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Developing attitude towards cultural heritage scale: A validity and reliability study

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This study aimed at developing a scale for determining the attitudes of pre-service teachers towards cultural heritage. The study group consisted of 378 pre-service teachers attending the department of social sciences teaching at Adnan Menderes University, Kastamonu University, and Uşak University. It was found that the correlation coefficients obtained in item-factor total and adjusted correlations of the scale were over .35 and statistically significant for all items. The exploratory factor analysis demonstrated that the scale had three sub-dimensions: "Cultural Heritage for the Society", "Consciousness of Cultural Heritage", and "The Transfer of Cultural Heritage". According to the results of the confirmatory factor analysis (CFA), the Chi-square (X^2) value fit for the model created for the scale and statistical significance levels showed that the proposed model was suitable for the collected data. The research findings indicated that the scale had adequate internal consistency and could be used for measuring the attitudes of pre-service teachers towards cultural heritage.

Key words: Attitude, confirmatory factor analysis, culture, exploratory factor analysis heritage, validity, reliability, scale, social studies, teacher candidates.

INTRODUCTION

In today's world, information and communication technology develops rapidly and has a rapidly increasing role in shaping the human life. An introverted culture that adopts not resembling anyone else as a principle makes no sense. Authenticity becomes possible if a community participates in the civilization of nations by introducing a new constructivism rather than falling into strangeness. Such participation can be achieved as much as and when societies understand the larger examples of their own national civilizations rather than when they turn in upon themselves (Ülken, 2008: 12). What makes a society understand its own national civilization is its culture. Culture is defined as a big organization that allocates a place for each member and where members can work with the spirit of the whole, and their strengths are measured justly based on the success they show with regard to the whole (Wittgenstein, 2009: 126).

Cultural heritage, which is defined as a large construct, is the works of human life, experience, mind, and creativity of thousands of years that have reached the present day. Although the traces of the past are associated with archeological and historical remains initially, cultural heritage is the umbrella term for all cultural values that have emerged as a result of human creativity and inter-societal interactions throughout the human history, need to be protected and handed down to

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the next generations, and comprise concrete structures (castles, palaces, mausoleums, archeological sites, historic cities and fabrics, cultural landscapes) and abstract beliefs (language, tradition, dance, music, ritual). These cultural values establish a connection between the past and the present, form a basis for the culture and the world we live in, and inform us of our past and the cultural adventure our civilization has gone through (Deren, 2006: 7; Ünsal and Pulhan, 2012: 34; Yılmaz et al., 2012: 373). Mortara et al. (2013) address cultural heritage in 3 dimensions: cultural awareness, rebuilding the history, and heritage awareness. According to them, cultural awareness refers to having knowledge of the language, belief, way of dressing, and traditions of the society by considering their influences on the society throughout the history; heritage awareness means understanding the society archeologically and architecturally; and rebuilding the history involves reviving a historical period or event through role playing or some different plays in order to understand the causes and effects of events better, thereby allowing students to understand from their own perspectives (Cited by Ay and Fidan, 2013: 1137).

The belief in the invaluableness of cultural heritage, which serves as a bridge between the past and the present, underlies the desire for protecting and handing it down to the next generations. This belief requires cooperation of many different disciplines in the society (e.g. physical environment and cultural environment). This multifaceted structure can be supported most rationally and effectively in Non-Governmental Organizations (NGOs). Some international NGOs aiming to protect cultural heritage are ICOMOS, ICOM, ICA, Europa Nostra, and WATCH. Apart from that, there are some well-established national NGOs engaged in the protection of cultural heritage in Turkey. Among these NGOs, the most well-known ones are the Union of Historical Towns, Foundation for the Protection and Promotion of the Environment and Cultural Heritage (ÇEKÜL), The Foundation for the Conservation of Turkey's Monuments, Environment and Tourism Assets (TAÇ), Friends of Cultural Heritage, Foundation of Museums, Archeologists' Association, Association of Anatolian Art Historians, The Turkish Foundation for Combating Soil Erosion, for Reforestation and the Protection of Natural Habitats (TEMA), and Geyre Foundation (Aygün, 2011: 196; Aksoy and Enlil, 2012: 8).

As stated above, various NGOs have been founded for the protection of natural heritage. However, they fail to be influential due to economical difficulties or fights for unearned income. Authorities agree that such instruments as education, traditions, religion, language, art, literature, and folklore are influential on the protection of cultural assets. Among these instruments, education is the most influential one. However, not enough attention is given to this topic in curricula (Korkmaz, 1995: 671; Cited by Şen, 2007: 65-67; Aygün, 2011: 201-202).

