Validity and Reliability of Motivation Scale in Piano Education

M. Kayhan KURTULDU*

Suggested Citation:

Abstract

Problem Statement: Studies on the factors of student motivation are currently addressing issues such as student attitudes, studying principles, studying environments, musical works and some personal issues. All of these elements undoubtedly have an effect on student motivation and success, so instructors should consider them while helping students to increase their motivation levels. Instructors should consider individual success in addition to the overall quality of their piano instruction if they wish to understand student motivation and other performance indicators, such as the self-consciousness of the students.

Purpose of Study: In this study, the author aimed to develop the "Motivation Scale in Piano Education" and then test the scale's validity and reliability. The scale rates the motivation of piano students to play the piano, their performance on piano exams and their piano playing habits. The author then assessed the validity and reliability of the data collected with the scale.

Methods: A survey method was used to collect data for this study. The "Motivation Scale in Piano Education" was applied to students who were taking the piano class for the first time when the study was conducted as well as students who were repeating the class at the time of the study. The work group consists of 258 piano students from the music teaching program. The author administered the survey to all 258 students from the work group within one month, including any related communication.

Findings and Results: The study determined the validity and reliability of the scale and in so doing, it attempted to define individual and environmental factors that may affect a student's motivation to play piano. Data obtained through the implementation were filtered for testing the

* Assoc. Prof. Dr. Karadeniz Technical University Fatih Faculty of Education Music Education Department kayhankurtuldu@gmail.com

reliability and validity of the scale. Statistical processes of the scale revealed that the scale was significantly valid and reliable.

Conclusion and Recommendations: In conclusion, the author found the "Motivation Scale in Piano Education" to be highly valid and reliable. The scale has high values in terms of both reliability coefficient measurements and factor loads and correlations. The author also revised the scale after taking measurements, which made the final scale practicable for music education in general and for piano education in particular.

Keywords: Piano Education, Motivation, Validity and Reliability

Motivation is defined as the basic drives, impulses and intentions that compel someone do something or to act in a given way. The driving force that ignites, activates and results in a sensuous upsurge (excitement or desire) in the organism and steers its behaviours is called motive, while the act of gaining force towards achieving the goals is called motivation (Fidan, 1993 as cited in Orhan, 2006). In other words, motivation is a process that initiates or develops a given behaviour or leads an ongoing activity into a given channel (Usta, 2006).

Studies concerning the effective teaching and learning process predominantly research motivation. To date, many attempts have been made to clarify the concept of motivation. Motivation is a commonly invoked concept within the field of teaching and learning. Therefore, it is possible to characterise the concept of motivation as the basic factor of successful teaching and learning (Çakmak & Ercan, 2006). Ryan and Deci (2000) provide a broader, more detailed description of motivation:

> To be motivated means *to be moved* to do something. A person who feels no impetus or inspiration to act is thus characterized as unmotivated, whereas someone who is energized or activated toward an end is considered motivated. Most everyone who works or plays with others is, accordingly, concerned with motivation, facing the question of how much motivation those others, or oneself, has for a task, and practitioners of all types face the perennial task of fostering more versus less motivation in those around them (Ryan & Deci, 2000, s. 54).

The target or goal of one's activities is an important and decisive element in motivation. Once an individual engages with a given target, he is likely to feel motivated. No matter what the target is, the individual presumes it to be achievable as well as indispensable to his planning process. The most important factors in desiring and achieving a target are the significant outcomes, success and rewards that each achievement promises.

Even some short debates on motivation have demonstrated that it is a highly difficult compound phenomenon to define and control. People possess not only varying values but also varying forms of motivation (Engin & Cam, 2009), and various forms of motivation are instrumental to ensuring individual motivation. Therefore, individuals should understand the specific forms of motivation that drive

them. With this self-knowledge, they can develop personal plans or methods to extend their achievements. In sum, each individual ideally needs to define, develop, plan and implement the method that best suits him.

Researchers have defined self-regulation learning strategies as a set of meta-cognitive, motivational and behavioural techniques that a learner can use to control his or her own learning process. In general, self-regulated learners identify a goal they must accomplish and then proceed to control their behaviour, motivation, affect and cognition in order to attain that goal (Zimmerman & Martines Pons, 1986; Zimmerman, 1990; Pintrich, 1995 as cited in Orhan, 2008). It is crucial that the students preferring the self-regulation method behave within the studying discipline that they have established for themselves. A concept that is closely related to self-regulation is self-determination. An individual with the latter quality guides his motivation independently.

