

Full Length Research Paper

A study of developing attitude scale for piano teaching

Tarkan YAZICI

Mersin University, Faculty of Education, Department of Fine Arts Education, Mersin, Turkey.

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In this study, the development phases of a measurement instrument, which can be used for measuring the piano teaching attitudes of piano teachers, are investigated. Validity and reliability studies of the scale, which was developed in Turkey's circumstances, were carried out with 196 piano teachers giving piano lectures in different districts of Turkey in the year 2015. Content validity, principal component analysis and confirmatory factor analysis together with construct validity and total correlation of items of piano teaching attitude scale, which was created by 25 positive, 10 negative, total 35 items including fivefold Likert type alternatives, were examined via Cronbach Alpha, lower and upper 27% t test. The results show that the validity of the scale, which is developed by the validity and reliability studies conducted and ended up with 3 factors and 19 items, is high and that it can be used as a scale for measuring the teaching attitudes in piano education.

Key words: Piano, teaching, piano teaching, scale, attitude scale.

INTRODUCTION

Musical communication realized through piano, which is acknowledged as the most universal and most fundamental instrument in terms of acquiring-understanding the skills of playing-listening-reading music, creating musical knowledge and providing a basis for other musical studies, is significantly influential for creating desired individual behaviours/behavioural changes of individuals (as cited in Kasap, 2004 from Buchanan, 1964; Vernezza; MEB, 2006 from Uçan, 1988). However, despite cultural differences, students receiving piano lectures all over the world may display four different "problematic learning" models such as possessing limited technical skills despite musical sensitivity, lacking musicality despite overcoming technical problems, progressing slowly due to going into details and overlooking details despite possessing intuition-musicality. Though, a student, who is ready to constant change and who can

believe the importance of change – forgetting – discountenance - unleashing (abandoning) - pushing the limits of thought and the necessity of intellectual and action freedom, would not exhibit such problems (Ercan, 2008; Baştuğ, 2009). In this context, practising of a curriculum while taking individual differences into consideration and using different methods/techniques while staggering them pedagogically by the piano teacher, who are the most fundamental element of an effective piano education, matters in terms of students to play piano well, to enjoy it completely, to be motivated, not to be disappointed and not to get bored; because, education, which is an activity of affection and reaches utopia, is kind of a fantasy world of the wishes for the future and means to be able to overcome all difficulties and to untangle problematic issues meticulously (Gökbudak, 2013, 2005; Yazıcı, 2013; Say, 2005).

E-mail: yazicitarkan@gmail.com.

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Because real education occurs with the “activities practiced in the classroom for the students” after the teacher closes the classroom door, educational practices draw the limits of education as a significantly determinant factor in terms of students’ ability to acquire/not to acquire gains (Fidan, 2012; Bandura, 1995). In this sense, due to the possibility of a teacher with negative attitudes to rapidly and profoundly inflict damage on education, the concept of “attitude” has a great importance with regard to influencing and changing thoughts and behaviours of the teacher and determining the quality of teaching practices (as cited in Özmenteş and Özmenteş, 2009 from Mullins, 1984; Yazıcı and Kılıç, 2015). Hence, when the fact that an educator can enable students to acquire positive/negative behaviours through his/her excitement, personality, behaviours and knowledge is considered, the piano teaching attitudes of piano teachers come to the forefront; because, educator, thanks to his/her extraordinary difficult-complicated expert/technician role in creating human behaviour, performs an important function related with learning/teaching processes such as accelerating and correcting a behaviour, which can originally be acquired slowly/falsely (Semerci and Semerci, 2004; Alkan and Kurt, 2014).

Attitude, which forms one of the main subjects of social psychology due to its effects on social perceptions and behaviours, has an important influence on learning/teaching process covering acquiring and changing knowledge, skills, strategy, belief and behaviours. Thereby, an educator possessing positive attitudes in teaching processes will try to make the lecture more fun, always provide feedback, enrich the personal development of the students, include all students in the learning process and teach the lesson with the help of rich methods (Tolan, 1983; Schunk, 2009; Yilmaz, 2008). Thus, “full understanding”, in which a planned education service sensitive to the students is provided, suitable and timely support is given to those facing learning difficulties and almost all students develop high-level learning skill, will be ensured (Bloom, 2012). On the other hand, negative attitudes may drag teachers to disapproval, refusal, dislike of students, failure to improve himself/herself, being unexcited and unwilling in their professional life and consequently may negatively affect exhaustion level of the teachers. A piano teacher suffering from emotional exhaustion will have difficulty in focusing on his/her job, feel strained and frustration, experience unwillingness for education and his/her personal achievements will deteriorate. As a result, quality of education will decrease and students will be adversely affected in terms of potential gains they may acquire. Yet, if education service is of high quality, students will experience a quality educational activity. However, due to negative attitudes, learning processes are encumbered with “errors” reaching huge amounts, whereas, an effective and highly satisfactory learning by most of the students is only possible with an educational atmosphere with “minimum errors” (Semerci and Semerci, 2004; Kılıç and Yazıcı,

2012; Duman, 2008; Bloom, 2012). Therefore, determination of piano teaching attitudes of piano teachers is of particular importance for increasing the quality of education and level of learning of students. Though there is no sample of a scale for determining the attitudes of piano teaching in the literature in Turkey; for this purpose, in this research it is aimed to develop a Likert-type scale for determining attitudes of piano teaching.

METHODOLOGY

In this research, which is an effort aimed to develop Likert-type scale, successive functional steps, such as defining attitude (attribute) to be measured, engineering test scale, applying the test and analysing acquired data, are as followed (Tezbaşaran, 2008).

