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A Study to Develop an Attitude Scale for Recycling Among High School Students

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Abstract

This study aims to develop an attitude scale to determine the cognitive, affective and behavioral attitudes of high school students in terms of recycling which covers reducing, reusing and recycling packaging wastes. 380 students going to the 9th, 10th, and 11th grades of public high schools in Ankara, which are subjected to the Ministry of National Education have participated in the research. Literature was reviewed during the process of developing the scale which resulted in the emergence of the items on cognitive, affective and behavioral aspects of recycling. Expert opinion for the first draft was obtained and the pilot study was conducted. More than one method was employed in validity and reliability studies of the scale. Exploratory factor analysis and confirmatory factor analysis were employed to collect evidence for structure validity. Exploratory factor analysis demonstrated that the final scale with 10 items had a structure of two factors named as "Giving Emotional Reactions" and "Awareness and Performing Appropriate Behavior". It also showed that the final scale explained 57.955% of total variance. It is seen that factor loading value of each item changes between .521 and .871. The identified factor structure was validated through the confirmatory factor analysis in the process of scale development, in other words, in the exploratory factor analysis. Internal consistency (Cronbach Alfa) coefficient and test-retest coefficient were calculated to figure out scale reliability. Cronbach Alfa coefficient for the whole scale was found as .845, test-retest coefficient was found as .773. The findings of the research show that "Attitude Scale for Recycling" can be used as a valid and reliable evaluation tool.

Keywords

Recycling
Reduce
Reuse
Recycle
Attitude scale

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Lise Öğrencileri İçin Yeniden Kazanıma Yönelik Tutum Ölçeği Geliştirme Çalışması

Öz

Bu araştırmanın amacı, ambalaj atıklarının azaltımı, tekrar kullanımı ve geri dönüşümünü kapsayan yeniden kazanım konusunda lise öğrencilerinin bilişsel, duyuşsal ve davranışsal açıdan tutumlarını belirleyecek bir tutum ölçeği geliştirmektir. Ölçeğin uygulamaları Ankara ilindeki Milli Eğitim Bakanlığı'na bağlı resmi liselere devam eden ve 9., 10., 11. sınıflarda öğrenim gören toplam 380 öğrenci ile gerçekleştirilmiştir. Ölçeğin geliştirilmesi sürecinde konu ile ilgili alanyazın incelenmiş ve yeniden kazanım kavramına ilişkin bilişsel, duyuşsal ve davranışsal boyutları içeren maddeler yazılmıştır. Oluşturulan taslak forma ilişkin uzman görüşü alınmış ve pilot çalışma yapılmıştır. Ölçeğin güvenirlik ve geçerlik çalışmasında birden fazla yöntem kullanılmıştır. Yapı geçerliğine kanıt toplamak

Anahtar Kelimeler

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amacıyla açımlayıcı faktör analizi ve doğrulayıcı faktör analizi yapılmıştır. Yapılan açımlayıcı faktör analizi sonucunda 10 maddelik nihai ölçeğin, "Duygusal Tepkiler Verme" ve "Farkındalık ve Uygun Davranışı Sergileme" olmak üzere iki faktörlü bir yapıya sahip olduğu ve toplam varyansın %57.955'ini açıkladığı görülmüştür. Her bir maddenin faktör yük değerlerinin .521 ile .871 arasında değiştiği görülmüştür. Doğrulayıcı faktör analiziyle, ölçeğin geliştirilme aşamasında yani açımlayıcı faktör analizinde belirlenen orijinal faktör yapısının doğrulandığı belirlenmiştir. Ölçeğin güvenirliğini belirlemek amacıyla iç tutarlılık (Cronbach Alfa) katsayısı ve test-tekrar test katsayısı hesaplanmıştır. Ölçeğin tümüne ilişkin Cronbach Alfa katsayısının .845, test-tekrar test katsayısının .773 olduğu tespit edilmiştir. Araştırma sonucunda elde edilen bulgular, Yeniden Kazanıma Yönelik Tutum Ölçeği'nin geçerli ve güvenilir bir ölçme aracı olarak kullanılabileceğini göstermektedir.

