

Used Clothing Disposal Behavior within the Scope of Sustainable Consumption

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Abstract

This study aims to investigate consumers' disposal behavior in terms of used or second-hand clothing. To this end, it explores the effects of awareness of the environment and recycling behavior on consumer clothing disposal behavior. Research data were collected through face-to-face surveys in Muş. The data were analyzed using descriptive statistics, t-test, and structural equation modeling. According to the results, awareness of the environment and recycling behavior affect giving used clothing to family or friends, but do not affect donating used clothing to a charity. Also, recycling behavior is the weakest factor that affects disposal behavior. The comparison of the means of disposal behavior in terms of gender indicated that women show disposal behavior more than men do. This study contributes to the literature by revealing new insights about consumer disposal behavior.

Keywords: Clothing Disposal Behavior, Sustainable Consumption, Recycling Behavior, Awareness of the Environment.

INTRODUCTION

Sustainability has been an important issue in several areas of literature such as environment and economy. Clothing consumption can be regarded as an aspect of sustainability issue, in which consumers feel responsible to contribute to sustainable consumption by disposing their used clothing (Connell and Kozar, 2014: 44). However, it may be an obstacle to sustainable consumption that people cannot make use of their belongings such as clothing which they get bored of very quickly or their worn clothing and they cannot exhibit recycling behavior. The most effective way of eliminating this obstacle is disposing used clothing in any way, by giving it to other people or donating it to charities.

Though disposal of clothes that are products of fast fashion is highly important for consumers, it is quite difficult to dispose used clothing (Kang and Schoenung, 2006). To overcome this difficulty, consumers should first notice the importance of the environment and apply recycling behavior to clothing as well. Awareness of the environment and recycling behavior are two important factors that affect used clothing disposal behavior (Morgan and Birtwistle 2009). Consumers' awareness and knowledge about the environment are constantly increasing, but recycling is still rather low. Also, research on recycling behavior has focused on personal variables, but ignored its direct effect on physical-environment traits (Latif et al., 2013: 38).

Awareness of the environment may be defined as consumer perceptions about the environment (Strong, 1996). Environmental awareness may make consumers conscious about the environment. The conscious consumers who are sensitive to environmental issues dispose their clothing more willingly than those who are not. In addition, the consumers who recycle their goods such as plastic, glass, and paper are more likely to dispose their used clothing than other consumers. The consumers that are aware of the environment and willing to recycle are more likely to dispose their used clothing. Especially, they give their clothing to their family or friends as a disposal behavior (Bianchi and Birtwistle, 2010: 366). Shortly, it can be argued that awareness of the environment and recycling behavior affect donating used clothing to charities and giving it to family or friends.

This study aims to investigate the effect of awareness of the environment and recycling behavior on consumers' used clothing disposal behaviors such as giving used clothing to family or friends and donating used clothing to charities. The findings of this study will help identify consumers' possible disposal behaviors.

LITERATURE REVIEW and RESEARCH HYPOTHESES

Awareness of the Environment

Starting with environmental concerns in the 1970s (Anderson and Cunningham, 1972), awareness of the environment refers to consumers' perceptions about the vulnerability of the environment and their possible harms to it. It is reported that the consumers who are conscious of environmental issues try to dispose their used clothing so as not to harm the environment (Bianchi and Birtwistle, 2010: 356-357). Hence, consumers' awareness of the environment affects clothing disposal behavior (Morgan and Birtwistle, 2009). In this regard, awareness of the environment is especially related to giving clothing to family or friends and donating it to charities (Bianchi and Birtwistle, 2010: 357). In this respect, the following hypotheses were formulated:

H₁: Awareness of the environment affects the disposal behavior of giving to family or friends.

H₂: Awareness of the environment affects the disposal behavior of donating to charities.