In this regard, the attitudes of teachers, who are the implementers of curricula, should be determined to create awareness of cultural heritage. This is because; it is not likely that educators who have a medium level of awareness of cultural heritage will have an attitude featuring the awareness of cultural heritage. Despite such importance of determining attitudes towards awareness of cultural heritage, the literature contained no measurement tool for determining the attitudes of pre-service teachers towards awareness of cultural heritage. The present study made an attempt to develop an attitude scale capable of determining the levels of attitudes of pre-service teachers towards cultural heritage on the basis of a study group composed of pre-service teachers attending the department of social sciences teaching.

METHOD

Study group

The study group consisted of 378 pre-service teachers of the Department of Social Sciences Teaching at Adnan Menderes University, Kastamonu University, and Uşak University in the spring semester of the 2012-2013 academic year. The study group was formed through convenience sampling. The personal information of the participants was not reported. This is because; the research was a scale development study and did not focus on relationships between the scores to be obtained in the scale and variables related to the participants (e.g. gender, age, educational background, etc.).

Data collection and scale development process

For developing the scale, the literature (Kolaç, 2009; Kutlu, 2009; Oğuz, 2008, 2009, 2011; Wittgenstein, 2009; Aygün, 2011; Kurtar, 2012; Yılmaz et al., 2012) was reviewed in the first place. A 51-item pool was created by the researcher based on the information obtained from the literature. 5-degree choices were put opposite the items in order to determine the degrees to what the students agreed with the statements of attitude expressed in the items. These choices were rated as follows: "(5) I Strongly Agree", "(4) I Agree", "(3) I Am Neutral", "(2) I Disagree", and "(1) I Strongly Disagree". The items which were turned into a draft were examined by one linguist and two domain experts in terms of content, wording, orthography, and punctuation. Based on the criticisms provided, eight statements making up the draft were removed. In this way, the draft was turned into a 43-item version. The scale, which was still just a draft, was administered to the study group for one course hour by the help of the instructors within the framework of the faculty curriculum. The obtained data were loaded on SPSS 17.00 and AMOS v18 in order to make the validity and reliability analyses of the scale statistically. To make factor analysis on the data collected via the scale draft based on statistical analyses in order to determine the construct validity of the scale, Kaiser-Meyer Olkin (KMO) and Bartlett's Sphericity Test values were examined for having an idea about the entire scale in the first place. Then exploratory and confirmatory factor analyses were performed on the obtained data. Principal components analysis was made for dividing the scale into factors. Later, the factor loadings of the items were examined through Varimax orthogonal rotation applied to the data. The data used for the confirmatory factor analysis were the same as those used for the exploratory factor analysis. Those factors whose factor loadings were less than .30 and that loaded on more than one factor (i.e. the overlapping factors) were excluded from the

analysis one by one, and thus the factor analysis was repeated. The validity of the scale was tested through calculating the correlation matrix of the scale concerning its total score and factors, item discrimination, and item total correlations on the basis of 32 items remaining after the above-mentioned items were eliminated. Internal consistency levels were tested in order to determine the reliability of the scale. The Cronbach's Alpha reliability coefficient, correlation between two halves, Sperman-Brown formula, and Guttmann split-half reliability formula were used for determining the internal consistency level.

FINDINGS

Findings concerning the validity of the scale

Within the scope of the validity analyses of The Attitude Towards Cultural Heritage Scale (ATCHS), construct validity, the correlation matrix of the scale concerning its total score and factors, and item-total correlations were calculated. The findings about such calculations are presented below.

Construct validity

Findings concerning the exploratory factor analysis

To determine the construct validity of the ATCHS, firstly Kaiser-Meyer-Olkin (KMO) and Bartlett's Sphericity Test analyses were made on the obtained data. KMO value was found to be 0.92, and Bartlett's Sphericity Test value was found to be x^2=6625.277; sd=903 (p=0.000). Based on these values, it was concluded that factor analysis could be carried out on the 43-item scale.

Factor analysis is used for revealing the underlying structure behind many variables (Şencan, 2005). On the other hand, it is necessary to remove those items whose factor loadings are found to be below 0.30 and those items between whose loadings in two separate factors there is not a difference of minimum 0.10 (i.e. the items that load on two different factors) according to the results of the principal components analysis used in factor analysis and the Varimax orthogonal rotation technique applied in parallel with it (Çokluk et al., 2010). In this regard, at the first stage, the principal components analysis was performed to determine whether or not the scale was one-dimensional in the current study. As is known, the principal components analysis is frequently employed as a factorization technique (Büyüköztürk, 2010). The Varimax orthogonal rotation technique was employed in order to see whether or not the scale was divided into unrelated factors, and the factor loadings were examined. In this respect, 3 items whose factor loadings were less than 0.30 and 8 items that loaded on more than one factor and where such loading value was less than 0.10 were removed from the scale. Then the factor analysis was made on the remaining 32 items again. In the evaluation of factor analysis results, the total factor loadings produced by items are examined. According to Kline (1994), factor loading value is a coefficient explaining the relationship of items with factors. Items are expected to have high loading values in the factors they are included in. If a factor contains a set that is made up of items yielding high-level relationships, these items are deemed to measure such structure collectively (Cited by; Çokluk et al., 2010).