Introduction

People of today negatively affect the natural life and insensibly consume the natural sources to meet their increasing needs. The question how to support the sustainable life in domestic and global levels is one of the biggest worries of humans about the near future (Jeronen, Jeronen & Raustia, 2009). Environmental problems resulted from population growth, rapid urbanization, industrialization and capitalist development (Duygu, 2014; Keleş, 2013) took place in the agendas of the international organizations* of 1970's. The importance of environmental education was emphasized and opinions on life sustainability were presented in these organizations (UN, 1972; UNESCO & UNEP, 1975, 1977). World Commission on Environment and Development prepared Brundtland Report in 1987 which hosted the concept of sustainable development for the first time. The sustainable development targets were presented as conserving a healthy environment where the natural sources were not overused and the environment was not excessively polluted while improving the living conditions of each and every human (UN, 1987). Hence, sustainability referring to the infinite functioning of environment without being deteriorated is only possible when the natural sources are preserved.

Sustainability should start when individuals become able to notice the problems in their close environment and provide solutions for them. It is not possible to have a sustainable life without an education to help them raise consciousness and change their attitudes (UNESCO, 2005). The purpose of environmental education is raising individuals who keep to the sustainable life besides being sensitive towards environment (National core curriculum for basic education, 2004; as cited in Jeronen et al., 2009: 2). In these terms, environmental education is suggested as one of the most effective methods of dealing with the threats resulting from the environmental problems (UNESCO & UNEP, 1987). In short, environment is closely related to the concepts of sustainability and education.

Gaining consciousness to preserve the environment through environmental education is a requirement for a sustainable life. One of the subjects of the environmental education for sustainability is "recycling". Recycling refers to the branches of 3R method which are: Reduce, Reuse and Recycle (Bener & Babaoğul, 2008; Uğulu, Aydın, Doğan & Başlar, 2014). The importance of raising "recycling" consciousness is emphasized by the increase in the plastic, glass, metal, paper etc. waste which emerges at some places such as homes, schools, playgrounds, workplaces, and shopping centers. A study conducted in six different countries stated that many people were unaware of the effects of their consuming habits on environmental pollution (UNEP & UNESCO, 2001). The result of this study emphasizes on the requirement of raising environmentally sensitive individuals. Environmental education is basically about the attitudes (Avan, 2011). In this regard, environmental education practices on recycling should be employed to have individuals develop positive attitudes towards environment.

While it is highlighted that environmental education should take place in each and every kind and level of education (Taştepe & Aral, 2014), the most effective time to give this education is marked as high school period (Şentürk, 2010). The high school students are in the period of abstract operations

* United Nations Conference on Human Environment-Stockholm (1972), International Environmental Workshop-Belgrade (1975), Intergovernmental Conference on Environmental Education-Tbilisi (1977)

which is when their approaches to environmental problems and their attitudes towards environment improve, they increasingly participate in the environmental organizations, take active parts in environmental issues and solution seeking processes. This results in an increase in their sensitivity towards environment (Atasoy, 2006). It can be said that the high school students' cognitive, affective and behavioral attitudes towards environment are the signs of their future environmental attitudes. Therefore, it is a must to determine the current attitudes of high school students and provide them with an appropriate environmental education to have them develop positive attitudes towards environment in their adulthood.