Recycling Behavior

Recycling is one of the important practices that reduce amount of waste and contribute to the generation of new products (Halvorsen and Kipperberg, 2003). It can be defined as the separation of the items that are materially savable from composite waste (Zurmuhlen et al., 2010: 4). As environmental issues become more important, interest in recycling rises (Defra, 2008). Recycling is a practice that extends human being's living space one step further. Therefore, it is an important part of sustainability (Zurmuhlen et al., 2010). In the process of consuming clothing, consumers generally try to dispose their used clothing by exhibiting recycling behavior (Ha-Brookshire and Hodges 2009). The consumers who recycle plastic, glass, or paper are more likely to recycle their clothing (Bianchi and Birtwistle, 2010: 357). They dispose their clothing by recycling (Ha-Brookshire and Hodges, 2009). In this respect, the following hypotheses were formulated:

H₃: Recycling behavior affects the disposal behavior of giving to family or friends

H₄: Recycling behavior affects the disposal behavior of donating to charities

Disposal Behavior

Disposal behavior is a new subject in the literature (De-Coverly et al., 2008; Holbrook 1995). This behavior involves reusing used clothing, recycling it, donating it to charities, giving it away, giving it to a second-hand store, eliminating it completely, and so on (Bianchi and Birtwistle, 2010: 354). According to some researchers, demographic characteristics may affect environmental behaviors (Butler and Francis, 1997). Thus, it can be said that consumers' disposal behavior may vary by gender (Bianchi and Birtwistle, 2012: 354). Mostly, women are more responsible for household relations (relations among family members) (Rosenthal et al, 1985). This responsibility enables women to notice family members' or their friends' needs more and to play a more active role in the behavior of giving away clothing to them. Accordingly, it can be stated that women display disposal behavior more than men do (Lang et al., 2013). In this respect, the following hypotheses were formulated:

H₅: The behavior of giving used clothing to friends or family differ in terms of gender

H₆: The behavior of donating used clothing to a charity differ in terms of gender.

The number of studies related to the recycling of products such as paper, glass, and plastic is high (Do Valle et al., 2004; Tilikidou and Delistavrou, 2005; Moczygemba and Smaka-Kincl, 2007; Webb et al., 2008; Taufique et al., 2014; Rafia et al., 2014; Jacques, 2015), but there is very little research concerned with the disposal of textile products (Birtwistle and Moore, 2006; Morgan and Birtwistle, 2009; Koukouvinos, 2012; Choi et al., 2014). Some studies conducted in recent years have especially focused on consumers' clothing disposal behaviors. Birtwistle and Moore (2006), Ha-Brookshire and Hodges (2009), Morgan and Birtwistle (2009), Bianchi and Birtwistle (2010), Bianchi and Birtwistle (2012), Joung and Park-Poaps (2013), and Borthakur and Govind (2016) have investigated the ways of clothing disposal. According to the results, the most common clothing disposal behaviors of consumers are donating to charity, giving away to family or friends, and selling through websites such as eBay. The results indicate a significant positive relationship between consumer fashion innovativeness, recycling behavior, awareness of the environment and sustainable textile disposal behavior.

There are quite a limited number of studies that aim to reveal the factors affecting used clothing disposal behavior, which is an example of socially responsible consumption as well as sustainable consumption. It is argued that used clothing disposal behavior is generally investigated in developed societies, but it is also important and worth researching in developing collective societies (Cruz-Cardenas et al., 2016). As Turkey has a collective cultural structure, the study is expected to contribute to the literature. Previous research on used clothing disposal behavior does not cover the eastern part of Turkey. The sustainable consumption literature for Turkey shows that studies have ignored some aspects of product disposal behavior, which indicates a meaningful gap for scholars to fill. Moreover, the present study dealing with used clothing disposal behavior, which has become more and more important recently, is anticipated to be useful especially for the producers in the textile sector.

The research model and hypotheses which have been developed in the line with the literature review are as shown in Figure 1.