Participants

The research conducted with randomly selected 196 piano teachers teaching piano in the different provinces of Turkey in 2015. 61.7% of the participants are females (n=121) and 38.3% are males (n=75).

Defining the attitude (attribute) to be measured

In this step, the literature is reviewed; the situations to be observed in relation to the attitude to be measured are projected and worded in accordance with the scaling technique used.

Engineering the test scale and content validity

Firstly, the scale material is prepared and projected so as to be used by the researcher and reproduced. In line with the comments of two academicians specialized in psychological counselling and guidance, the scale prepared by the researcher in the wake of necessary simplification was scaled down to 35 items and in order to realize the content validity questions and size of the scale together with the assessment forms were sent to two academicians specialized in piano teaching. It was reported that they agree that items are suitable for the field and the wording is adequate in terms of comprehensibility. The last version of the questionnaire was published online and the links of the questionnaire were emailed to piano teachers. Application lasted for ten days, data analysis only started after 196 participants, which is fivefold of the item number of the scale, were reached (Kline, 1994; Harrington, 2009).

Analysis of the data acquired via test scale

This step, in which SPSS and Lisrel programs are used, consists of functional steps such as scoring the answers given to the items, calculating the raw scores of the individuals in the scale, the characteristics of the distribution of raw scores, the characteristics of the distribution of item scores and item analysis.

Scale is a measuring instrument consisting of fivefold Likert-type (1=Never, 5=Always) 35 questions planned to be grouped under 3 sub-dimensions. The items of the scale and the dimensions they belong are shown in Table 1. 7 items (1, 3, 20, 21, 32, 33, 35) in the scale form the sub-dimension of “*The importance given to teaching piano*”, 14 items (2, 4, 5, 6, 8, 9, 11, 14, 15, 16, 17, 18, 19, 26) constitute the sub-dimension of “*The compassion for teaching piano*”, 14 items (7, 10, 12, 13, 22, 23, 24, 25, 27, 28, 29, 30, 31, 34) comprise the sub-dimension of “*The professional approach*”.

Table 1. Planned factor structure of the attitude scale for piano teaching.

| Factor | Expression |
|--|---|
| F1: The importance given to teaching piano | 1. Piano teaching is necessary for musical development 3. Piano teaching contributes to my musical status 20. Teaching piano is not that big of a deal 21. Teaching piano makes me proud 32. I consider teaching piano as very significant 33. Teaching piano requires a serious preparation 35. An effective piano education does not require an extra effort. |
| F2: The compassion for teaching piano | 2. I do not enjoy teaching piano 4. My performance of piano teaching is always well 5. I always enjoy making pre-studies for piano teaching 6. I always enjoy training musical piece while teaching piano 8. I have difficulty while training hard pre-studies for piano teaching 9. I have difficulty while training complicated musical pieces while teaching piano 11. Teaching piano is always fun for me 14. I wish I was not required to teach piano 15. Teaching piano is difficult for me 16. I lose sleep when I think I will always teach piano 17. I feel sorry for the time spent for teaching piano 18. I really get bored while teaching piano. 19. I am interested in teaching piano only because it is a duty 26. Thinking about teaching piano makes me eager |
| F3: The professional approach towards teaching piano | 7. I think the things I have learnt about teaching piano is adequate 10. Technical studies should be given more weight in teaching piano 12. I always want to train the pre-studies I have picked 13. I always want to train the musical pieces I have picked. 22. I allocate vast time for planning before teaching piano 23. I really enjoy examining the literature related with piano education 24. I enjoy planning piano education 25. I can volunteer for participating the projects related with piano education 27. I lose track of time while planning piano education 28. I follow updated resources (articles, books, etc.) related with piano education 29. I do not feel uncomfortable even I am required to teach piano for hours 30. I can easily quit certain things for developing myself in piano education 31. I exchange ideas with the piano teachers about piano education when I can find the chance 34. I really enjoy practicing the new development in piano education in courses |

towards teaching piano" (Table 1). Items numbered 20, 35, 2, 8, 9, 14, 15, 16, 17 and 18 of the scale are reverse coded since they are negative expressions. Total scores of the items are assessed for each sub-dimension and the overall scale. For the overall scale high score means the attitude towards piano teaching is highly positive.

Descriptive statistics of the data gathered from 196 samples of the attitude scale for piano teaching are presented in Table 2.

In order to measure construct validity, explanatory factor analysis (EFA) and confirmatory factor analysis (CFA) were carried out. Within the scope of the reliability study, item analysis methods consisting of total correlation of items, Cronbach Alpha, lower and upper 27% quartile t tests were applied.

RESULTS AND DISCUSSION

Construct validity

Explanatory factor analysis

Within the explanatory factor analysis, which is multivariate statistic aiming to find and explore limited number of unrelated and conceptually meaningful new variables (factors, dimensions) by gathering a number of related variables, an operation for finding factors based

Table 2. Descriptive statistics of attitude scale for piano teaching.