There have been several attitude scales to measure the general environmental attitudes of high school students in public education in Turkey (Kansu & Tüysüz, 2009; Metin, 2010; Ugulu, Sahin & Baslar, 2013; Uzun & Sağlam, 2006). It is attention grabbing that the scales on general environmental attitudes refer to diverse subjects because of the multidisciplinary feature of environmental education. Hence, the number of the items on reduce, reuse and recycle in these scales is limited. Literature review demonstrates that the only attitude scale for high school education is the one developed and applied to 10th grade students by Uğulu (2011) to highlight the effect of recycling education. Although the scale consists of attitude items about recycling and recycle, it is seen that the scale mostly addresses general issues about environment like environmental awareness, consciousness and behaviour. Therefore, there is no specific scale focusing on recycling of packaging wastes that high school students come across in their daily lives. In this regard, it is significant to develop an attitude scale to determine the cognitive, affective and behavioral attitudes about the daily reduce, reuse and recycle implementations. Developing an attitude scale to measure the attitudes of high school students towards recycling the packaging wastes is pointed out as the purpose of this research. The research aims to make theoretical and implementary contributions through developing an attitude scale on recycling for high school students. Parallel to this information, the expected contribution of the scale developed accordingly with the purpose of the research points to the importance of the study.

Method

The research is a scale development study. In this study, survey model from descriptive research methods is used. The characteristics of the study group and the levels on which Attitude Scale for Recycling is developed are given below.

Study Group

Study group of this research covers 380 students going to the 9th, 10th, and 11th grades of public high schools in Ankara, which are subjected to the Ministry of National Education in the education year of 2016-2017. 58.9% (n=224) of the study group consists of female students, while 41.1% (n=156) of it consists of male students. 35.5% (n=135) of the students are 9th graders, 33.4% (n=127) are 10th graders, 31.1% (n=118) of them are 11th graders. The average age of students is 15.4 years (SD= .85).

After finalising the development of the scale, the final version of the scale is conducted twice in every 15 days with 40 students who are from the study sample and assigned an ID number, and so test-retest reliability is calculated.

It is suggested that the number of participants should be 5-10 times bigger than the number of items subjected to factor analysis in scale development studies (Tavşancıl, 2014). When the 14 items trial form of the scale is considered, it can be said that the number of participants in study group meets the given measure and is enough for the research.

Developing the Scale

Attitude Scale for Recycling is prepared to demonstrate the attitudes of high school students towards recycling the packaging wastes. Tavşancıl (2014) suggests that attitudes have three aspects which are cognitive, affective and behavioral. In this regard, the relevant literature was reviewed and 16 items covering the cognitive, affective and behavioral aspects of recycling concept were written. The item writing process was conducted with a high attention paid to having only one expression in each of the items and keeping them appropriate for the field they were meant to. Expert opinions of three

academicians with PhD's in social environmental sciences, measurement and evaluation and child development were taken for the mentioned 16 items. The experts were asked to provide their opinions about expediency, clearance and coherence of the items to take place in the scale. Also, the pilot study was conducted with 20 high school students. As a result of both the expert evaluations and the pilot studies, 3 items which were stated to be not clear and coherent enough were restructured and 2 items were removed from the scale. In the last stance, a trial form of 14 items has emerged. The level to which the participants agree with the items of the scale has been determined by the five-point Likert scale. It is given as: "strongly disagree" (1), "disagree" (2), "neutral" (3), "agree" (4), "strongly agree" (5).

Data Collection

Content of implementation required from Directorate of National Education in Ankara was taken prior to the research. The participants were informed about the research and its basis on voluntariness before the data collection process. The researcher, himself, collected the data.

Data Analysis

More than one method was employed to determine the reliability and validity of the Attitude Scale for Recycling parallel to the literature review.

Construct validity was examined to reveal the extent to which the scale serves the purpose. This was proven using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). When scale development literature is analyzed, it is seen that the ideal practice in the psychological scale development is conducting EFA and CFA on two different sample groups (Kline, 2011). On the other hand, there are studies that EFA and CFA are conducted on the same data set as well (Akbaba Altun & Büyüköztürk, 2011; Alıcı, 2013; Başbay & Kağnıcı, 2011; Kaynak, Özhan & Kan, 2017; Kılıç Çakmak, Çebi & Kan, 2014; Yılmaz, Altınkurt & Çokluk, 2011).