In essence, the self-determination theory posits that intrinsic motivation and certain forms of extrinsic motivation, such as identified regulation, represent self-determined motivation and lead to positive motivational consequences. In contrast, it is proposed that motivational types that are low in self-determination, such as people with amotivation or people who rely on external regulation, ultimately lead to negative motivational consequences. A further postulation forwarded by the self-determination theory holds that these motivational types form a continuum ranging from intrinsic motivation to amotivation (Standage, Duda, Treasure, & Prusak, 2003).

The most powerful compulsion that leads the individual to take action or to work comes from deep inside, that is intrinsic motivation. Thus, an instructor must turn external motivation into intrinsic motivation in order to achieve stronger student motivation and performance. Students may exhibit reactions like unwillingness, lack of interest and resistance while they learn under external motivation. In contrast, instructors consider intrinsic motivation an effective source for learning, because intrinsic motivation contributes to creative and high-quality learning (Gencay & Gencay, 2007).

Early conceptualizations of the intrinsic motivation construct had assumed that the activation of intrinsic motivation was determined by the characteristics of the given task or situation (Weissinger & Bandalos, 1995). Intrinsic motivation is a more effective driver than extrinsic motivation in terms of individual self-motivation. Consequently, intrinsic motivation gains utmost importance in the field of music, where students express intrinsic emotions. Ensuring intrinsic motivation within the process of expressing the emotions and feelings that come from deep inside will have a positive effect on the quality of the musical performance.

When individuals believe in their own ability, they will work harder, persist longer and exhibit fewer negative motivational reactions when they encounter difficulties. Individuals who possess high self-efficacy tend to undertake difficult and challenging tasks more readily (Bandura, 1997; Bandura & Schunk, 1981; Zimmerman, Bandura, & Martinez-Pons, 1992 as cited in Leung, 2008). Therefore, students' self-efficacy in music knowledge and their experience in instrumental

playing may affect the extent and the nature of their compositions (Leung, 2008). In addition to a student's musical creativity and composition skills, the component that effects a student's motivation (perhaps more obviously than creativity and skill) is the quality of the student's music training.

Music education research concerning student-centred characteristics has indicated that a student's decision to participate is affected by his or her socioeconomic status, musical aptitude, self-esteem, attitudes toward music, academic competency, self-concept, peer influence and his or her perception of the cost of participation and elementary ensemble participation (Bruenger, 2009). In short, motivating factors include musical ability, effort, background, classroom environment and affect for music, and these factors characterise what motivates students to achieve in music (Asmus, 1989).

The question of what motivates students to participate in ensembles is a significant concern for many music teachers (Hartley, 1996; Sheib, 2004 as cited in Bruenger, 2009). A growing body of motivational research involving students in instrumental music has focused on the development of instrumentation, comparisons of motivation and attitude by age, gender or program characteristics and the prediction of performance achievement, student perceptions of teaching or attrition (Schmidt, 2005).

In addition, Hallam (2002) states that motivation is of interest to music teachers because of its link with practice, which is seen to be an important determinant of the level of expertise attained in music. So, what factors may be important in determining a student's motivation to begin learning and to continue learning an instrument? In response to this question, Hallam (2002) emphasized the environment as an important factor that affects motivation. He added that the extent to which an individual is motivated to pursue musical activity will depend on the interactions that the individual's characteristics, self concept and goals have with the characteristics of the immediate environment, including cultural and historical factors, the educational environment and the support the student receives from family and peers.

In addition, Hallam (2002) created a scheme for this interaction. Under the environment item for this scheme, he used elements such as place, time, societal demands, culture and subcultures, family, friends and place of work or study. Furthermore, his determinations concerning other factors affecting motivation include the following; 1-Cognitive Processes (Interpretation of input from the environment, Attributions of success and failure), 2- Cognitive Characteristics of the Individual (Intelligence, Cognitive styles, Meta-cognitive skills, Beliefs about learning and ability), 3- Enduring Individual Behavioural Characteristics (Temperament, Personality, Gender), 4- Malleable Aspects of Personality and Self-concept (Ideal self, Possible selves, Self-esteem, Self-efficacy), 5- Goals and Aims (Aspirations, Sub-goals).