It was seen that 32 items remaining in the scale were included in three factors. The KMO value of the 32-item scale was found to be 0.92, the Bartlett's Sphericity Test values being x^2=4747.063; sd=496; p<0.000. Without any rotation, the factor loadings of 32 items in the scale varied between 0.33 and 0.68. However, after the Varimax orthogonal rotation technique was employed, these factor loading values varied between 0.45 and 0.72. It was determined that the items and factors included in the scale explained 44.17% of the total variance. Normally, it is found adequate that factor loadings are not below 0.30, and the amount of variance explained in multifactor structures is 40 to 60% in behavioral sciences (Tavşancıl, 2010). Then names were given to the factors through examining the contents of the items in the factors. In this respect, the factor entitled, "Cultural Heritage for the Society" consisted of 9 items; the factor entitled, "Consciousness of Cultural Heritage" consisted of 12 items; and the factor entitled, "The Transfer of Cultural Heritage" consisted of 11 items.

That is seen in Figure 1 drawn based on eigenvalues. Each interval between two points in the graph corresponds to a factor. The figure shows accelerated falls in three factors. That means that the above-mentioned three factors have a significant contribution to the variance; and the fall in other factors starts to make a sloping plateau after the fourth point (i.e. low contribution to the variance, and close to one another) (Çokluk et al., 2010).

Table 1 presents findings concerning the item loadings of 32 items in the scale by the factors, the eigenvalues of the factors, and the variance explained.

As is seen in the table, the factor entitled, "Cultural Heritage for the Society" included 9 items whose factor loadings varied between 0.46 and 0.72. The eigenvalue of this factor within the overall scale was 9.80, and its contribution to the general variance was 30.63%. The factor entitled, "Consciousness of Cultural Heritage" included 12 items whose factor loadings varied between 0.47 and 0.71. The eigenvalue of this factor within the overall scale was 2.59, and its contribution to the general variance was 8.08%. The factor entitled, "The Transfer of Cultural Heritage" included 11 items whose factor loadings varied between 0.45 and 0.66. The eigenvalue of this factor within the overall scale was 1.75, and its contribution to the general variance was 5.46%.

Findings concerning the confirmatory factor analysis

Confirmatory factor analysis was made on the data

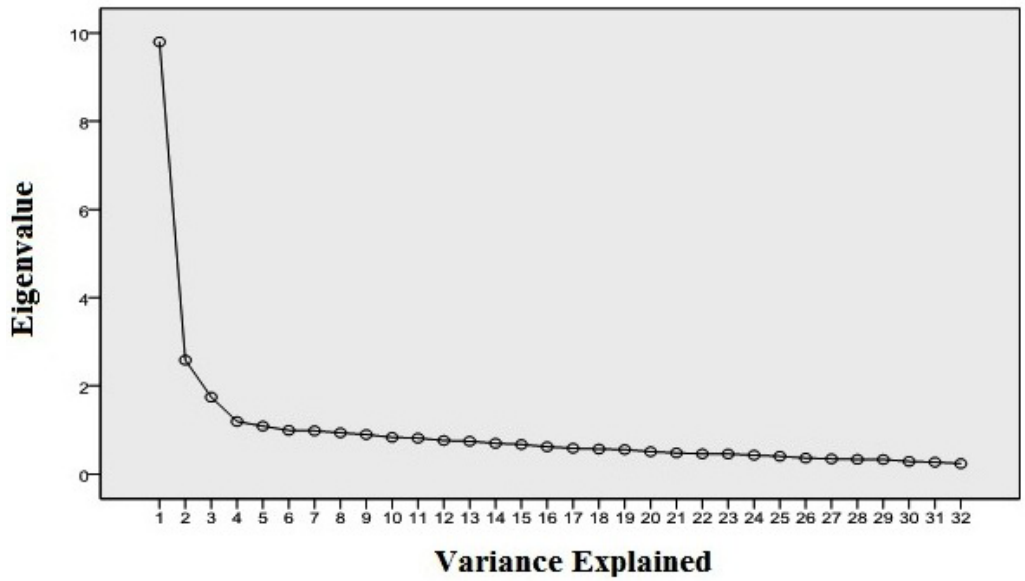

Figure 1. Eigenvalues by factors.

obtained from the sample group, from whom the data used in the exploratory factor analysis had been obtained, in order to confirm the factor structures of the 32-item scale that was found to consist of 3 factors through the exploratory factor analysis. A confirmatory factor analysis aims at determining whether or not the items which are assumed to perform measurement in accordance with certain factors and the relationships between which have been determined based on a particular theory beforehand really carry out measurement based on such theory (Akyıldız, 2009).