In EFA, the factors to which the items of this scale were related were revealed. Kaiser Meyer Olkin (KMO) test and Barlett's Test of Sphericity were applied to determine if the data were confirming to the factor analysis. Varimax orthogonal rotation technique was used in obtaining the factors. The factors emerging through the analysis were named and interpreted. In CFA, the compatibility of the model having been brought in EFA was controlled. This compatibility was evaluated through the values provided by Chi-square goodness of fit ($\chi 2$), root mean square error of approximation (RMSEA), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), standardized root mean square residuals (SRMR), non-normed fit index (NNFI) and comparative fit index (CFI) (Büyüköztürk, 2017; Çokluk, Şekercioğlu & Büyüköztürk, 2016).

The whole attitude scale and Cronbach Alfa coefficient of the factors that constitute the scale were calculated to determine the reliability of the scale and test-retest coefficient was calculated to extend the evidences of this reliability (Tavşancıl, 2014). Analysis of the items were conducted with the relevance of the differences between the item averages of top 27% and bottom 27% employing item-total correlation and t test (Büyüköztürk, 2017).

Findings

Findings for Validity

Exploratory factor analysis was conducted for construct validity of Attitude Scale for Recycling. Considering the data provided by 380 students, the 14 items of the scale were subjected to the principal components analysis (with an option of varimax rotation). Kaiser Meyer Olkin (KMO) test that shows the convenience of the data for factor analysis was employed. The values of Bartlett's Test of Sphericity were found to check if the data came from multivariate normal distribution (Çokluk et al., 2016). The value of .889 for the scale that is obtained by examining the values of KMO is regarded as "very good" for the factor analysis of the data (Tavşancıl, 2014). Besides, the results of Bartlett's Test of Sphericity ($\chi 2$=2071.974; df=91; p= .000) reveals a significant relationship between the variables in the scale. This conclusion points to the convenience of the data for factor analysis. In the Table 1, the eigenvalues and percentages of variance associated with each factor according to the first EFA results are presented.

Table 1. Eigenvalues and percentages of variance associated with each factor

Factors	Eigenvalue	% of Variance
F1	5.517	39.406
F2	1.317	9.410
F3	1.046	7.473
F4	1.002	7.154

Four factors whose eigenvalue equals to more than 1 have been found in EFA result of the scale. The variance explained of these four factors equals to 63.442%. The scree plot of EFA is shown in the Figure 1.

