)	0.326 (**)	0.293 (**)	0.311 (**)	0.276 (**)	0.275 (**)	-0.092 (*)	-0.064	0.015	0.037	-0.283 (**)	0.849 (**)	-
14-SI	0.410 (**)	0.427 (**)	0.327 (**)	0.248 (**)	0.219 (**)	0.225 (**)	-0.330 (**)	-0.282 (**)	-0.211 (**)	-0.151 (**)	-0.348 (**)	0.812 (**)	0.477 (**)
15-PI	0.472 (**)	0.489 (**)	0.351 (**)	0.371 (**)	0.310 (**)	0.279 (**)	-0.347 (**)	-0.343 (**)	-0.169 (**)	-0.162 (**)	-0.314 (**)	0.538 (**)	0.092 (*)

**p<0.01 (Note; K-MPAS=Kenny Music Perrformance Anxiety Scale; NPP= Negative Performance Perception; PSV= Psychological Vulnerability ; SA= Somatic Anxiety; SC= Self-Control; PHV= Physiological Vulnerability; C-SI= The Coopersmith Self-Esteem Inventory; GSE= General Self-Esteem; SSE= Social Self-Esteem; HFSE= Home/Family Self-Esteem; ASSE= Academic-School Self-Esteem; MIPSS= The Musical Instrument Performance Self-Efficacy Scale; SE= Self-Efficacy; SI=Self-Inefficacy;PI=Psychological Indicators).

Findings of regression analysis

To explore whether the gender, self-esteem levels and music performance anxiety levels of pre-service teachers predict the musical instrument performance self-efficacy, a multiple regression analysis was conducted. The results are shown in Table 3.

As Table 3 shows, the regression model used the musical instrument performance self-efficacy belief as the dependent variable, and the independent variables –gender, self-esteem and music performance anxiety – were found to be significant ($F_{(3;523)}$ = 65,524, p<0.05). A medium level (R= 0.523) multiple correlation coefficient was obtained among gender, music performance anxiety, self-esteem and the musical instrument performance self-efficacy beliefs of pre-service music teachers. No auto correlation was found among the independent variables. In multiple regression analysis, the fact that there is autocorrelation between independent variables can cause inaccurate results and modeling.

Therefore, correlation analysis is used to determine whether there is autocorrelation between independent variables (Ünver and Gamgam, 1996). The regression analysis assumption that no autocorrelation existed among the independent variables was proven. The results of the study indicated that gender, music performance anxiety and self-esteem levels account for 27% of the pre-service music teachers' musical instrument performance self-efficacy beliefs. It was determined that gender has no significant effect on the musical instrument performance self-efficacy of pre-service music teachers (p>0.05) according to the regression coefficients. It was also determined that self-efficacy and music performance anxiety affect the musical instrument performance self-efficacy of pre-service music teachers (p<0.05).The variable that primarily affects musical instrument performance self-efficacy levels is music performance anxiety (β=0.459) according to the standardized beta coefficients.

The effect size of the adjusted R square calculated in the stepwise analysis is determined by Cohen's f2. This value was found to be high (Ellis, 2010), indicating that the result obtained from the regression analysis was significant. In other words, this value shows that music performance anxiety and self-esteem significantly increase musical instrument self-efficacy.

DISCUSSION

The objective of this study was to determine the relations among pre-service music teachers' musical instrument performance self-efficacy beliefs, music performance anxiety and self-esteem, whether self-esteem and musical performance anxiety predict musical instrument

Table 3. Regression analysis.

Unstandardized coefficients standardized coefficients					
Variable	B	Std. Error	Standardized Beta	t	Sig.
(Constant)	2.743	0.243	-	11.297	0.000
Gender	0.08	0.049	0.063	1.656	0.098
K-MPAS	0.241	0.022	0.459	11.126	0.000
C-SI	-0.396	0.159	-0.101	-2.49	0.013

$F_{(3;523)}$=65,524; p=0.000; R=0.523; Adjusted R Square=0.269; f 2 =0.34.

performance self-efficacy and the effect of gender on these relations.

The results of the study indicated that an inverse low level significant relation existed between musical instrument performance self-efficacy and the self-esteem levels of pre-service music teachers. This result of the study is unlike those of other studies in the literature. In literature, it is stated that there is a significant correlation between self-efficacy and self-esteem (Bacchini and Magliulo, 2003).

The results also showed that a positive medium level significant relation existed between musical instrument performance self-efficacy and the music performance anxiety levels of pre-service music teachers. This result is also unlike those of other studies in literature, which found that anxiety had a negative, significant correlation with self-efficacy (Brown and Morrissey, 2004; Lucchetti et al., 2003). This may be due to the fact that these concepts can come up with different results according to cultures. (You had requested what are these? I had explained next sentence) For example, Topoğlu (2014) stated that culture plays a distinctive role in music performance anxiety. Studies of the correlations between these concepts have generally been conducted in the West. This may be due to cultural differences. According to author, the reasons for this situation and which correlations between these concepts occur in different cultures can be examined.

Other result of the study indicated that an inverse medium level significant relation existed between the self-esteem levels and the music performance anxiety levels of pre-service music teachers. This inverse interaction between anxiety and self-esteem agreed with the results of a study by Taylor and Del Pilar (1992) on the relations among self-esteem, anxiety and alcohol use. The literature includes many study results that support the negative correlation between self-esteem and anxiety (Ma et al., 2014).

Another finding of the study was that the most influential variable on the musical instrument performance self-efficacy of pre-service teachers was music performance anxiety. The results also revealed that the gender of pre-service music teachers had no significant effect on their musical instrument performance self-efficacy. This finding was consistent with the findings of studies in other disciplines in the literature. Reisoğlu et al. (2013) found that the self-esteem levels of pre-service teachers do not differ concerning gender in their study that examined the relation among the self-esteem and emotional intelligence levels of 2,200 pre-service teachers and problematic internet usage. Munford (1994) also revealed that self-esteem levels did not differ regarding gender on the relations among depression, gender, self-esteem, social class, race and identity in a study that was conducted with 146 university students.