| Item No | \bar{X} | SS | Min. | Max. | Item No | \bar{X} | SS | Min. | Max. |
|---------|-----------|------|------|------|---------|-----------|------|------|------|
| 1 | 4.63 | 0.61 | 1 | 5 | 18 | 4.47 | 0.73 | 2 | 5 |
| 3 | 4.40 | 0.79 | 1 | 5 | 19 | 4.63 | 0.78 | 2 | 5 |
| 20 | 4.89 | 0.38 | 3 | 5 | 26 | 3.68 | 0.98 | 1 | 5 |
| 21 | 4.62 | 0.64 | 1 | 5 | 7 | 3.32 | 1.18 | 1 | 5 |
| 32 | 4.71 | 0.56 | 2 | 5 | 10 | 4.03 | 0.85 | 1 | 5 |
| 33 | 4.48 | 0.68 | 2 | 5 | 12 | 3.82 | 0.85 | 1 | 5 |
| 35 | 1.62 | 0.98 | 1 | 5 | 13 | 3.72 | 0.91 | 1 | 5 |
| 2 | 4.24 | 1.05 | 1 | 5 | 22 | 3.39 | 0.95 | 1 | 5 |
| 4 | 4.03 | 0.64 | 2 | 5 | 23 | 4.18 | 0.89 | 1 | 5 |
| 5 | 3.88 | 0.87 | 1 | 5 | 24 | 3.93 | 0.91 | 1 | 5 |
| 6 | 4.45 | 0.63 | 3 | 5 | 25 | 3.85 | 1.07 | 1 | 5 |
| 8 | 2.50 | 1.13 | 1 | 5 | 27 | 3.64 | 1.03 | 1 | 5 |
| 9 | 2.52 | 1.06 | 1 | 5 | 28 | 3.91 | 0.90 | 1 | 5 |
| 11 | 4.44 | 0.72 | 2 | 5 | 29 | 3.69 | 1.00 | 1 | 5 |
| 14 | 4.71 | 0.66 | 1 | 5 | 30 | 3.61 | 0.92 | 1 | 5 |
| 15 | 4.53 | 0.73 | 2 | 5 | 31 | 3.76 | 0.87 | 2 | 5 |
| 16 | 4.80 | 0.54 | 2 | 5 | 34 | 4.10 | 0.84 | 2 | 5 |
| 17 | 4.93 | 0.33 | 3 | 5 | - | - | - | - | - |

on the relations between variables is conducted. In the factor analysis, the factor weight values are high (while being 0.45 or more is a good measure, it can be decreased to 0.30) in selecting the items not measuring the same construct and items are observed to have high weight value for a single factor, while to have lower weight value for other factors (the factor weight value difference between a factor for which an item has the highest factor weight value and other remaining factors should be minimum 0.10) (Büyüköztürk, 2011).

The KMO in the explanatory factor analysis was measured as 0.857, while significance level in the Bartlett's Sphericity Test is measured as $p < 0.01$. It is observed that it is appropriate to make an explanatory factor analysis with the data acquired by the application carried out with 196-person-wide sample (Table 3). The results gathered from the first Varimax rotation are shown in Table 3.

When Table 3 is examined, 35-item scale forms a 9-factor structure which has a value higher than 1. However, because the current situation is not in conformity with the 3-factor structure identified in the content validity, scree plot graphic was examined for determining the most important factor number. When the scree plot graphic was examined, the slope significantly disappears after the third factor, and three factors are important (Figure 1).

For the conformity of factor structure, the weight values of the items in the factors they belong, the weight values in other factors and the difference between weight values in more than one factor were observed. When Table 3 was examined, it was observed that 15 items (33, 35, 2,

4, 5, 6, 8, 9, 26, 7, 10, 12, 13, 24 and 34) are not placed in conformable dimensions and have higher weight values in the dimensions they do not belong to.

Because of the unconformable factor structure of the scale, non-observant items were incrementally eliminated and the results shown in the Table 4 were acquired. A total of 16 items, including all of the 15 items that are not in conformity with the factor structure in the first Varimax rotation and 3rd item, were removed from the scale. When the structure acquired by the latest Varimax rotation was examined, it was observed that there were 3 factors whose values are higher than 1 and that there are 19 items falling into 3 sub-dimensions. The contributions of the 3 sub-dimensions to the variance are respectively 21.50% - 21.50% - 12.50% and the total variance for the scale in general was found to be 55.06%. It was also observed that the weight values of the items in the factors they belong varied between 0.56 and 0.83 and that every single item has the highest weight value in their own factor.

Confirmatory factor analysis

In confirmatory factor analysis and structural equation modelling, Ki-square statistic (X^2), the ratio of ki-square statistic to degree of freedom (X^2/df), statistical significance of individual parameter estimations (t value), (SRMR, GFI) "based on the inclusions", (NFI, NNFI, CFI) "based on the independent models" and root mean square error of approximation, which are classified as conformity indices, are used for the assessment of

Table 3. The results of the explanatory factor analysis (first varimax).