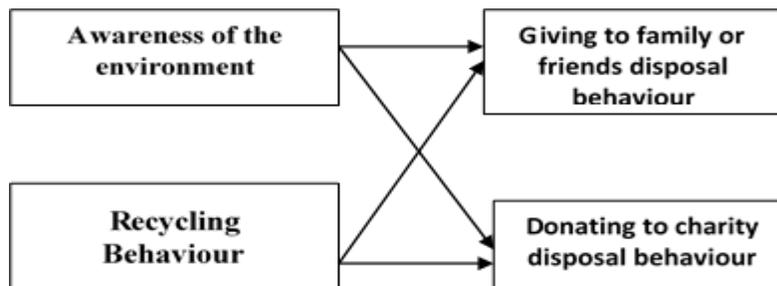


Figure 1. Research Model

RESEARCH METHODOLOGY

Purpose, Scope, and Limitations

In the present era when resources are consumed irresponsibly, sustainable consumption is important for future generations to live in a healthier world. Sustainable consumption should be exhibited in the consumption of clothing, as in every area. This study aims to determine the effects of consumers' recycling behaviors and awareness of the environment on giving used clothing to others or donating it to a charity.

The consumers in Muş province of Turkey were reached to determine their used clothing disposal behaviors. The fact that the study was conducted on only the consumers in Muş province is its most important limitation. Another limitation is that it only dealt with used clothing.

Sampling Process

The study was carried out on a specific sample due to time and cost constraints. Convenience sampling was employed in the study. Face-to-face surveys were used for data collection. A total of 410 surveys were conducted, but 393 of them were considered ready for analysis. The findings were analyzed and interpreted through structural equation modeling and t-test. The effects of recycling behavior and awareness of the environment on clothing disposal behavior were tested by structural equation analysis via Amos 20. Then t-test was applied through SPSS 20 in order to test the differences between women and men in terms of clothing disposal behavior. Of the scales used in the study, the Awareness of the Environment Scale composed of seven items was adapted from Taufique et al. (2014); the Recycling Behavior Scale composed of four items was adapted from Rafia et al (2014); and the Giving away to Family or Friends Scale and the Donating to a Charity Scale, each of which is made up of three items, were adapted from Bianchi and Birtwistle (2010).

FINDINGS

This section presents the frequency and percentage distributions of the demographic characteristics of the consumers participating in the study. It also includes the results of reliability and validity analyses made for testing the reliability and validity of the scales used in

the study as well as the structural equation modeling applied for testing the research hypotheses.

Demographic Characteristics of the Research Sample

Of the research participants, 59.5% (N=234) were female, and 40.5% (N=159) were male. 53.9% (N=212) were married, and 46.1% (N=181) were single. 13.2% (N=52) were at the age of 18 or younger, 23.4% (N=92) in the age range of 18-24, 22.6% (N= 89) in the age range of 25-31, 13.0% (N= 51) in the age range of 32-38, 16.8% (N= 66) in the age range of 39-45, and 10.9% (N= 43) at the age of 45 or older. As to their income levels, 19.6% had an income of less than TL 1500 (N=77), 38.7% TL 1500-2500 (N= 152), 21.1% TL 2501-3500 (N=83), 10.4% (N=41) TL 3501-4500, and 10.2% (N=40) more than TL 4500. 26.5% (N=104) graduated from an elementary or middle school, 27.2% (N= 107) from a high school, 26.2% (N= 103) from a university, and 20.1% (N=79) from a post-graduate program.

Descriptive Statistics Concerning the Basic Variables of the Study

Table 1 indicates the statistics concerning the respondents' answers to the questions about the variables included in the research model.

Table 1. Mean and Standard Deviation of Variables

	AWA	REC	GIV	DIS
Mean	3.2908	3.4896	3.4752	2.1246
Standard Deviation	1.21245	0.95024	0.90225	0.79984

AWA: Awareness of the Environment; **REC:** Recycling Behavior;

GIV: Giving to Family or Friends Disposal Behaviour; **DIS:** Donating Charity Disposal Behaviour

According to the findings in Table 1, the mean of the Awareness of the Environment Scale is 3.29, while that of the Recycling Scale is 3.49. This result shows that the respondents had an awareness of the environment and a recycling behavior above the average. As to disposal behaviors, the mean of giving to family was high (3.48), while that of donating to a charity was low (2.12). Thus, it can be said that the respondents exhibit the disposal behavior of giving to family more.