To this end, the model fit was tested based on the data obtained from the participants. For testing the model, chi-square statistics, GFI and RMSEA (Aytaç and Öngen, 2012), and RMR were employed. According to the confirmatory factor analysis applied to the ATCHS, χ2/sd ratio was found to be 2.19 (χ2=1010.197, sd= 461, p<.001). The fact that the χ2/sd ratio is between 0.10 and 3 shows that fit value is perfect (Çokluk et al., 2010). To evaluate the model fit, other goodness of fit indices were calculated respectively. According to the results of such calculation, the CFI value of the model was 0.88, and the GFI value of the model was 0.86. These values show that the model has an acceptable fit. On the other hand, the RMR value and the RMSEA index value belonging to the model were determined to be 0.06. The RMR and the RMSEA values being between 0.06 and 0.08 indicate that the model has an acceptable fit and is acceptable (Ayyıldız and Cengiz, 2006; Çokluk et al., 2010; Meydan and Şeşen, 2011). In other words, according to the obtained model, the factors were confirmed by the data. The factorial model of the scale and the t values concerning the factor-item relationship are given in Figure 2.

The examination of the coefficients of correlation between the factors of the ATCHS in Table 2 shows that cultural heritage for the society had a medium-level positive relationship with consciousness of cultural heritage and the transfer of cultural heritage. In addition, there was a medium-level positive relationship between consciousness of cultural heritage and the transfer of cultural heritage. There was a high-level positive relationship between each sub-dimension of the scale and the ATCHS total score.

Item discrimination

Item discrimination levels were tested through calculating the correlations between the scores obtained from each item in the factors and scores obtained from the factors according to the item total correlation method. In this way, the degrees to what each item served the general purpose of the scale and the relationships between the scores obtained from each item and the score obtained from the entire scale were tested. Table 3 presents item-factor correlation values obtained for each item.

As is seen in Table 3, item test correlation coefficients varied between 0.53 and 0.76 for cultural heritage for the society; between 0.53 and 0.71 for consciousness of cultural heritage; and between 0.48 and 0.70 for the transfer of cultural heritage. Each item had a significant and positive relationship with the overall factor (p<0.001). These coefficients are the validity coefficients of items and indicate the consistency of a specific item with the overall factor (i.e. the degree to what it serves the general

Table 1. The results of the factor analysis of the scale based on factors.

Items			F1	F2	F3
Cultural heritage for the society	I1	Cultural heritage does not contribute to the association of societies.	.72		
	I2	I do not think cultural heritage gives information about past experiences.	.72		
	I3	I do not believe that cultural heritage is part of the society.	.71		
	I4	I think cultural heritage is unimportant for societies.	.70		
	I5	I do not think cultural heritage is an indicator of social identity.	.68		
	I6	I do not think industrialization and unplanned urbanization harm concrete cultural heritage.	.66	.	
	I7	I do not think cultural heritage contributes to the progress of societies.	.64		
	I8	Cultural heritage elements may be ignored for the sake of the contribution of investments to the national economy.	.62		
	I9	I do not think cultural heritage reflects historicity.	.46		
Consciousness of cultural heritage	I10	I can define cultural heritage elements.		.71	
	I11	I will take measures for protecting the cultural heritage if I have an opportunity.		.65	
	I12	I like participating in meetings about our cultural heritage.		.63	
	I13	I become a member to non-governmental organizations aiming to protect the cultural heritage.		.62	
	I14	The international promotion of our cultural heritage excites me.		.62	
	I15	I like reading the documents reflecting cultural heritage (e.g. books, magazines, brochures, etc.).		.61	
	I16	I follow the media publications about the cultural heritage.		.58	
	I17	Cultural heritage is a determinant in creating national consciousness.		.52	
	I18	I like visiting the places reflecting the concrete cultural heritage.		.52	
	I19	I think attaching importance to cultural heritage may contribute to historical consciousness.		.51	
	I20	I can distinguish concrete and abstract cultural heritage elements.		.48	
	I21	I think laws are inadequate for protecting the cultural heritage.		.47	
The transfer of cultural heritage	I22	I think cultural heritage may breathe new life into economy.			.66
	I23	Protecting the cultural heritage is an important civic responsibility.			.65
	I24	Abstract cultural heritage must be kept alive for the continuity of the society.			.65
	I25	I think cultural heritage functions as a bridge between the past and the future.			.63
	I26	I believe that the inclusion of cultural heritage topics in course contents may improve historical thinking skill.			.61
	I27	I think cultural heritage reflects the identities of societies.			.57
	I28	The transfer of cultural heritage is important for the future of countries.			.54
	I29	I think not enough importance is attached to cultural heritage in our country.			.52
	I30	Meetings on cultural heritage bore me.			.49
	I31	I think cultural heritage can be associated with all course subjects.			.46
	I32	Globalization threats the protection of cultural heritage.			.45
		Eigenvalue	9.80	2.59	1.75
		Variance explained	30.63	8.08	5.46

purpose of the factor) (Yüksel, 2009; Korkmaz and Yeşil, 2011).