Music is a performance-based skill. As stated earlier, it can be stated that strong musical instrument self-efficacy beliefs help pre-service music teachers to learn better in instrumental education as in other fields and positively affects both the development of their students' self-efficacy and their professional satisfaction with teaching. Various researches support this result (Çevik, 2010; Çevik, 2011). For these reasons, it is necessary to determine the variables that help pre-service music teachers develop strong musical instrument performance self-efficacy. This study is crucial in this respect.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

REFERENCES

Ayas A (2009). The importance of teaching profession and current problems in teacher education. İnönü Üniversitesi Eğitim Fakültesi Dergisi, 10(3):1-11.

Ashton PT, Webb RB (1986). Teachers' sense of efficacy, classroom behavior and student achievement. Teachers' sense of efficacy and student achievement, 125-144.

Bacchini D, Magliulo F (2003). Self-image and perceived self-efficacy during adolescence. J. Youth Adolescence, 32(5):337-350.

Barnes GLV (1998). A comparison of self-efficacy and teaching effectiveness in preservice string teachers (Unpublished Ph.D. dissertation). Ohio State University, USA.

Betoret FD (2009). Self-efficacy, school resources, job stressors and burnout among Spanish primary and secondary school teachers: A structural equation approach. Educ. Psychol. 23:45-68.

Brown T, Morrissey L (2004). The effectiveness of verbal self guidance as a transfer of training intervention: its impact on presentation performance, self efficacy and anxiety. Innovations Educ. Teach. Int. 41(3):255-271.

Coopersmith S (1967). The antecedents of self- esteem. San Francisco: Freeman and Company.

Çevik DB (2010). Müzik öğretmeni adaylarının müzik öğretimi özyeterlik düzeylerinin bazı değişkenler açısından incelenmesi. ICONTE, Antalya.

Çevik DB (2011). Sınıf öğretmeni adaylarının müzik öğretimi özyeterlik düzeylerinin incelenmesi. Ahi Evran Üniversitesi Eğitim Fakültesi Dergisi, 12(1):145 -168.

Ellis PD (2010). The essential guide to effect sizes: Statistical power, meta-analysis and the interpretation of research results. Cambridge University Press.

Fajet W, Bello M, Leftwich SA, Mesler JL, Shaver AN (2005). Pre-service teachers' perceptions in beginning education classes. Teach. Teacher Educ. 21(6):717-727.

Girgin D (2015). The musical performance self-efficacy scale: A validity and reliability analysis. Pamukkale Egitim Fakultesi Dergisi, 38:107-114.

Gitlin A, Barlow L, Burbank MD, Kauchak D, Stevens T (1999). Pre-service teachers' thinking on research: Implications for inquiry oriented teacher education. Teach. Teacher Educ. 15(7):753-769.

Gürşimşek I (1998). New approaches to teacher training. Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 14:25-28.

Haston W, Leon-Guerrero A (2008). Sources of pedagogical content knowledge reports by preservice instrumental music teachers. J. Music Teacher Educ. 17(2):48-59.

Jorgensen H (2000). Student learning in higher instrumental education: who is responsible? British Journal of Music Education, 17(1):67-77.

Kenny DT, Davis P, Oates J (2004). Music performance anxiety and occupational stress amongst opera chorus artists and their relationship with state and trait anxiety and perfectionism. J. Anxiety Disorders 18(6):757-777.

Kılıç ÇDB (2014). Bir müzik öğretmeni nasıl olmalıdır? J. Res. Educ. Teach. 3(2):87-94.

Kılıç ÇDB (2017). Pre-service music teachers' opinions about the teaching practicum course. Mariateresa Gammone/Mehmet Ali Icbay/ Hasan Arslan (Ed.) Recent Developments in Education. International Association of Social Science Research. pp. 371-376.

Lucchetti AE, Phipps GL, Behnke RR (2003). Trait anticipatory public speaking anxiety as a function of self-efficacy expectations and self handicapping strategies. Commun. Res. Reports, 20(4):348-356.

Ma ZW, Liang JJ, Zeng WN, Jiang S, Liu T (2014). The Relationship Between Self-esteem and Loneliness: Does Social Anxiety Matter? Int. J. Psychol. Stud. 6 (2):151-165.

Munford MB (1994). Relationship of gender, self-esteem, social class and racial identity to depression in blacks. J. Black Psychol. 20 (2):157-174.

Pişkin M (1996). Self-esteem, locus of control and academic achievement of secondary school children both in England and Turkey. (Unpublished Ph.D. dissertation). University of Leicester, Leicester, England.

Reisoğlu I, Gedik N, Göktaş Y (2013). The relationship of the self-esteem and emotional intelligence levels of pre-service teachers with problematic internet usage. Educ. 38(170):150-165.

Schunk DH (1995). Self-efficacy, motivation and performance. J. Appl. Sport Psychol. 7(2):112-137.

Taylor DN, Del Pilar J (1992). Self-esteem, anxiety and drug use. Psychol. Reports, 71(3):896-898.

Tokinan Özevin B (2013). The adaptation study of kenny music performance anxiety inventory into Turkish. Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, 14(1):53-65.

Topoğlu O (2014). Musical performance anxiety: relations between personal features and state anxiety levels of pre-service music teachers. Int. online J. Educ. Sci, 6 (2):337-348.

Ünver Ö, Gamgam H (1996). Uygulamalı İstatistik Yöntemler, Siyasal Kitabevi, Ankara.