| Item No | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 |
|--------------|-------|-------|-------|-------|--------|-------|-------|-------|-------|
| p1 | - | - | - | 0.651 | - | - | - | - | - |
| p3 | - | - | - | 0.480 | - | - | - | - | - |
| p20 | - | - | - | 0.498 | - | - | - | - | - |
| p21 | - | - | - | 0.457 | - | - | - | - | - |
| p32 | - | - | - | 0.713 | - | - | - | - | - |
| p33 | - | - | - | - | - | 0.791 | - | - | - |
| p35 | - | - | - | - | - | - | - | - | 0.774 |
| p2 | - | - | - | - | - | - | - | 0.771 | - |
| p4 | - | 0.320 | 0.522 | 0.316 | - | - | - | - | - |
| p5 | - | - | - | - | - | - | 0.688 | - | - |
| p6 | 0.324 | - | - | - | - | - | 0.330 | 0.392 | 0.319 |
| p8 | - | - | 0.872 | - | - | - | - | - | - |
| p9 | - | - | 0.894 | - | - | - | - | - | - |
| p11 | - | 0.493 | - | - | - | - | - | - | - |
| p14 | - | 0.766 | - | - | - | - | - | - | - |
| p15 | - | 0.697 | - | - | - | - | - | - | - |
| p16 | - | 0.832 | - | - | - | - | - | - | - |
| p17 | - | 0.598 | - | - | - | - | - | - | - |
| p18 | - | 0.660 | - | - | - | - | - | - | - |
| p19 | - | 0.713 | - | - | - | - | - | - | - |
| p26 | 0.747 | - | - | - | - | - | - | - | - |
| p7 | - | - | 0.418 | - | - | - | - | - | - |
| p10 | - | - | 0.321 | - | - | - | 0.602 | - | - |
| p12 | - | - | - | - | 0.920 | - | - | - | - |
| p13 | - | - | - | - | 0.915 | - | - | - | - |
| p22 | 0.499 | - | - | - | - | - | - | - | - |
| p23 | 0.529 | - | - | - | - | - | - | - | - |
| p24 | 0.532 | - | - | - | - | 0.626 | - | - | - |
| p25 | 0.665 | - | - | - | - | - | - | - | - |
| p27 | 0.723 | - | - | - | - | - | - | - | - |
| p28 | 0.614 | - | - | - | - | - | - | - | - |
| p29 | 0.707 | - | - | - | - | - | - | - | - |
| p30 | 0.630 | - | - | - | - | - | - | - | - |
| p31 | 0.518 | - | - | - | - | - | - | 0.315 | - |
| p34 | 0.307 | - | - | - | 0.583 | - | - | - | - |
| KMO | | | | | -0.857 | | | | |
| Barlett's p) | | | | | 0.000 | | | | |
| Value | 9.507 | 3.385 | 2.039 | 2.010 | 1.515 | 1.282 | 1.168 | 1.113 | 1.051 |

conformality of the models (Bayram, 2010). Acceptance and good conformality values of the conformality indices are given in Table 5 (Bayram, 2010; Sümer, 2000; Raykov, 1997).

According to Table 5, it was observed that the 9-factor structure of the scale and its conformality indices could not reach adequate levels. When Table 6 and Figure 2 were analysed, it was also observed that there are quite a number of items standardized factor weight of which are below 0.50.

When the acquired findings and the results of the

explanatory factor analysis were assessed simultaneously, it was precipitated that there are some items requiring to be removed. Therefore, starting to eliminate the items with the lowest factor weight, it was determined that the scale reaches its best structure with 3 factors and 19 items (Table 7).

Findings show that the conformality indices turn out to be in acceptable and very good levels in general after modification connections, that the t values for each item is significant at 0.01 level and that the model displays a decent conformality (Figure 1) (Çokluk et al., 2010; Meydan

Scree Plot

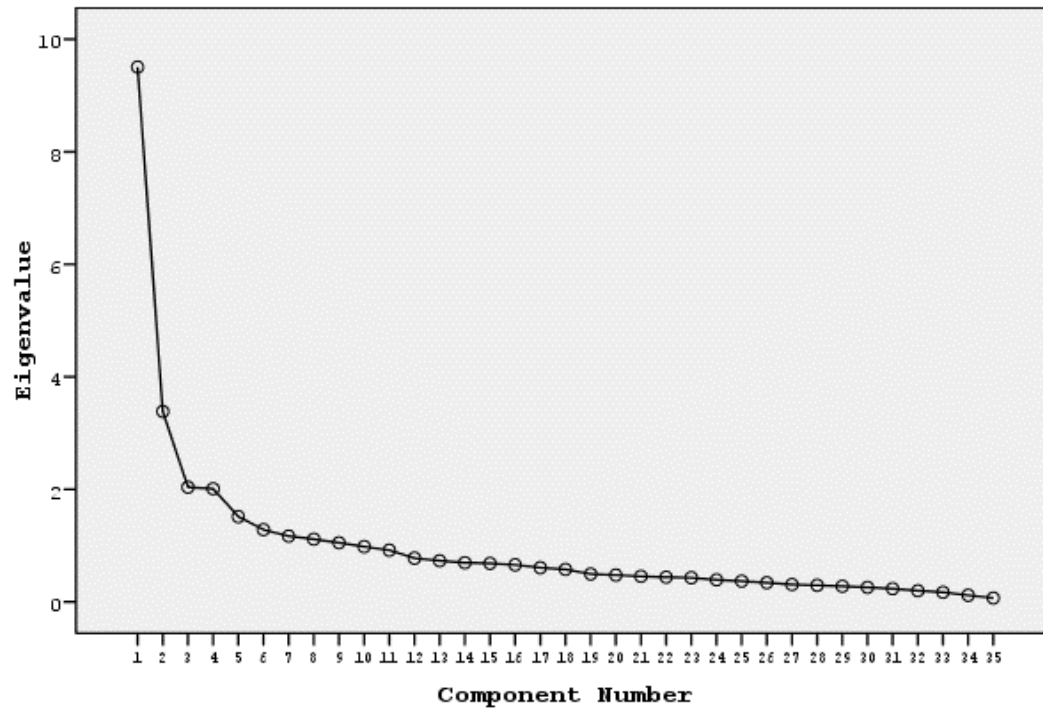


Figure 1. Scree plot graphic gathered by the first varimax rotation of the scale.