Canbay's (2005) study focused on the environmental factors of motivation in instrument education and claimed that classrooms and practice rooms at schools

should have physical facilities that can enable the most efficient use of time and place as well as motivate students to study and practice. Moreover, Canbay (2005) suggested that the practice environment should be free from noise, sufficiently illuminated, air-conditioned at room temperature and decorated with suitable colours. In addition, Canbay underlined that the student's love and affection towards the musical instrument he or she plays does affect motivation, as does the teacher's ability to determine reasonable class targets and to keep those targets in the fore of the students' minds. Finally, the student is far more likely to feel motivated to play when he or she enjoys playing and when the student practices during the hours in which the brain is most open to learning.

Studying on a continuous and disciplined basis is of utmost importance to ensuring that the student loves his/her instrument and has a healthy development in instrument training. Adapting to such a challenging and demanding studying tempo is possible only with a high level of motivation. The teacher is responsible for ensuring that such a motivation exists and remains in students (Orhan, 2006). According to Asmus (1987), effective instructors have focused on the role of self-concept while promoting their students' musical learning. Asmus (1987) also notes that research into the influence of motivation on the effectiveness of music teachers has shown that motivation strongly relates to teaching success.

One of the ways to achieve aesthetics and harmony is to conduct class in such a manner that invokes students' sense of music and their skills of interpretation. Students will tap into this sense only when they are attentive, and teachers can draw their attention by making every lesson interactive and fresh (i.e., slightly different from the last lesson). To sustain their students' musical motivation, teachers should constantly observe the psychological/emotional status of their students, that is, focus on the students (Sungurtekin, 2010). Naturally, one class will feature students with different levels of motivation, so the student-centred focus will help the teacher to notice students who are losing interest so that the teacher can then apply techniques that are suitable for lower motivation levels.

Students with high motivation place greater importance on effort, whereas students with low motivation place greater importance on musical ability (Asmus, 1987). The most powerful driver of highly motivated students is usually the notion that they will get more in return for greater success. On the other hand, students focusing merely on playing skills and notes assessment will exhibit less development in terms of playing skills and musical aptitude. Piano training is one of the most important dimensions of instrument training, so motivation for piano playing is especially urgent; furthermore, the peculiar structure of the piano may also demand higher motivation, as the piano's peculiarities may be less appealing the beginners. Motivation in piano instrument, which has students from almost all ages, can be evaluated on different steps such as adults and children.

Although adult piano students tend to be highly motivated at the outset of instruction, adults can easily become discouraged and dropout if they discover that playing the piano is more difficult than they had anticipated. Adults become easily

frustrated by cognitive-motor skill disconnect, because the adult brain knows what it wants to accomplish musically while the fingers are frustratingly slow to respond. Therefore, despite their relative emotional maturity, adults may be more susceptible than children to frustration. To avoid possible discouragement and the ensuing loss in motivation, instructors should teach adults with specific teaching strategies that have been proven effective for music education. For example, humans become progressively more verbal in their learning styles as they age, so adult students often prefer verbal means of understanding new materials, including analogies and comparisons. Adults also tend to be more analytical and reflective than children in their learning processes (Wristen, 2006). Finally personalizing the lesson may help the adult student greatly, as Ercan (2008) observes, "It would be the best way to motivate adult students to know what they consider valuable and what kind of a teaching method they enjoy" (Ercan, 2008, p. 65).

The way in which the instructor presents her teaching methods is just as important as the methods themselves. If the instructor designs individual methods based on the given student's cognitive perception and skill levels, then she can make the student feel that a different practice is being held for learning. This exclusive feeling is likely to increase the motivation of the student. Therefore, the student will grow ever more motivated with the help of the teacher starting from the class process. This motivation helps students to study in a significantly more willing and planned manner. The student can fuel his success by paying more attention to playing and implementing the technique in an accurate way. Inversely, the negative attitude held by the student towards the piano and piano class is one of the most likely conditions to result in the failure of motivation. Negative attitudes may lead individuals to have a prejudice even at the outset of the training.

Studies on the factors of student motivation address student attitudes, studying principles, studying environments, musical works and some personal issues, because these factors have been proven to influence student motivation and success. Thus, instructors should take such elements into account while deciding how to motivate students. Individual success and quality of piano training should be considered together in increasing motivation and other performance indicators thanks to guidance of educators and particularly the self-conscious of students.

Method

Work Group

The study's work group was comprised of piano students who were studying in the Music Teaching Division of the Fine Arts Education Department under the Fatih Faculty of Education at Karadeniz Technical University and piano students who were studying in the Music Teaching Division of the Fine Arts Education Department under the Faculty of Education at Harran University during the fall semester of the academic year 2008-2009.