The Results of the Reliability and Validity Analyses Made on the Scales Used in the Study

Exploratory and confirmatory factor analyses were made to check the validity and reliability of the scales used in the study. In the first stage of the exploratory factor analysis, KMO (Kaiser-Meyer-Olkin) value, which has to be over 0.6, must be checked to determine whether the data are suitable for factor analysis and whether the sample size is adequate for factor analysis. In the present study, KMO value was found to be 0.935 for the Awareness of the Environment Scale, 0.825 for the Recycling Behavior Scale, 0.815 for the Giving to Others Scale, and 0.677 for

the Donating to a Charity Scale. Then Bartlett’s test was carried out to see whether there was a relationship between the variables. The result of this test is required to be significant ($p < 0.05$) for factor analysis to be made. The significance of this value indicates that the relationship exists, and the data are suitable for factor analysis. In the present study, the level of significance of Bartlett’s test was found to be 0.000 for each scale. Both KMO and Bartlett’s test results show that the research data are suitable for factor analysis, and the sample size is adequate for this analysis. Total variance explained at the end of the exploratory factor analysis is supposed to be at least 60% for social sciences. The present study fulfilled this criterion as well. The Cronbach’s alpha coefficients, calculated for measuring the internal consistency of the items constituting the dimensions of the scale, were found to be over 0.70, which is considered to be the critical value, for all the dimensions. In this regard, the findings in Table 2 demonstrate that the scales used in the study are reliable (Hair et al., 1998: 118).

Table 2. Exploratory Factor and Reliability Analyzes Results

Variable	Items	AFA Factor Loads	DFA Factor Loads	KMO	Eigen Value	Percentage Variance
AWA		Cronbach’s Alpha:0.94		0.935	5.377	76.812
A1	The amount of energy I use does not affect the environment to any significant degree.	0.876	0.87	Barlet Test: 2517.647 df:21; Sig: 0.000		
A2	The country needs more restrictions on residential development (construction of a new mall on farmland, new subdivisions, etc.).	0.879	0.85			
A3	If I were a hunter or fisherman, I would kill or catch more if there were no limits.	0.924	0.92			
A4	I know very well what the term ‘global warming’ means.	0.890	0.85			
A5	I know very well what the term ‘organic product’ means.	0.864	0.84			
A6	I know very well what the term ‘climate change’ means.	0.861	0.83			
A7	I know very well what the term ‘greenhouse gas’ means.	0.839	0.80			
REC		Cronbach’s Alpha:0.83		0.825	2.674	66.838
R1	I am practicing recycling	0.837	0.81	Barlet Test: 611.110 df:6 Sig:0.000		
R2	I am willing to recycle e-waste to protect environment	0.816	0.79			

R3	It is my responsibility to encourage my neighbours to recycle e-waste	0.784	0.68			
R4	I am willing to implement recycling behaviour for my family	0.804	0.71			
GIV		Cronbach's Alpha:0.82		0.815	2.244	74.810
D1	I give used clothing to members of my family.	0.855	0.77	Barlet Test: 446.085 df: 3 Sig:0.000		
D2	I give used clothing to friends.	0.863	0.77			
D3	I swap clothing with friends and family members.	0.876	0.82			
DIS		Cronbach's Alpha:0.76		0.677	2.023	67.427
G1	I give clothing to charity shops.	0.797	0.65	Barlet Test: 216.831 df: 3 Sig:0.000		
G2	It makes me feel good to give clothing to charity shops.	0.860	0.83			
G3	I only give quality clothing to charity shops.	0.805	0.67			