Table 4. Explanatory factor analysis results (latest varimax).

| Items No | F1 | F2 | F3 |
|--------------------|--------|--------|--------|
| p1 | 0.677 | - | - |
| p20 | 0.669 | - | - |
| p21 | 0.563 | - | - |
| p32 | 0.761 | - | - |
| p11 | - | 0.617 | - |
| p14 | - | 0.745 | - |
| p15 | - | 0.729 | - |
| p16 | - | 0.827 | - |
| p17 | - | 0.555 | - |
| p18 | - | 0.721 | - |
| p19 | - | 0.741 | - |
| p22 | - | - | 0.723 |
| p23 | - | - | 0.661 |
| p25 | - | - | 0.668 |
| p27 | - | - | 0.736 |
| p28 | - | - | 0.757 |
| p29 | - | - | 0.603 |
| p30 | - | - | 0.572 |
| p31 | - | - | 0.626 |
| Value | 6.939 | 2.220 | 1.302 |
| Variance (%) | 21.504 | 21.503 | 12.053 |
| Total Variance (%) | | 55.059 | |

Table 5. Conformality indices of confirmatory factor analysis (first results).

| Conformality values | | | | |
|--------------------------|-----------------------------|-----------------------------|-----------------|---------------|
| Model Conformity Indices | Acceptable | Good/Very Good | Values acquired | Result |
| χ^2/sd | $0 < \chi^2/sd < 5$ | $0 < \chi^2/sd < 3$ | 3.08 | Non-conformal |
| RMSEA | $0.00 \leq RMSEA \leq 0.10$ | $0.00 \leq RMSEA \leq 0.05$ | 0.103 | Non-conformal |
| SRMR | $0.00 \leq SRMR \leq 0.08$ | $0.00 \leq SRMR \leq 0.05$ | 0.10 | Non-conformal |
| GFI | $0.90 \leq GFI \leq 1.0$ | $0.95 \leq GFI \leq 1.0$ | 0.67 | Non-conformal |
| NFI | $0.90 \leq NFI \leq 1.0$ | $0.95 \leq NFI \leq 1.0$ | 0.80 | Non-conformal |
| NNFI | $0.90 \leq NNFI \leq 1.0$ | $0.95 \leq NNFI \leq 1.0$ | 0.84 | Non-conformal |
| CFI | $0.90 \leq CFI \leq 1.0$ | $0.95 \leq CFI \leq 1.0$ | 0.85 | Non-conformal |

Table 6. DFA Results of the Scale (first results).

| Item | Std. β | t | Item | Std. β | t |
|-----------------|--------------|-------|-----------------|--------------|-------|
| Factor 1 | | | Factor 3 | | |
| p1 | 0.50 | 6.71 | p7 | 0.25 | 3.36 |
| p3 | 0.35 | 4.53 | p10 | 0.25 | 3.36 |
| p20 | 0.56 | 7.59 | p12 | 0.11 | 1.50 |
| p21 | 0.64 | 9.02 | p13 | 0.15 | 1.98 |
| p32 | 0.69 | 9.91 | p22 | 0.66 | 9.96 |
| p33 | 0.38 | 5.01 | p23 | 0.66 | 10.09 |
| p35 | 0.20 | 2.48 | p24 | 0.77 | 12.25 |
| Factor 2 | | | p25 | 0.69 | 10.65 |
| p2 | 0.42 | 5.89 | p27 | 0.78 | 12.56 |
| p4 | 0.60 | 8.82 | p28 | 0.68 | 10.49 |
| p5 | 0.46 | 6.42 | p29 | 0.66 | 10.08 |
| p6 | 0.42 | 5.78 | p30 | 0.59 | 8.61 |
| p8 | 0.45 | 6.27 | p31 | 0.53 | 7.66 |
| p9 | 0.43 | 6.01 | p34 | 0.55 | 8.02 |
| p11 | 0.71 | 11.01 | | | |
| p14 | 0.67 | 10.21 | | | |
| p15 | 0.68 | 10.45 | | | |
| p16 | 0.75 | 11.97 | | | |
| p17 | 0.49 | 6.89 | | | |
| p18 | 0.72 | 11.27 | | | |
| p19 | 0.74 | 11.58 | | | |
| p26 | 0.47 | 6.62 | | | |