For the same purpose, adjusted correlations between each item score and the total factor score calculated through the subtraction of such item score were also calculated. The results are presented in Table 4.

As is seen in the table, adjusted correlation coefficients varied between 0.35 and 0.69. An adjusted correlation coefficient over 0.20 demonstrates that an item serves the purpose of the related factor at a significant level (Tavşancıl, 2010). Accordingly, the individual examination of the items indicated that there was no item with a correlation coefficient less than .20.

Findings concerning the reliability of the scale

Internal consistency analyses were made on the data in

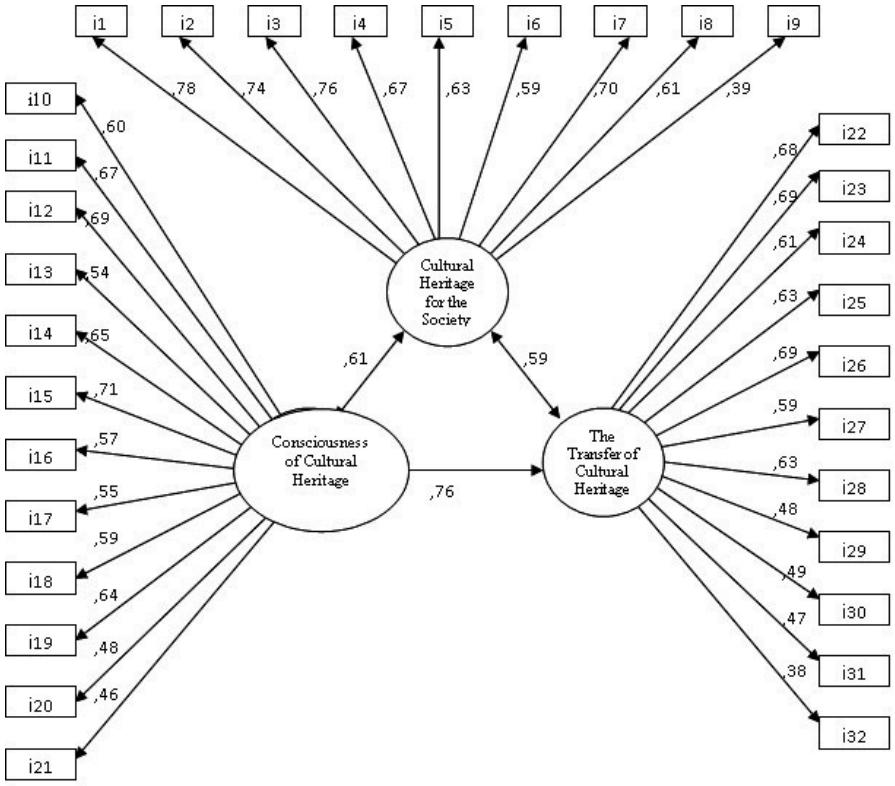

Figure 2. The factorial model of the scale and the t values concerning the factor-item relationship.

Table 2. The correlation matrix, arithmetic mean, and standard deviation values concerning the total score and factors of the attitude towards cultural heritage scale (ATCHS).

	1	2	3	$\overline{X}$	S
Cultural Heritage for the Society	1			37.57	7.58
Consciousness of Cultural Heritage	.51**	1		48.51	7.60
The Transfer of Cultural Heritage	.51**	.64**	1	45.88	6.83
ATCHS Total Score	.81**	.86**	.84**	131.97	18.42

N=378; ** p< 0.01.

order to calculate the reliability of the scale. The procedures carried out and the findings obtained are provided below:

Internal consistency level

The reliability analysis of the scale composed of 32 items and 3 factors on the basis of factors and as a whole was made based on the Cronbach's Alpha reliability coefficient, correlation between two halves, Sperman-Brown formula, and Guttmann split-half reliability formula. The reliability analysis values concerning each factor and the overall scale are summarized in Table 5.

As is seen in the table, each factor was subjected to correlation between two halves within itself. "Cultural Heritage for the Society" consisted of 9 items. Of the factor, correlation between two halves was found to be 0.74; Sperman Brown reliability coefficient was found to be 0.85; Guttmann Split-Half value was found to be 0.83; and Cronbach's Alpha reliability coefficient was found to be 0.86. "Consciousness of Cultural Heritage" consisted of 12 items. Of the factor, correlation between two halves was found to be 0.76; Sperman Brown reliability coefficient was found to be 0.86; Guttmann Split-Half value was found to be 0.86; and Cronbach's Alpha reliability

Table 3. Item-factor scores correlation analysis.