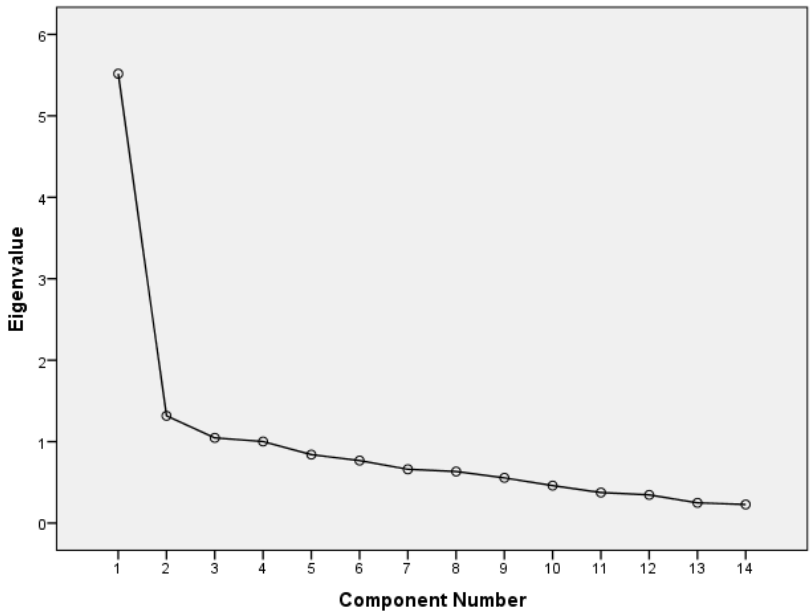

Figure 1. Exploratory factor analysis-Scree plot

It is emphasized that the factor loading value should be equal to .40 to demonstrate an item in a factor (DeVellis, 2003; Field, 2005). All of the items in the scale have given a value over .40, which is the crossing limit for any factors, at the first level of the factor analysis. However, since the items numbered as 2, 8, and 1 have had a high loading value at more than one factor and the difference between their loading values at two factors is less than .10 and the item numbered 6 did not meet the acceptance level of .40, they all have been excluded from the analysis. In the Table 2, factor loading values of the items are presented.

Table 2. Factor loading values of the items

No	Item	Factor 1	Factor 2	Common Factor Variance
7	I feel happy when people seeing the plastic, glass, metal, paper wastes at the street throw them into the recycle box.	**.871**	.169	.78
9	I get angry when people throw the plastic, glass, metal, paper wastes in the street.	**.786**	.152	.64
14	I feel happy when my family and friends use recycle.	**.781**	.311	.70
5	I feel happy when the plastic, glass, metal, paper wastes become reusable through recycling.	**.747**	.257	.62
3	I feel happy when there are recycle boxes where I am.	**.736**	.258	.60
11	I know that the plastic, glass, metal, paper wastes are not garbage.	.307	**.797**	.72
13	I know that the plastic, glass, metal, paper wastes should not be thrown into the garbage can.	.236	**.789**	.67
4	I use the recycle boxes to recycle the wastes of plastic, glass, metal, paper.	.245	**.609**	.43
10	When I am outside I use the bottle of water that I have been carrying with me instead of buying one.	.058	**.536**	.29
12	I reuse the plastic bottles, glass jars, tin cans etc. for other purposes.	.164	**.521**	.29
	Eigenvalues:	3.328	2.468	-
	Verince Explained:	33.278	24.677	-
	Total Variance Explained:	57.955		-

Examining Table 2, it seems that the scale of 10 items is collected in two factors. Both of the factors consist of 5 items. EFA results show that the loading value of the first factor changes between .736 and .871, while the loading value of the second factor changes between .521 and .797. Two factors of the scale explain 57.955% of the total variance. The first factor, which is named as Giving Emotional Reactions, explains 33.278% of the total variance while the second one, which is named as Awareness and Performing Convenient Behavior, explains 24.677% of total variance. Common factor variances of the items in the scale change between .29 and .78. This can be interpreted as an existence of homogeneity among the variables since the common factor variance is bigger than .20 (Tabachnick & Fidel, 2001).

Correlation values have been examined to determine the relationship between two sub-factors, which emerged as a result of EFA. If the correlation coefficient has an absolute value of .70-1.00, it means that there is a close relationship; while if the correlation coefficient has an absolute value of .70-.30, it means that there is an average relationship (Büyüköztürk, 2017). In this regard, there is an average, positive and significant relationship between factors ($r=.514$, $p<.01$). The results can be given as evidences for construct validity.

CFA was conducted to evaluate the construct validity of the model emerging after EFA. In CFA that was conducted on the construct of two factors, at first, t values regarding the latent variables' explanation of observed variable are examined. As a result of the calculation, it is seen that t values of the items change between 6.32-18.34. In this context, t values are significant at .01 level since t values are higher than 2.56 (Çokluk et al., 2016). Also, goodness of fit indexes without any modification are given as follows: [$\chi2=103.75$; $df=34$; $\chi2/df=3.05$ ($p=.000$); RMSEA=.07; GFI=.95; AGFI=.92; SRMR=.05; NNFI=.97; CFI=.97].