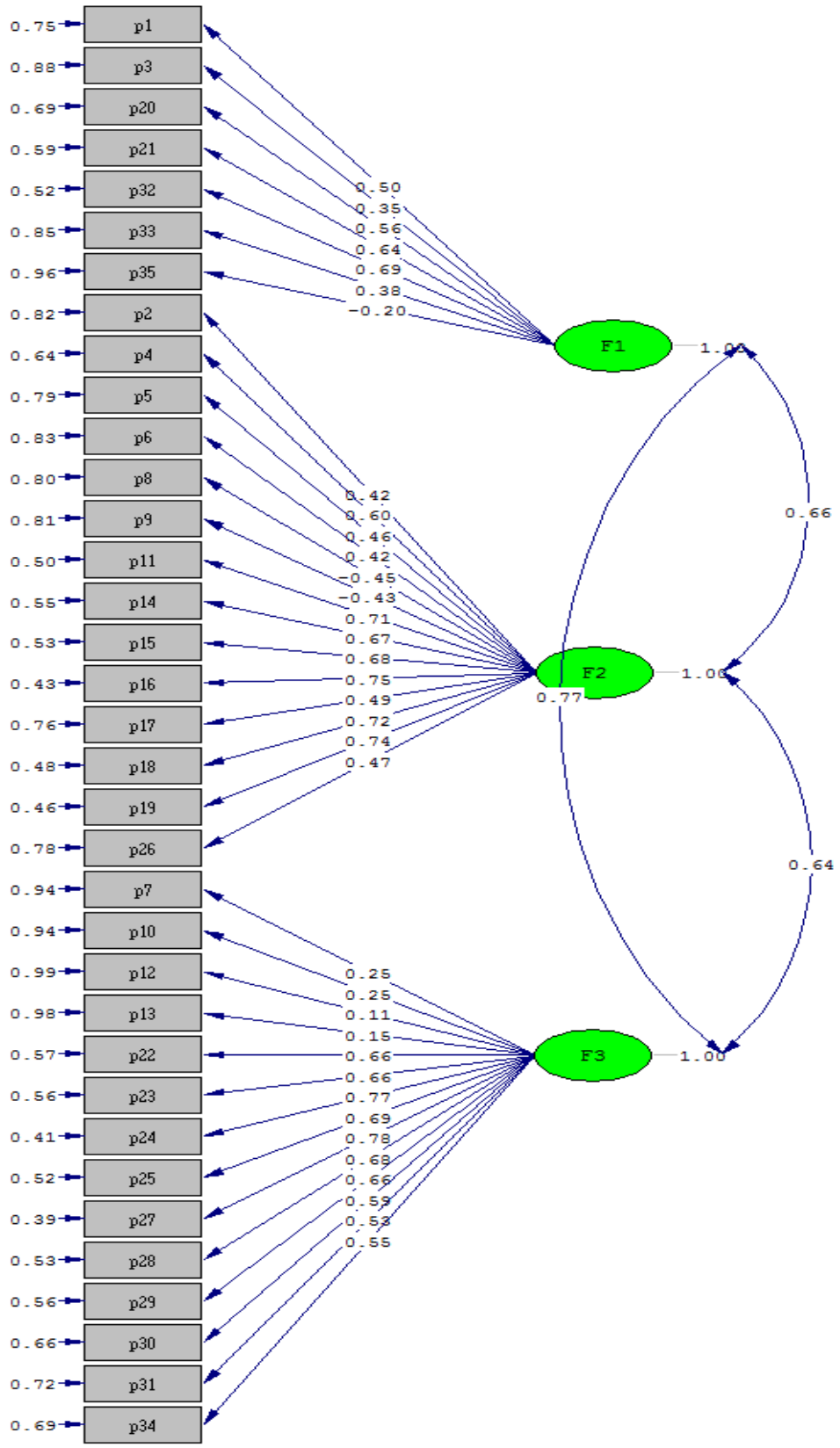
and Şeşen, 2011).

Factor weights standardized in accordance with the results of confirmatory factor analysis varies between 0.55-0.70 for “The importance given to teaching piano”, 0.54-0.77 for “The Compassion for teaching piano” and 0.55-0.74 for “The professional approach towards teaching piano” (Table 8; Figure 3).

Reliability of the scale

Item-total correlation, as one of the item analysis methods applied as part of reliability study, explains the relationship between scores gathered from the test items

and the total score of the test. Positive and higher values for item-total correlation indicate that the items illustrate similar behaviours and that the test has a high level of internal consistency. In general it is possible to claim that 0.30 and higher values for item-total correlation mean that item can successfully differentiate individuals while items with values between 0.20-0.30 can be included in the test only when it is necessary. Another method used for item analysis is lower and upper quartile t-test. A result of significant difference between groups, which is gathered by examining the difference between average item scores of the lower 27% and upper 27% quartile according to the total test score by using unrelated t-test



Chi-Square=1717.06, df=557, P-value=0.00000, RMSEA=0.103

Figure 2. Diagram of confirmatory factor analysis (first results).

Table 7. Conformality indices of confirmatory factor analysis.

| Model conformity index | Conformality value | | Values acquired | Result |
|------------------------|-----------------------------|-----------------------------|-----------------|------------|
| | Acceptable | Good / very good | | |
| X^2/sd | $0 < X^2/sd < 5$ | $0 < X^2/sd < 3$ | 1.55 | Very good |
| RMSEA | $0.00 \leq RMSEA \leq 0.10$ | $0.00 \leq RMSEA \leq 0.05$ | 0.053 | Acceptable |
| SRMR | $0.00 \leq SRMR \leq 0.08$ | $0.00 \leq SRMR \leq 0.05$ | 0.066 | Acceptable |
| GFI | $0.90 \leq GFI \leq 1.0$ | $0.95 \leq GFI \leq 1.0$ | 0.90 | Good |
| NFI | $0.90 \leq NFI \leq 1.0$ | $0.95 \leq NFI \leq 1.0$ | 0.94 | Good |
| NNFI | $0.90 \leq NNFI \leq 1.0$ | $0.95 \leq NNFI \leq 1.0$ | 0.97 | Very good |
| CFI | $0.90 \leq CFI \leq 1.0$ | $0.95 \leq CFI \leq 1.0$ | 0.98 | Very good |