F1 cultural heritage for the society		F2 consciousness of cultural heritage		F3 the transfer of cultural heritage	
Item	**r**	**Item**	**r**	**Item**	**r**
1	.76**	10	.66**	22	.70**
2	.76**	11	.69**	23	.69**
3	.76**	12	.70**	24	.65**
4	.71**	13	.61**	25	.66**
5	.71**	14	.69**	26	.70**
6	.67**	15	.71**	27	.63**
7	.73**	16	.62**	28	.64**
8	.66**	17	.60**	29	.59**
9	.53**	18	.64**	30	.58**
		19	.66**	31	.56**
		20	.53**	32	.48**
		21	.54**		

N=378; ** p< 0.01.

Table 4. Item-factor scores adjusted correlation analysis.

F1 cultural heritage for the society		F2 consciousness of cultural heritage		F3 the transfer of cultural heritage	
Item	**r**	**Item**	**r**	**Item**	**r**
1	.69**	10	.58**	22	.62**
2	.67**	11	.62**	23	.61**
3	.68**	12	.62**	24	.57**
4	.63**	13	.52**	25	.57**
5	.60**	14	.61**	26	.62**
6	.56**	15	.64**	27	.53**
7	.64**	16	.53**	28	.55**
8	.56**	17	.50**	29	.45**
9	.37**	18	.54**	30	.45**
		19	.57**	31	.43**
		20	.45**	32	.35**
		21	.42**		

N=378; ** p< 0.01.

Table 5. Reliability Analysis Results Concerning the Overall Scale and its Factors.

Factors	The No of items	Correlation between Two Halves	Sperman Brown	Guttmann Split-Half	Cronbach's Alpha
Cultural Heritage for the Society	9	.74	.85	.83	.86
Consciousness of Cultural Heritage	12	.76	.86	.86	.87
The Transfer of Cultural Heritage	11	.68	.81	.80	.84

coefficient was found to be 0.87. "The Transfer of Cultural Heritage" consisted of 11 items. Of the factor, correlation between two halves was found to be 0.68; Sperman Brown reliability coefficient was found to be 0.81; Guttmann Split-Half value was found to be 0.80; and Cronbach's Alpha reliability coefficient was found to be 0.84. In the light of the reliability analyses, it can be said that the ATCHS is a reliable scale.

DISCUSSION AND CONCLUSION

This study was carried out in order to develop an attitude scale to be used in determining the attitudes of pre-service teachers attending faculties of education towards cultural heritage. The validity and reliability levels of the scale were tested through a field survey including 78 pre-service teachers. The study was conducted at 6 stages: (1) creating the scale items, (2) checking the content validity concerning the items, (3) item discrimination (item-total and adjusted correlations), (4) construct validity a) exploratory factor analysis, b) confirmatory factor analysis, (5) examining the correlations between the scale sub-dimensions, (6) examining the Cronbach's Alpha internal consistency reliability.

It was ascertained that the correlation coefficients obtained in item-factor total and adjusted correlations of the scale were over .35 and statistically significant for all items. According to Şencan (2005), the correlation coefficients between 0 and .20 shows that items do not discriminate students by their answers; the correlation coefficients between .21 and .40 show that items discriminate well; and the correlation coefficients not less than .41 discriminate very well. In the present study, only two of the scale items took values below .41, and other items had values over .41. In this regard, it may be concluded that the items of the developed scale discriminate very well.

The exploratory factor analysis showed that the scale had three sub-dimensions: "Cultural Heritage for the Society", "Consciousness of Cultural Heritage", and "The Transfer of Cultural Heritage". The factor loadings of the items included in the said dimensions varied between .45 and .72. According to Büyüköztürk (2010), if a factor contains a set that is made up of items yielding high-level relationships, it can be said that these items measure such concept/structure/factor collectively. Thus, the fact that factor loading values are not less than .45 may be considered positive. That the values are not below .45 for any sub-dimension of the scale developed for measuring the attitudes of pre-service teachers towards cultural heritage demonstrates that factor analysis has a high validity. In addition, the eigenvalue of the scale in three dimensions was 14.14, and the total variance percentage explained was 44.17. A total variance percentage between 40% and 60% in a scale composed of more than one dimension proves the construct validity of the scale (Scherer et al., 1988 Cited by; Tavşancıl, 2010).