Data Collection

The first step that the researcher took to develop the "Motivation Scale in Piano Education" was conducting a literature review on piano education and motivation. The researcher examined the information and references and developed the scale accordingly. The researcher also took into consideration the motivation elements in piano education and borrowed from the scales that instructors in other academic fields have used. After the scale was developed, which initially consisted of 28 items, the work group student's opinions on motivation in piano education were taken through the scale. All 28 items came with a five-point Likert scale, and they covered issues such as studying motivation, performance motivation, students' opinions of classes, the effect of tests on motivation, students' willingness to play piano and factors affecting motivation. Answers ranged from positive to negative, such as "I fully agree," "I agree," "I partly agree," "I slightly agree" and "I disagree." After a statistical process, four items were removed from the scale, reducing it to 24 items. Answer options used for items of the scale are Likert type and has five steps. Before the items, two different variables in the scale: current grade level and the high school from whence the student graduated. The study featured students who were taking their first piano class during the semester that this study took place and students who were repeating the class during that semester. The work group was composed of 258 students in total. The implementation of the 258 students into the work group and all surveys/research communication were completed in one month. After the conclusion of the implementation, the statistical measurement process began.

Data Analysis

After the scale and the implementation were complete, the data obtained were transferred onto a statistical platform. To conduct statistical processes, the researcher used the SPSS (Statistical Package for Social Science) program. First, the researcher calculated the Cronbach's Alpha coefficient, namely the reliability of the coefficient, in order to determine the validity and reliability of the scale. The Alpha coefficients of the general factor steps were also calculated. After calculating the reliability coefficient, the researcher conducted the Kaiser-Meyer-Olkin (KMO) sample adequacy test. Then, the Bartlett's test was conducted to define the factorability level for the scale by measuring the significance level according to the $p<.001$ level. In addition to the Alpha, KMO and Bartlett's tests, the basic components factor analysis measurement was carried out for the items in the scale. The item total correlations were described, and correlation measurements were made between the factors from the outcome.

The result of the KMO sample adequacy test for the scale was 0.87. This result reveals that data obtained through the scale were adequate for factor analysis. The Bartlett's factorability level of the scale was found significant according to the $p<.001$ level (Bartlett's Test of Sphericity $\chi^2 = 2454; 2 - p = .000$). This result supports the finding that the scale is multivariable and normally distributed. The factor analysis measurement made through the Varimax rotation technique indicated that the 28 items were gathered under three factors whose eigenvalues are larger than 1. Listed

below are the factors representing the three main headlines under which the items composing the scale were gathered. It was found that the total variance of the 28 items was at a level of 41%. A confirmatory factor analysis was conducted in order to review the accuracy of the tri-factorial structure obtained through the explanatory factor analysis. The LISREL package software was used for the confirmatory factor analysis, and evaluations were made according to the fit criteria.

A factor load value equal to or over 0.45 is an adequate measurement for selection. However, this limit value may be reduced to 0.30 when there are a limited number of items in practice. Therefore, in the present case, it suffices that the variance explained in the unifactorial scales is equal to or over 30%. For multifactorial scales, the variance declared should be greater (Büyüköztürk, 2004). Tavşancıl (2002) suggested that item total correlations should be equal to or over 0.30 for items in the scale. In addition, Bütüner and Gür (2007) removed items under the 0.45 factor load and removed any 0.30 item total correlation values from the scale. Given previous practices, the researcher set the lower limit as 0.40 for factor load and 0.30 for correlations. Factor analysis revealed that the item total correlation of four items remained under 0.30, which does not meet the total variance explained for the scale. Items 4, 7, 9 and 18 were thus taken out of the scale, and the remaining items were re-numerated and tabled accordingly. After taking out the four low-factor items, the researcher carried out the Cronbach's Alpha reliability measurements and factor analysis processes once again.

The second factor analysis measurements indicated that the total variance explained by the scale was around the level of 57%. The Alpha reliability coefficient was found to be 0.87 before the elimination of the four low-factor items and 0.88 after their elimination. To complete the correlation coefficient calculations for the scale used in the study, the author defined the correlations among the three main factors that arose from the factor analysis. During the correlation measurements of the three steps concerning the items that make up the scale, the author tabled and assessed the correlation coefficients between the steps. Headlines (steps) and some sample items obtained in the outcome of the factor analysis are as follows:

1. Interest in and willingness to play piano

   - I am always interested in any topic related to the piano.
   - I like learning a new piece or a new technique.

2. Efficacy perception towards playing piano

   - I believe that I can immediately implement the examples given by my piano teacher.
   - I believe that I can play in the best manner for my piano exams.