The dimensions of the scales used in the study were determined through exploratory factor analyses. However, as the research questions were taken from sources written in foreign languages, the scale had to be confirmed for its application in Turkish. Therefore, it was considered necessary to conduct confirmatory factor analysis (CFA) as well. At the end of the analysis made via AMOS 18.0, the research questions were seen to load on the relevant factors with high factor loadings (>0.60), as shown in Table 2. T-values, which show that the scale items load on the scale dimensions coherently, were significant for all the items. T-values, which have to be ≥ 1.96 at 95% confidence level, exceeded this value in all the items (the lowest t-value: 9.829; the highest t-value: 26.214).

Another analysis made for checking the validity of the scales is the calculation of construct validity, which refers to a measuring tool's capability to measure a feature in an accurate, balanced, and adequate way. It is based on convergent validity and discriminant validity. For convergent validity, it is required to demonstrate that there is a convergence between similar constructs. The factor loadings of the items mentioned above are an important indicator of convergent validity. For a good convergent validity, the factor loadings of the scale items have to be significant and above 0.5 (Hair et al., 2010); construct reliability values have to exceed 0.7; and each construct in the measurement model has to have an AVE (average variance extracted) (Fornell and Larcker, 1981) value of above 0.5 (Hair et al., 2010). The CR values that are greater than AVE can be indicated as another evidence (Byrne, 2010). In discriminant validity, the discrimination between the constructs has to be confirmed. The square roots of AVE values and MSV values were examined for the discriminant validity of the scale (Hair et al., 2010). MSV values have to be smaller than AVE values. In addition, the square root of the AVE value of a

dimension is supposed to be greater than the correlation of such dimension with other dimensions (Hair et al., 2010).

According to Table 2, all the factor loadings are significant at $p < 0.001$ level and above 0.5. Table 3 shows that the reliability values of the constructs (C.R.) are over 0.70, and the AVE values of all the scales are over 0.5. Hence, it can be stated that convergent validity was ensured. Also, it was seen that the MSV value of each scale dimension was smaller than its AVE value, and the correlations between the constructs were smaller than the square root of the AVE values of the constructs (the values written in bold). For that reason, it is possible to say that the discriminant validity was ensured for the scale dimensions; all the constructs were discriminated from each other; and the measuring tool did not have any problem about discriminant validity.

Table 3. Convergence and Divergent Validity of Scales

	CR	AWA	MSV	MAXR(H)	DIS	AWA	REC	GIV
DIS	0.763	0,521	0,002	0,791	0,722			
AWA	0.939	0.722	0.486	0.955	-0.012	0.849		
REC	0.826	0.543	0.278	0.963	0.048	0.339	0.737	
GIV	0.832	0.623	0.486	0.969	-0.032	0.697	0.527	0.789

The Evaluation of the Structural Model

The two-stage approach proposed by Anderson and Gerbing (1988) was used for testing the research model. First the measurement model and then the structural model are evaluated in terms of goodness-of-fit. Figure 2 presents the measurement model and standardized estimates. To raise the goodness-of-fit of the measurement model, the covariance relationship between the errors e1-e2, e1-e5, e4-e5, e4-e7, suggested by AMOS in the AWE scale, was added to the model. At the end of the adaptation, the chi-square value of the measurement model fell by 46.301, thereby leading to a significant ($p < 0.001$) improvement in goodness-of-fit. The measurement model is significant ($p < 0.001$). As to the goodness-of-fit indices of the model, χ^2/df value was found to be 1.433. Considering Table 4, this value indicates that data fit is good. Moreover, the calculated values of AGFI (0.94), GFI (0.96), CFI (0.98), NFI (0.96), NNFI (0.98), and RMSEA (0.033) point to perfect fit of the factor construct. These results demonstrate that the factor construct was confirmed, and the measurement model was fit for the data.