According to the results of the confirmatory factor analysis (CFA), the chi-square (X^2) value fit for the model created for the scale and statistical significance levels were determined (χ^2=1010.197, sd= 461 [χ2/sd=2.19]). The chi-square test is referred to as the test of the fit between the model and the data. In this regard, the chi-square test tests the hypothesis whether or not there is any difference between the developed model and the model emerging in the covariance structure belonging to the observation variables. A low chi-square value indicates a good fit. In addition, since this value refers to a difference, a significant chi-square value demonstrates that models differ from one another significantly. Accordingly, a chi-square value less than 3 indicates good fit (Şimşek, 2007; Çokluk et al., 2010; Meydan and Şeşen, 2011). Moreover, being among model fit statistics, goodness of fit index (GFI=0.86), root mean residual value (RMR=0.06), and root mean square error for approximation value (RMSEA=0.06) showed that the proposed model was acceptable. According to Meydan and Şeşen (2011), a RMSEA (a comparative fit index) value between 0.06 and 0.08, a GFI (an absolute fit index) value between 0.89 and 0.85, and a RMR (a residual-based fit index) value between 0.06 and 0.08 refer to an acceptable fit level for proposed models. Furthermore, the factor loading values obtained through the confirmatory factor analysis varied between .38 and .78, which was a desirable range. If the item factor loading values obtained through exploratory and confirmatory factor analyses are close to one another, it is possible to say that the scale has strong construct validity (Baloğlu et al., 2008).

The Cronbach's Alpha coefficient was found to be .86 for "Cultural Heritage for the Society", .87 for "Consciousness of Cultural Heritage", and .84 for "The Transfer of Cultural Heritage". As the internal consistency reliability coefficient of the ATCHS determined based on the Cronbach's Alpha coefficient is over 0.70, the scale can be considered reliable (Sipahi et al., 2010). In the light of these values, it is possible to say that the scale can perform reliable measurements.

All in all, a 32-item scale capable of measuring the attitudes of pre-service teachers towards cultural heritage was developed in the present study. A 5-point Likert type scale was employed for measuring each level expressed by the scale items. The items were ratedfrom 1 (I Strongly Disagree) to 5 (I Strongly Agree). An evaluation of the overall scale requires reverse rating of the negative items in the scale. The minimum score to be obtained from the entire scale is 32, and the maximum score is 160. It is thought the developed scale may serve as a measurement tool contributing to the research aimed at evaluating the attitudes of pre-service teachers towards cultural heritage. However, if the scale is to be administered to different study groups, its validity and reliability analyses should be made again.

Conflict of Interests

The author has not declared any conflict of interests.

REFERENCES

Aksoy A, Enlil Z (2012). Kültürel miras yönetiminde çağdaş yaklaşımlar [Contemporary approaches in the management of the cultural heritage]. In: A Aksoy and D Ünsal (Eds.). Kültürel miras yönetimi [Management of cultural heritage]. Eskişehir: Anadolu Üniversitesi