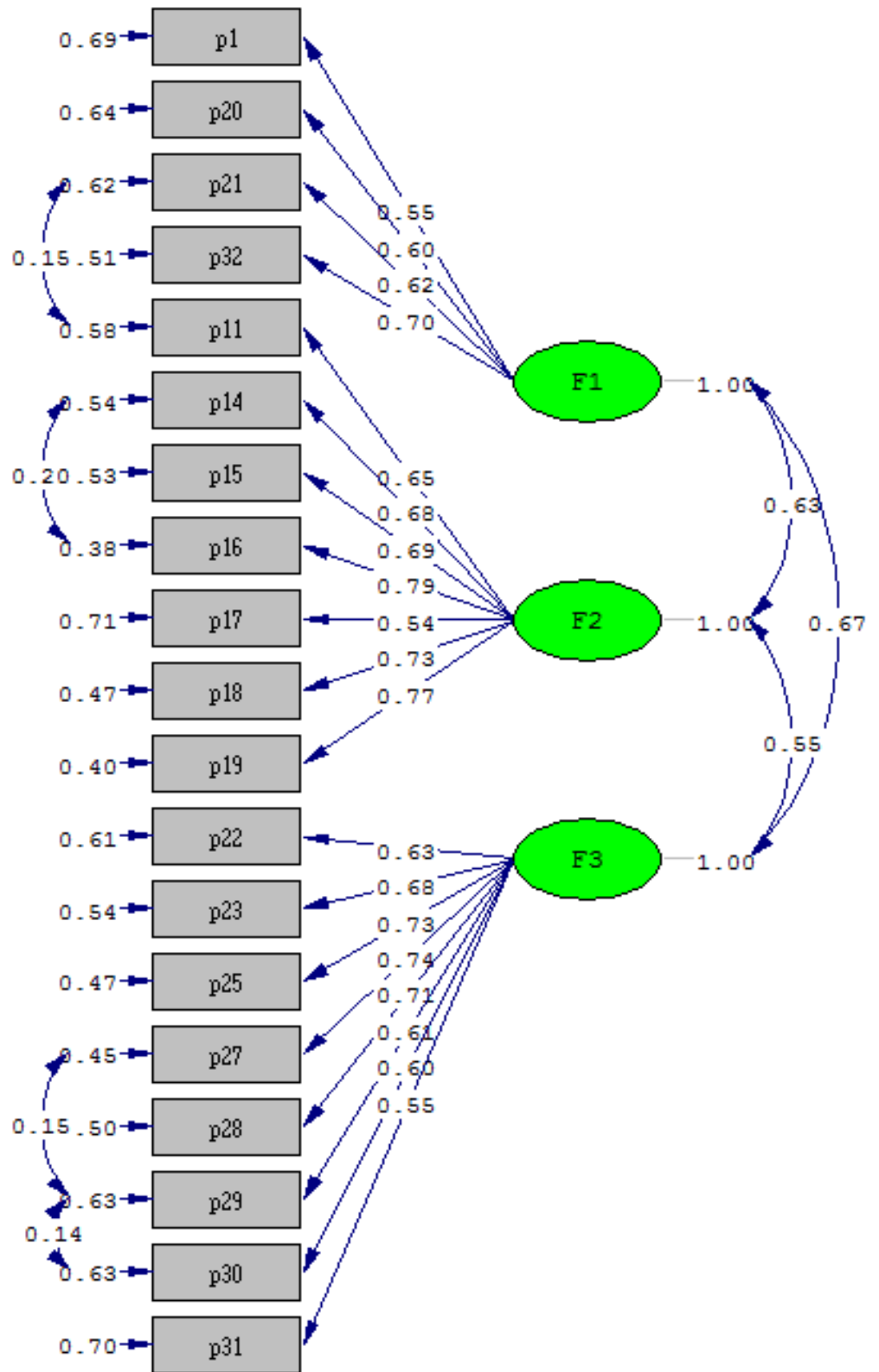
Table 8. DFA results of the scale.

| Factor | Item No | New No. | Std. β | t | p | R^2 |
|--|---------|---------|--------------|-------|-------|-------|
| The importance given to teaching piano | p1 | 1 | 0.55 | 7.42 | 0.000 | 0.30 |
| | p20 | 2 | 0.60 | 8.20 | 0.000 | 0.36 |
| | p21 | 3 | 0.62 | 8.48 | 0.000 | 0.38 |
| | p32 | 4 | 0.70 | 9.78 | 0.000 | 0.49 |
| The compassion for teaching piano | p11 | 5 | 0.65 | 9.63 | 0.000 | 0.42 |
| | p14 | 6 | 0.68 | 10.01 | 0.000 | 0.46 |
| | p15 | 7 | 0.69 | 10.33 | 0.000 | 0.48 |
| | p16 | 8 | 0.79 | 12.42 | 0.000 | 0.62 |
| | p17 | 9 | 0.54 | 7.60 | 0.000 | 0.29 |
| | p18 | 10 | 0.73 | 11.25 | 0.000 | 0.53 |
| | p19 | 11 | 0.77 | 12.17 | 0.000 | 0.59 |
| The professional approach towards teaching piano | p22 | 12 | 0.63 | 9.19 | 0.000 | 0.40 |
| | p23 | 13 | 0.68 | 10.08 | 0.000 | 0.46 |
| | p25 | 14 | 0.73 | 11.18 | 0.000 | 0.53 |
| | p27 | 15 | 0.74 | 11.48 | 0.000 | 0.55 |
| | p28 | 16 | 0.71 | 10.74 | 0.000 | 0.50 |
| | p29 | 17 | 0.61 | 8.76 | 0.000 | 0.37 |
| | p30 | 18 | 0.60 | 8.76 | 0.000 | 0.36 |
| | p31 | 19 | 0.55 | 7.80 | 0.000 | 0.30 |

unrelated t-test, indicates a higher internal consistency for the test. Both analyses (item-total correlation and lower and upper quartile test) show the degree of differentiation between individuals in terms of the behaviour examined (Büyüköztürk, 2011).