3. Motivational factors in the piano learning process

   - I believe that my motivation will increase when I use the right playing methods.

- I believe that accurate communication with the piano teacher increases my motivation.

The items collected under the three main headlines obtained through the factor analysis were annexed. Using the first two factors composing the scale, the author tried to determine the level of the students' motivation to play the piano. The last factor features the students' opinions concerning the main factors that affect their motivation. The purpose of the items in the first two factors was to gather information about the interest of the students in playing piano, their perception of their own competence, their willingness to play the piano and their willingness to learn about their own motivation. The items in the last factor aimed at determining the opinions of students about the factors that increase or otherwise influence their motivation. The scale therefore attempts to discover each student's overall motivation level to play the piano as well as each student's opinions about the factors affecting their motivation.

Results

Table 1 illustrates the frequencies and percentages of respondents according to grade level and the type of the high school.

Table 1

Descriptive Values of the Sample Group

Grade Level	n	%
Freshman	60	22.9
Sophomore	59	22.5
Junior	89	36.2
Senior	50	18.3
High School	n	%
AFAHS	130	50.4
Others	128	49.6

The respondents in the study consisted of 258 students. An analysis of Table 1 shows that 22.9% of the students are freshmen, 22,5% of them are sophomores, 36,2% are juniors and 18,3% are seniors. The piano class was not offered to seniors during the year that the author conducted this study; however, the study covers students repeating the piano class as well as those presently taking piano classes, so participation in these classes was 15.4%. Furthermore, the category of seniors

includes any students who are in their fifth years or subsequent years. Therefore, the percentage distribution for seniors was conducted accordingly. The survey revealed that 50,4% of the work group graduated from Anatolian Fine Arts High School (AFAHS), while the remaining 49,6% graduated from other high schools. The "other high schools" option included Vocational High School, Super High School, Regular High School and Anatolian High School.

Table 2

Factor Load Results of the Items

Items	Factors		
Item No	F 1	F 2	F 3
1	.41		
2	.42		
3	.40		
4	.43		
5	.59		.45
6	.55		
7	.62		
8	.41		
9	.55		
10	.60	.41	
11		.42	
12		.57	
13		.60	
14	.41	.63	
15		.59	
16		.51	
17			.52
18	.42		.46
19			.56
20			.54
21			.47
22	.43		.56
23			.43
24			.48
Variance:	38.41%	10.97%	7.79%
Total Variance: 57.18%			

The factor distributions in Table 2 support the finding that the internal factor distributions of the scale's steps meet the total variance significantly. The general distribution of the three factors is between 0.40 and 0.63, and the scale's total variance is 38.18%. The figures meet and exceed the requirements for the validity of the total

variance. Factor loads were between 0.40 and 0.62 for the first factor, between 0.42 and 0.63 for the second factor and between 0.43 and 0.56 for the third factor, which are all significant. Thus, the factor analysis shows that the scale has a highly significant factor distribution. Considering the variance rates declared by the factors, one can reasonably conclude that the first factor represents an overwhelming part of the declared variance, with a proportion of 57.41%. This result reveals that the scale explains mainly a single factor. The resulting values point to the fact that the scale is able to express the total variance. According to the results obtained, one can also reasonably conclude that the factor loads of the 24 items on the final version of the scale are over the reference level and that internal validity has been achieved.

Table 3
Confirmatory Factor Analysis Goodness of Fit Results

Fit Criterion	Good Fit Values	Acceptable Fit	Goodness of Fit Results
RMSEA	0<RMSEA<0.05	0.05<RMSEA<0.08	0.103
SRMR	0<SRMR<0.05	0.05<SRMR<0.10	0.081
NFI	0.95<NFI<1.00	0.90<NFI<0.95	0.95
NNFI	0.97<NNFI<1.00	0.95<NNFI<0.97	0.96
CFI	0.97<CFI<1.00	0.95<CFI<0.97	0.97
GFI	0.95<GFI<1.00	0.90<GFI<0.95	0.93
RFI	0.90<RFI<1.00	0.85<RFI<0.90	0.62
AGFI	0.95<AGFI<1.00	0.90<AGFI<0.95	0.92

Table 3 shows the fit criteria concerning the confirmatory factor analysis of the sub-dimensions of the scale. The RMSEA value of the scale was 0.103 and the chi-square value was 927.72, and both values are statistically significant (p=0.000). The RMSEA and RFI criteria placed the measurement model close to the fit limits, whereas the NFI, NNFI, CFI, GFI and AGFI criteria placed the measurement model within the fit limits. Therefore, the measurement model was generally within acceptable limits. It can be suggested within this framework that the goodness of fit was achieved for the measurement model and that the factor structure was verified.