Açıköğretim Yayınları pp. 2-28.
Akyıldız M (2009). Pirls 2001 yapı testinin ülkelerarası yapı geçerliğinin incelenmesi [The comparison of construct validities of the PIRLS 2001 test between countries]. Ph D Thesis, Unpublished. Ankara: Ankara Üniversitesi.
Ay-Selanik T, Fidan NK (2013). Öğretmen adaylarının kültürel miras kavramına ilişkin metaforları [Metaphors of teacher candidates regarding the concept of "cultural heritage"]. Turkish Stud. 8(12):1135-1152.
Aygün HM (2011). Kültürel mirası korumada katılımcılık [Participatory Cultural Heritage Protection]. Vakıflar Dergisi 35:191-213.
Aytaç M, Öngen B (2012). Doğrulayıcı faktör analizi ile yeni çevresel paradigma ölçeğinin yapı geçerliğinin incelenmesi [The structure of environmental attidutes: first-order confirmatory factor analyses]. İstatistikçiler Dergisi 5:14-22.
Ayyıldız H, Cengiz E (2006). Pazarlama modellerinin testinde kullanılabilecek yapısal eşitlik modeli (YEM) üzerine kavramsal bir inceleme [A conceptual investigation of structural equation models (SEM) on testing marketing models]. Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi 11(1):63-84.
Baloğlu N, Karadağ E, Karaman H (2008). Stratejik planlama tutum ölçeği: Açımlayıcı ve doğrulayıcı faktör analizi çalışması [The strategic planning attitude scale: a study of exploratory and confirmatory factor analyses]. Kuram ve Uygulama Eğitim Bilimleri/Educational Sciences: Theory Pract. 8(2):407-437.
Büyüköztürk Ş (2010). Sosyal bilimler için veri analizi el kitabı [Handbook of data analysis for the social sciences] Ankara: Pegem.
Çokluk Ö, Şekercioğlu G, Büyüköztürk Ş (2010). Sosyal bilimler için çok değişkenli istatistik SPSS ve LISREL uygulamaları [Multivariate statistics for the social sciences, SPSS and LISREL applications]. Ankara: Pegem.
Deren AS (2006). Sanal ortamda kültürel miras enformasyon sistemlerinin kurulması ve Türkiye için durum analizi [Establishment of the online heritage information systems and status analysis for Turkey]. Master Thesis, Unpublished, İstanbul: İstanbul Teknik Üniversitesi.
Kolaç E (2009). Somut olmayan kültürel mirası koruma, bilinç ve duyarlılık oluşturmada Türkçe eğitiminin önemi [The importance of Turkish language education in protecting and raising awareness on intangible cultural heritage]. Milli Folklor 21(82):19-31.
Korkmaz Ö, Yeşil R (2011). Medya ve televizyon okuryazarlık düzeyleri ölçeği geçerlilik ve güvenirlik çalışması [Study of validity and reliability scale of media and television literacy levels]. Uluslararası İnsan Bilimleri Dergisi, *8(2)*. http://www.j-humansciences.com/ojs/index.php/IJHS/article/viewFile/1776/762. Accessed 20 May 2014.
Kurtar C (2012). Kentsel kültürel miras yönetimi ve rekreasyonla ilişkisi: Ankara Hamamönü örneği [Conservation and sustainability of urban cultural heritage: the Ankara Hamamönü example]. Master Thesis, Unpublished, Ankara: Ankara Üniversitesi.
Kutlu MM (2009). Somut olmayan kültürel mirasın korunmasında eğitime yönelik bir adım: Halk kültürü dersi [The first step at the education of the safeguarding of the intangible cultural heritage: folk culture course]. Milli Folklor 21(82):13-18.
Meydan CH, Şeşen H (2011). Yapısal eşitlik modellemesi AMOS uygulamaları [Structural equation modeling, AMOS applications]. Ankara: Detay.
Oğuz Ö (2008). Söküm'ün korunması sözleşmesine giden yolda 1989 tavsiye kararı [The 1989 recommendation on the road to the convention for safeguarding ICH]. Milli Folklor 20(80):26-32.
Oğuz Ö (2009). Somut olmayan kültürel miras ve kültürel ifade çeşitliliği [Immetariel the cultural heritage and diversity of cultural exression]. Milli Folklor 21(82):6-12.
Oğuz Ö (2011). Somut olmayan kültürel mirasın korunması sözleşmesi üzerine eleştirel bir okuma [A critical reading on the convention for the safeguarding intangible cultural heritage]. Milli Folklor 23(22):5-12.
Sipahi B, Yurtkoru ES, Çinko M (2010). Sosyal bilimlerde SPSS'le veri analizi [With SPSS data analysis in the social sciences]. İstanbul: Beta.
Şen Ü (2007). Millî eğitim bakanlığının 2005 yılında tavsiye ettiği 100 temel eser yoluyla Türkçe eğitiminde değerler öğretimi üzerine bir araştırma [Research on training of values through 100 basic works in Turkish education which are suggested by National Educational Ministery in 2005]. Master Thesis, Unpublished, Ankara: Gazi Üniversitesi.
Şencan H (2005). Sosyal ve davranışsal ölçümlerde güvenilirlik ve geçerlilik [Social and behavioral measurements, reliability and validity]. Ankara: Seçkin.
Şimşek ÖF (2007). Yapısal eşitlik modellemesine giriş temel ilkeler ve LISREL uygulamaları [Structural equation modeling: the entrance to the basic principles and LISREL applications]. Ankara: Ekinoks.
Tavşancıl E (2010). Tutumların ölçülmesi ve SPSS ile veri analizi [Attitude measurement and data analysis with SPSS]. Ankara: Nobel.
Ülken HZ (2008). Millet ve tarih şuuru [Nations and historical consciousness]. İstanbul: Türkiye İş Bankası Kültür.
Ünsal D, Pulhan G (2012). Türkiye'de kültürel mirasın anlamı ve yönetimi [The meaning and management of cultural heritage in Turkey]. In: A Aksoy and D Ünsal (Eds.). Kültürel miras yönetimi [Management of cultural heritage]. Eskişehir: Anadolu Üniversitesi Açıköğretim Yayınları pp.30-65.
Wittgenstein L (2009). Kesinlik üzerine + kültür ve değer [On certainty + culture and values]. (Trans. D Şahiner). İstanbul: Metis.
Yılmaz B, Külcü Ö, Ünal Y, Çakmak T (2012). AccessIT projesi ve dijitalleştirme uzaktan eğitim programının değerlendirilmesi [Evaluation of the AccessIT project and the distance learning programme on digitization]. Türk Kütüphaneciliği 26(2):370-390.
Yüksel S (2009). Eğitim fakültesi öğrencilerinin informal etkileşimleri ve akademik başarılarıyla ilişkinin incelenmesi [Informal contacts of education faculty students and correlate to theır academic achievement]. Ahi Evran Üniversitesi Eğitim Fakültesi Dergisi 10(2):119-127.