When the results of the reliability analysis in the Table 9 were examined, Cronbach Alpha coefficient for the scale in general was found to be remarkably high at 0.90 level. Cronbach Alpha coefficients for the sub-dimensions were calculated as 0.70 – 0.86 – 0.86 respectively. It was

also found that the item-total correlation of each items of the scale is higher than 0.30 (between 0.30 and 0.70) and that the t values belonging to the comparison of lower and upper 27% quartiles are significant at 0.01 (Table 9). These results can be interpreted as the items in the scale have higher reliability, they can differentiate the sample in terms of the music education approaches and items included in the scale are suitable for measuring the same behaviour in the scale. Descriptive statistics of the sub-dimensions of the scale are shown in Table 10.



Chi-Square=225.45, df=145, P-value=0.00002, RMSEA=0.053

Figure 3. Diagram of confirmatory factor analysis.

Table 9. Item analysis results of the scale.

| Sub-dimension | Item No | t(n1=n2=53) | r(n=196) | α | α |
|--|---------|-------------|----------|----------|----------|
| The importance given to teaching piano | p1 | -4.093** | 0.37 | 0.70 | 0.90 |
| | p20 | -3.875** | 0.49 | | |
| | p21 | -7.105** | 0.51 | | |
| | p32 | -6.494** | 0.50 | | |
| The compassion for teaching piano | p11 | -8.771** | 0.60 | 0.86 | |
| | p14 | -4.325** | 0.45 | | |
| | p15 | -7.765** | 0.48 | | |
| | p16 | -5.382** | 0.56 | | |
| | p17 | -3.051*** | 0.38 | | |
| | p18 | -9.626** | 0.58 | | |
| | p19 | -8.082** | 0.63 | | |
| The professional approach towards teaching piano | p22 | -9.526** | 0.50 | 0.86 | |
| | p23 | -8.330** | 0.60 | | |
| | p25 | -11.485** | 0.62 | | |
| | p27 | -13.889** | 0.70 | | |
| | p28 | -10.316** | 0.57 | | |
| | p29 | -11.511** | 0.66 | | |
| | p30 | -9.834** | 0.58 | | |
| | p31 | -7.246** | 0.42 | | |

r: Item Total Correlation; t: Lower and upper 27% t test; α : Cronbach Alpha **p<0,01

Table 10. Descriptive statistics of attitude scale for piano teaching.

| Sub-dimension | Item No | \bar{X} | SS | Min. | Max. |
|--|---------|-----------|------|------|------|
| The importance given to teaching piano | 4 | 4.70 | 0.40 | 3.00 | 5.00 |
| The compassion for teaching piano | 7 | 4.64 | 0.48 | 2.71 | 5.00 |
| The professional approach towards teaching piano | 8 | 3.75 | 0.68 | 1.63 | 5.00 |
| Scale in general | 19 | 4.28 | 0.46 | 2.42 | 5.00 |

Conclusion

Because education is a complex process, in which the performance/performance potential fluctuates constantly as a result of its transaction with experience and the world, there is strong link between education and attitude (Driscoll, 2012). Even though "attitude" concept influences the teaching practices of teachers, determines the quality of teaching activities, directs their love-hate-behaviours and causes them to give positive/negative reactions to people, traits such as interests, attitudes, values, tendencies, etc., which form the emotional space, are ignored especially for piano teaching (Morgan 1991; Tezbaşaran, 2008; Tufan and Güdek, 2008). For this reason, a scale has been constructed in this study for determining the attitudes of piano teachers toward piano education. Validity and reliability analyses showed that

this scale is reliable for measuring the attitudes towards piano teaching. The scale consists of a total of 19 items, 14 positive and 5 negative. It was also seen that these items reflect 3 basic structure (the importance given to teaching piano, the compassion for teaching piano, the professional approach towards teaching piano) that were taken into consideration during the preparations of this scale. It is also believed that this attitude scale, validity and reliability of which was ascertained, can contribute positively to piano teachers; because, thanks to this scale, attitudes towards piano teaching will be determined, thus it will be possible to confirm whether the desired success is achieved or not.

Conflict of interests

The author has not declared any conflicts of interest.

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ANNEX 1. Attitude scale for piano teaching.

| After reading the expressions below, please indicate their conformality to you by marking (X). | Never | Rarely | Sometimes | Usually | Always |
|---|--------------|---------------|------------------|----------------|---------------|
| 1. Piano teaching is necessary for musical development. | | | | | |
| 2. <i>Teaching piano is not that big of a deal.</i> | | | | | |
| 3. Teaching piano makes me proud. | | | | | |
| 4. I consider teaching piano as very significant. | | | | | |
| 5. Teaching piano is always fun for me. | | | | | |
| 6. <i>I wish I was not required to teach piano.</i> | | | | | |
| 7. <i>Teaching piano is really difficult for me.</i> | | | | | |
| 8. <i>I lose sleep when I think I will always teach piano.</i> | | | | | |
| 9. <i>I feel sorry for the time spent for teaching piano.</i> | | | | | |
| 10. <i>I really get bored while teaching piano.</i> | | | | | |
| 11. I am interested in teaching piano only because it is a duty. | | | | | |
| 12. I allocate vast time for planning before teaching piano. | | | | | |
| 13. I really enjoy examining the literature related with piano education. | | | | | |
| 14. I can volunteer for participating the projects related with piano education. | | | | | |
| 15. I lose track of time while planning piano education. | | | | | |
| 16. I follow updated resources (articles, books, etc.) related with piano education. | | | | | |
| 17. I do not feel uncomfortable even I am required to teach piano education. | | | | | |
| 18. I can easily quit certain things for developing myself in piano education. | | | | | |
| 19. I exchange ideas with the piano teachers about piano education when I can find the chance. | | | | | |