Table 4

Item Total Correlations of the Scale

Factor	Item No	r	Factor	Item No	r	Factor	Item No	r
F1	1	.419***	F2	11	.301***	F3	17	.392***
Interest and	2	.534***	Efficacy	12	.581***	Motivational	18	.554***
Willingness	3	.326***	Perception	13	.686***	Factors	19	.422***
	4	.447***		14	.587***		20	.379***
	5	.462***		15	.677***		21	.542***
	6	.525***		16	.665***		22	.625***
	7	.588***					23	.501***
	8	.560***					24	.597***
	9	.480***						
	10	.541***						

*** $p < .001$

Table 4 shows that all of the item total correlation values are over the 0.30 reference level. Distribution was between 0.326 and 0.588 for the first factor, 0.301 and 0.686 for the second factor and 0.379 and 0.625 for the third factor. Thus, the item total correlations are high in terms of both factors and items. Item total correlation values exhibited a balanced distribution for the three factors, and all values were found significant at the level of $p < .001$. After the item total correlations were carried out and the items with a lower factor load were extracted from the scale, the re-sequenced items became highly valid, supported by the finding that all of the resultant values are over the 0.30 reference value and significant at the $p < .001$ level. According to these results, one can say that the correlation among the items of the scale was significant on an item basis.

Table 5

Reliability Coefficients of Factors and Scale

Factors	F 1	F 2	F 3	KMO	p
Alpha	.88	.87	.87	.87	.000
SS	0.64	0.80	0.72		

Alpha: .88 $p < .001$

Table 5 reveals that the scale has produced highly reliable results. Cronbach's Alpha measurements for the scale also show that the general reliability of the scale is fairly

high, at the level of 0.88 (88%). When the author internally examined the Alpha values of the three factors that resulted from the factor analysis, the author found that the resulting values were at roughly the general Alpha value. The overall reliability and factorial reliability coefficient of the scale have a tendency to be high. According to these results, one can claim that the answers given by the work group and the results obtained were appropriate for factor analysis. One can also assume that the scale is reliable and that the internal coherence level is high.

Table 6

Correlations between Factors

Factors			
	F 1	F 2	F 3
F1	---	672***	462***
F2	672***	---	529***
F3	462***	529***	---

***p <.001

The data in Table 6 come from the author's analysis of the relations between factors of items making up the scale. These data show that there is a highly significant correlation among factors at the level of p<.001, which implies a high internal correlation as well as a high correlation among items. Correlation distribution was between 0.462 and 0.672 among the factors. Considering the 0.30 factor load limit, the resulting correlation values represent a high level correlation. According to these results, one can say that the correlation among the factors of the scale is significant.

Discussion and Conclusion

Lautzenheiser (1990) stressed that individuals can essentially make their own motivation and become successful. He summarizes this theory when he states, "Many teachers believe they must 'motivate' the students and the only true form of motivation is self-motivation." Schmidt (2005) expressed that student motivation is one of the important issues that instrument trainers encounter and explained that students' success tends to depend on internal factors (skills, efforts, etc.) more than it depends on external factors (luck, difficulty level, etc.). Such studies suggest that a piano student's motivation depends on the student and not on environmental elements such as the school, program and trainers. The external factors affecting student motivation may vary from student to student, as each student has a unique perspective of events. With the exception of study environments that are

predominantly negative, the most important factor for motivation is the individual himself. As long as their study environment does not feature a large number of conditions that can adversely affect motivation, the students are capable of taking responsibility for their own motivation.

The present study determined the validity and reliability of the scale developed to measure motivation in piano training and in so doing, the study attempted to define individual and environmental factors that may affect motivation in piano training. Data obtained through the implementation were filtered to test the reliability and validity of the scale. Statistical processes of the scale revealed that the scale was significantly valid and reliable.

One of the first processes carried out to test the scale produced Alpha coefficient measurements with high reliability at the level of 0.88. The Alpha coefficient was highly reliable in terms of both items and factors. Four items that were below the reference factor load of 0.30 in the calculations of total item correlations for the scale were taken out of the scale. The remaining items had highly significant results. All sets of data collected by the revised scale were significant at the level of p<.001. Before defining the factor distributions of the scale, the author conducted KMO and Bartlett's tests and found high level results. The KMO results, which show the sample adequacy level of the scale, were as high as 0.87 while the Bartlett's test results, which determine the scale's factorability capacity, revealed a significant tendency towards the p<.001 level.