When the modification suggestions coming from the analysis results are examined, it is seen that the modification to be carried out between I11 and I13 will have enormous contributions to $\chi 2$. The results of the investigations have shown that I11 and I13 assess similar situations, therefore an invisible relationship between these two items is acceptable and modification suggestion was taken into account. Figure 2 gives a model of a construct of two factors.

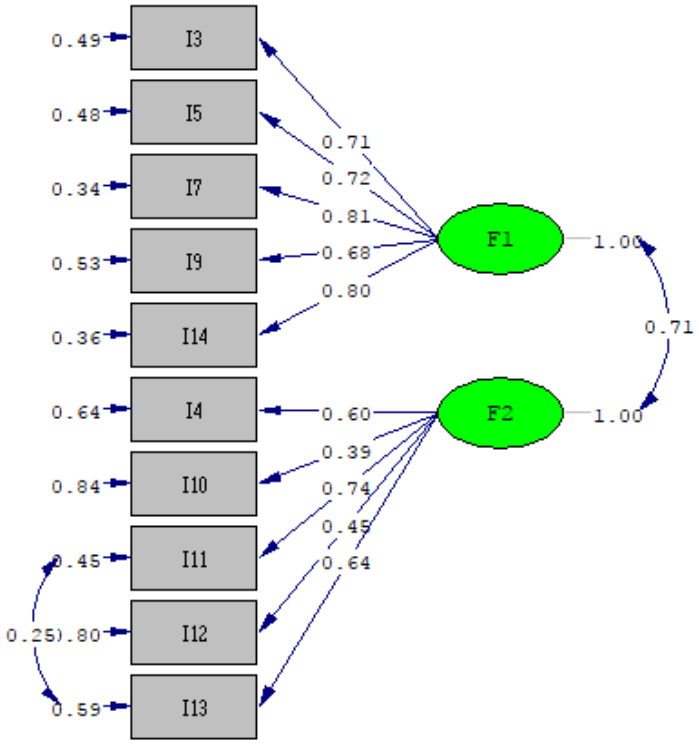

Figure 2. Loading values for CFA

After modification, it is identified that t values are between 6.93-18.35 so t values are significant at .01 level. Goodness of fit indexes of the model are as follows: [$\chi 2$=77.72; df=33; $\chi 2$/df=2.35 (p=.000); RMSEA=.06; GFI=.96; AGFI=.93; SRMR=.03; NNFI=.98; CFI=.98]. In the literature, it is indicated that there is a perfect fit when $\chi 2$/df value is less than 2.5 for small samples. Also, if RMSEA and SRMR indexes are .08 or lower, and other indexes are higher than .90 and closer to 1; the goodness of fit is better. When the goodness of fit indexes of the model are examined, it seems that $\chi 2$/df (Kline, 2011), GFI (Hooper, Coughlan & Mullen, 2008), SRMR (Brown, 2006), NNFI and CFI (Hu & Bentler, 1999) values refer to the perfect fit; RMSEA (Hu & Bentler, 1999) and AGFI (Hooper et al., 2008) values refer to a good fit. These values point that the items of the scale represent the construct, in other words the model conforms to the results gathered via EFA.

Findings on Reliability and Item Analysis

Internal consistency (Cronbach Alfa) coefficient and test-retest coefficient have been calculated to reassure the reliability of the scale. The findings of these analyses are provided in Table 3.