After completing the sample adequacy and factorability tests, the researcher carried out a basic components factor analysis with the Varimax rotation technique. The resulting measurements show that a total variance of 38.18% was explained for the scale and that the scale's items all fall under three main factors. The three-factorial distribution supports the result that the items carried similar contents for holders of the answers. The distribution also shows that the internal consistency coefficients of the scale as well as the internal coherence coefficients of the scale were of high level. The results of the bivariate correlation measurement for the three factors indicate that there was a high level of correlation among these three factors. Correlation coefficients that were found to be significant among the factors according to the p<.001 levels also show a high level of correlation among these three factors.

In conclusion, the researcher found that the "Motivation Scale in Piano Education" is highly valid and reliable. The scale has high values in terms of both reliability coefficient measurements and factor loads/correlations. The results of the tests conducted on the revised version of the developed scale suggest that the scale is practicable for music education in general and for piano education in particular. It is therefore possible to determine the motivation levels of piano students to play and practice piano by means of a scale that consists of three factors in total. The author found that it is also possible to use a three-factor scale to determine the opinions of students regarding some general elements that are considered indispensible to ensuring motivation. Ultimately, the author found the scale that he had developed to determine the overall motivation level of students (the first two factors) and to determine the students' opinions of the factors affecting their motivation levels (the

third factor) to be valid and reliable. The author had developed this scale by reviewing similar scales in the literature and then considering the requirements of piano training to create a reliable and relevant scale for piano student motivation. The scale developed is qualified to be used in piano training and musical education processes.

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Piyano Eğitiminde Motivasyon Ölçeği Geçerlik Güvenirlik Çalışması
(Özet)

Problem Durumu

Öğrencilerin motivasyonu üzerinde etkili olan unsurlara yönelik çalışmalar, öğrencilerin tutumları, çalışma prensipleri, çalışma ortamları, eğitimcileri, çalıştıkları eserler ve kişisel bazı nedenler gibi hususlara yönelmektedir. Tüm bu hususlar öğrencilerin motivasyonu ve buna bağlı olarak başarısı üzerinde tartışılmaz bir etkiye sahiptir. Dolayısıyla öğrencilerin motivasyon düzeylerinin arttırılmasına yardımcı olunurken, bu sebeplerin göz önünde tutulması gerekir. Eğitimcilerin yönlendiriciliği ve özellikle öğrencinin kendi bilinci sayesinde motivasyonun ve ona bağlı diğer başarı göstergelerinin yükselmesinde, bireyin başarısı ve piyano eğitiminin kalitesi bir arada düşünülmelidir. Bu sebeple piyano eğitimi sürecinde öğrencilerin motivasyonunu etkileyen unsurların belirlenmesi ve bu doğrultuda çözüm yollarının aranması ihtiyacı kendini göstermektedir.

Araştırmanın Amacı

Bu çalışmanın amacı piyano eğitiminde öğrencilerin motivasyonunu etkileyen unsurların belirlenmesine yönelik bir ölçek geliştirmektir. Yapılan çalışmada bu amaç doğrultusunda maddeleri oluşturulan ölçeğin geçerlik ve güvenirliğinin hesaplanması sonrasında, "Piyano Eğitiminde Motivasyon Ölçeği" adı altında 24 maddelik bir ölçek ortaya çıkarılmıştır.

Araştırmanın Yöntemi

Yapılan çalışmada tarama modeli kullanılmıştır. Literatür incelemesi sonucunda elde edilen veriler ışığında maddeleri oluşturulan ölçek, belirlenen örneklemde yer alan piyano öğrencilerine uygulanmıştır. Toplam 28 maddeden oluşan ölçek yardımıyla öğrencilerin piyano eğitiminde motivasyona yönelik görüşleri elde edilmiştir. Çalışmada kullanılan ölçek, öğrencilerin çalışma ve performansa yönelik motivasyonları, derslere yönelik görüşleri, motivasyonda sınavların etkisi, piyano çalmaya karşı isteklilikleri, motivasyonu etkileyen unsurlar gibi konuları içeren 28 maddeden oluşmuştur, fakat istatistiksel işlemler sonucu dört madde ölçekten çıkarılarak ölçek 24 maddeye düşürülmüştür. Çalışma grubunu 2008 – 2009 Eğitim Öğretim Yılı Güz Yarıyılında öğrenimlerini sürdüren, Karadeniz Teknik Üniversitesi Fatih Eğitim Fakültesi Güzel Sanatlar Eğitimi Bölümü Müzik Eğitimi Anabilim Dalı ve Harran Üniversitesi Eğitim Fakültesi Güzel Sanatlar Eğitimi Bölümü Müzik Eğitimi Anabilim Dalı piyano öğrencileri oluşturmaktadır. Geliştirilen ölçek, piyano dersini kendi döneminde ve tekrar ders olarak alan öğrenciler üzerinde uygulanmıştır. Müzik öğretmenliği programı piyano öğrencilerinin oluşturduğu çalışma grubu toplam 258 kişiden oluşmaktadır. Yapılan uygulama, çalışma grubunu oluşturan 258 öğrenci ile haberleşme dâhil yaklaşık 1 ay içerisinde tamamlanmıştır.

Uygulama sonucunda elde edilen veriler doğrultusunda ölçeğin geçerlik ve güvenirliğinin belirlenmesinde ilk olarak Cronbach's Alpha katsayısı hesaplanmıştır. Bunun yanında KMO (Kaiser-Meyer-Olkin) örneklem uygunluğu testi ve Bartlett's testi yapılmıştır. Alpha, KMO ve Bartlett's testlerinin yanında, ölçeği oluşturan

maddelere yönelik temel bileşenler faktör analizi ölçümü yapılmış, madde toplam korelasyonları belirlenmiş ve oluşan faktörler arası korelasyon ölçümleri yapılmış ve tek örneklem t testi uygulanmıştır.

Araştırmanın Bulguları

Yapılan çalışmada, piyano eğitiminde motivasyonun ölçülmesine yönelik geliştirilen ölçeğin, geçerlik ve güvenirliği belirlenmiş ve bu yolla piyano eğitiminde motivasyonu etkileyebilecek bireysel ve çevresel etmenler ortaya koyulmaya çalışılmıştır. Yapılan uygula sonucunda elde edilen veriler, ölçeğe yönelik bir geçerlik, güvenirlik süzgecinden geçirilmiştir. Ölçeğe yönelik istatistiksel işlemler, geliştirilen ölçeğin önemli ölçüde geçerli ve güvenilir olduğuna işaret etmiştir.

Ölçeğe yönelik Alpha katsayısı ölçümlerinde çıkan sonucun, .88 düzeyinde yüksek düzeyli bir güvenirlik katsayısı taşıdığı görülmüştür. Diğer yandan ölçeğin örneklem uygunluğu değerini gösteren KMO sonuçları .87 gibi üst düzeyde gerçekleşirken, faktörlenebilirlik kapasitesini belirleyen Bartlett's testi sonuçları da p<.001 düzeyine göre anlamlı bir eğilim göstermiştir. Örneklem uygunluğu ve faktörlenebilirlik belirlemelerinden sonra yapılan ve varimax rotasyon tekniği kullanılarak uygulanan temel bileşenler faktör analizi ölçümlerinde, ölçeğin toplam varyansı %57,18 düzeyinde açıkladığı ve 3 temel faktör altında toplandığı görülmüştür. Ölçeğe yönelik madde toplam korelasyonlarının hesaplanmasında, referans alınan .30 faktör yükü düzeyinin altında kalan 5 madde ölçekten çıkarılmış, kalan diğer maddelerinde önemli ölçüde anlamlı sonuçlar içerdiği görülmüştür. Elde edilen tüm değerler p<.001 düzeyinde anlamlıdır.

Araştırmanın Sonuçları

Sonuç olarak araştırmacı tarafından geliştirilen ve uygulanan piyano eğitiminde motivasyon ölçeğinin, önemli ölçüde geçerli ve güvenilir olduğu anlaşılmaktadır. Ölçek gerek güvenirlik katsayıları ölçümü, gerek faktör yükleri, gerekse korelasyon ilişkileri açısından yüksek sayılabilecek değerlere sahiptir. Geliştirilen ölçeğin, yapılan ölçümler sonrasında revize edilmesi neticesinde ortaya çıkan durum, özel olarak piyano eğitiminde, genel olarak da müzik eğitiminde kullanılabilir bir ölçek geliştirildiği sonucunu işaret etmektedir. Literatürde benzer örnekleri incelenerek ve piyano eğitiminin gerekleri düşünülerek hazırlanan ölçek, yapılan tüm işlemler sonucunda geçerli ve güvenilir olarak belirlenmiştir. Geliştirilen ölçek, piyano eğitimi ve müzik eğitimi süreçlerinde kullanılabilecek niteliktedir.