Table 3. Cronbach Alfa and test-retest reliability coefficient

	Number of the Items	**Cronbach Alfa[1]**	**Test-Retest[2]**
Giving Emotional Reactions	5	.874	.838
Awareness and Performing Convenient Behavior	5	.695	.796
Attitude Scale for Recycling	10	.845	.773

[1]n=380 [2]n=40

Table 3 shows that Cronbach Alfa coefficient has been calculated as .845 for the whole scale, as .874 for the first factor of the scale named as Giving Emotional Reactions and as .695 for the second factor named as Awareness and Performing Convenient Behavior. Having a Cronbach Alfa coefficient at .80's refers to high reliability, at .60's refers to enough reliability (Alpar, 2016; Özdamar, 2015). To determine the test-retest reliability of the scale, the final form of it has been implemented on a study group, which was subjected to the implementation before, twice in every 15 days. It has been seen that the correlation coefficient values are high for the whole scale (r=.773) and its factors (r1=.838, r2=.796) in terms of test-retest reliability (Büyüköztürk, 2017). This result can be interpreted like that the scale is consistent against elapsed time. Parallel to these findings, it can be said that Attitude Scale for Recycling is a reliable evaluation tool.

Firstly, item-total correlations have been calculated to determine if each item assesses the characteristic it is supposed to do and how adequate it is to discriminate the individuals in terms of the characteristics it has assessed. Secondly, t-test has been employed to demonstrate the relevance of the difference between average item points of bottom 27% and top 27% (Büyüköztürk, 2017). The results of the item analysis are provided at the Table 4.

Table 4. Item analysis results

No	Item-Total Correlation[1]	t (Bottom 27%-Top 27%)[2]
7	.678	13.547***
9	.592	11.674***
14	.698	15.335***
5	.624	12.008***
3	.623	14.908***
11	.648	15.536***
13	.575	13.471***
4	.476	11.943***
10	.311	10.617***
12	.380	9.879***

[1]n=380 [2]n1=n2=103 ***p<.001

Table 4 presents that item-total correlation values of the final scale items change between (r=.31) and (r=.69). It is pointed out that the items with .30 and more points of item-total correlation discriminate the individuals better (Büyüköztürk, 2017). It is also seen that the t-values of the items are significant (p<.001). These results can be claimed to mean that reliability of the items in the scale is high, they discriminate the students in terms of methodological competencies and they are meant to assess the same behavior.

Conclusion and Suggestions

This research aims to develop an attitude scale to determine the cognitive, affective and behavioral attitudes of students towards recycling which covers reducing, reusing and recycling the packaging wastes. The results of the analysis emphasize on the most significant finding of the research that is developing of an evaluation tool to demonstrate the attitudes of students towards recycling the packaging wastes.

When validity and reliability results of the developed scale are analyzed, it is identified that the scale has acceptable reliability level both in general and on the basis of the factors. It is find out that the scale is able to both assess the feature that is meant to and discriminate the individuals that have the feature to be assessed from the ones that do not have. Expert opinions are used to determine the content validity; exploratory and confirmatory factor analyses are used to determine the construct validity of the developed scale. Also, it is identified that standardized factor loadings are at the sufficient level and t-values are significant. Fit indices considered on the model evaluation refer to that there is a rapport at

the acceptable level between data and model type. As a result of this study, it can be stated that the scale will satisfy an important need in the related literature, and also it has a feature of being an evaluation tool with sufficient psychometric properties that can be used in the future researches.

Attitude Scale for Recycling is a five-point Likert scale. It consists of 10 items and two factors. The items numbered 2, 4, 6, 8, and 10 take place in the factor of Giving Emotional Reactions while the items numbered 1, 3, 5, 7, and 9 take place in the factor of Awareness and Performing Appropriate Behavior. All of the items consist of affirmative sentences. (Appendix). The highest collective score of the scale is 50 while the lowest is 10. The score is directly proportional to the positiveness of attitudes of the students. Such an evaluation tool can be employed in studies to determine the attitudes of the students towards this issue, change the negative ones and improve the positive ones.

Exploratory and confirmatory factor analyses have been conducted on the same study group, which is the limitation of the study. The study group of the research is also limited to the 9th, 10th, and 11th graders at public high schools in Ankara that are subjected to the Ministry of National Education. With regard to these limitations, the new researches using the Attitude Scale for Recycling may consist of confirmatory factor analysis and reliability analysis. In case of using the scale with the university students, it would be beneficial to create validity and reliability evidences for this group as well. This would provide evidences toward the structure of the scale.

The findings about the validity and reliability of Attitude Scale for Recycling show that the scale is competent enough to be used to determine the attitudes of high school students towards recycling packaging wastes. Also, the scale is functional thanks to the facts that being economic in terms of time and cost, its easy implementation and practical grading.

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Appendix. Attitude Scale for Recycling

Dear Students,

This scale has been prepared to determine the attitudes of high school students towards reducing, reusing and recycling the packaging wastes.

You are expected to read each item in the scale and mark the appropriate option regarding the degree to which you agree with the statement. The answers that you will offer for the items will be used in a research and kept confidential. Thank you for cooperating.

Mark only one option for each item please.		**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
		1	**2**	**3**	**4**	**5**
1.	I use the recycle boxes to recycle the wastes of plastic, glass, metal, paper.					
2.	I feel happy when there are recycle boxes where I am.					
3.	I know that the plastic, glass, metal, paper wastes are not garbage.					
4.	I feel happy when the plastic, glass, metal, paper wastes become reusable through recycling.					
5.	I know that the plastic, glass, metal, paper wastes should not be thrown into the garbage can.					
6.	I feel happy when people seeing the plastic, glass, metal, paper wastes at the street throw them into the recycle box.					
7.	I reuse the plastic bottles, glass jars, tin cans etc. for other purposes.					
8.	I get angry when people throw the plastic, glass, metal, paper wastes in the street.					
9.	When I am outside I use the bottle of water that I have been carrying with me instead of buying one.					
10.	I feel happy when my family and friends use recycle.					

Ek. Yeniden Kazanıma Yönelik Tutum Ölçeği

Sevgili Öğrenciler,

Bu ölçek, ambalaj atıklarının azaltımı, tekrar kullanımı ve geri dönüşümünü kapsayan yeniden kazanım konusunda lise öğrencilerinin tutumlarının belirlenmesi amacı ile hazırlanmıştır.

Sizden beklenen ölçekteki her bir maddeyi okumanız ve maddeye katılma düzeyinize göre seçeneklerden size uygun olanını işaretlemenizdir. Ölçekte yer alan maddelere vereceğiniz yanıtlar araştırma amacı ile kullanılacak ve gizli tutulacaktır. İşbirliğiniz için teşekkür ederiz.

Her bir madde için yalnızca 1 seçenek işaretleyiniz.		**Kesinlikle Katılmıyorum**	**Katılmıyorum**	**Kararsızım**	**Katılıyorum**	**Kesinlikle Katılıyorum**
		1	**2**	**3**	**4**	**5**
1.	Plastik, cam, metal, kâğıt atıkların geri dönüştürülebilmesi için geri dönüşüm kutularını kullanırım.					
2.	Bulunduğum ortamda geri dönüşüm kutuları olunca mutlu olurum.					
3.	Plastik, cam, metal, kâğıt atıkların çöp olmadığını bilirim.					
4.	Plastik, cam, metal, kâğıt atıkların geri dönüşüm ile yeniden kullanılabilir hale gelmesinden mutlu olurum.					
5.	Plastik, cam, metal, kâğıt atıkların çöp kutusuna atılmaması gerektiğini bilirim.					
6.	İnsanların sokakta gördüğü; plastik, cam, metal, kâğıt atıkları geri dönüşüm kutusuna atmalarından mutlu olurum.					
7.	Plastik şişe, cam kavanoz, konserve kutusu vb. eşyaları başka amaçlar için yeniden kullanırım.					
8.	İnsanların plastik, cam, metal, kâğıt atıkları sokağa atmalarına kızarım.					
9.	Dışarıda olduğum zamanlar su satın almak yerine yanımda taşıdığım su şişesini kullanırım.					
10.	Arkadaşlarımın ve ailemin geri dönüşüm yapmalarından mutlu olurum.					