Table 4. Modification Index

Goodnessof-fit index	Acceptable Fit Values	Excellent Fit Values
Chi-square (χ^2)		
Degree of freedom (df)		
χ^2/df	1-5	$0 \leq \chi^2/df \leq 2$
GFI	$0.90 \leq GFI \leq 0.95$	$0.95 \leq GFI \leq 1.00$
AGFI	$0.85 \leq AGFI \leq 0.90$	$0.90 \leq AGFI \leq 1.00$
RMSEA	$0.05 \leq RMSEA \leq 0.08$	$0 \leq RMSEA \leq 0.05$
CFI	$0.95 \leq CFI \leq 0.97$	$0.97 \leq CFI \leq 1.00$
NNFI=TLI	$0.95 \leq NNFI \leq 0.97$	$0.97 \leq NNFI \leq 1.00$
NFI	$0.90 \leq NFI \leq 0.95$	$0.95 \leq NFI \leq 1.00$

The measurement model is as shown in Figure 2.

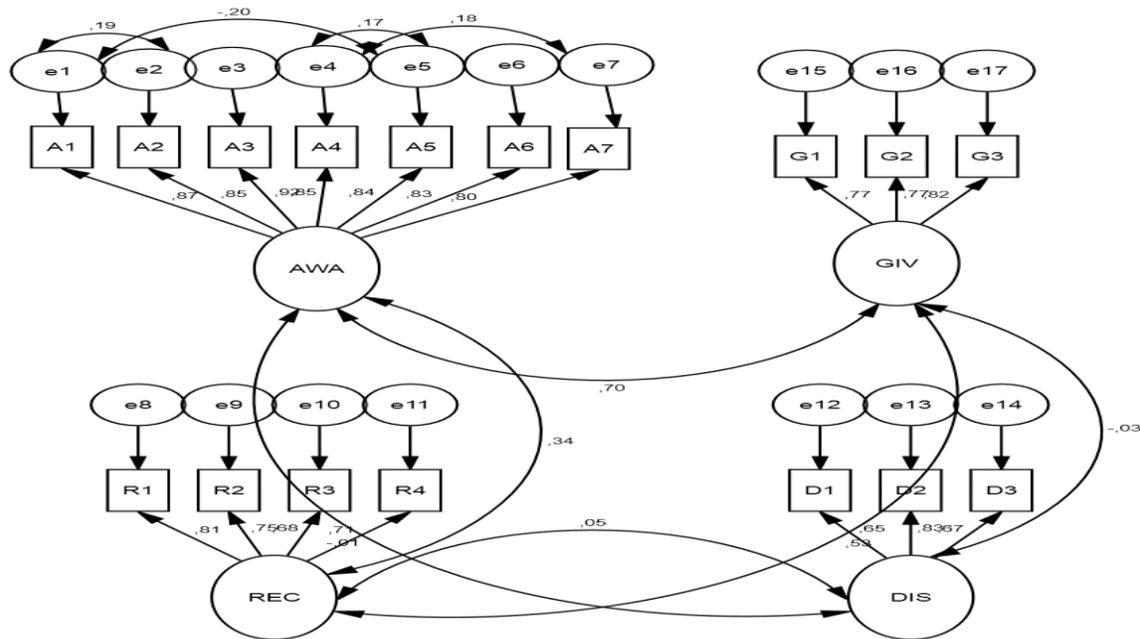


Figure 2. Measurement Model

The hypotheses formulated in line with the research model were tested through structural equation modeling, which allows testing the proposed relational models by collective use of factor analysis and regression analysis (Tabachnick and Fidell, 1996). In structural equation modeling, the statistical goodness of the model is determined through evaluation of goodness-of-fit criteria. Figure 3 presents the structural model and standardized estimates. The structural model is seen to fit the data (Chi-Square/df: 1.427; RMSEA: 0.033; GFI: 0.96; AGFI: 0.94; NFI: 0.96; NNFI: 0.98; CFI: 0.98). Chi-square statistic, which is one of the goodness-of-fit tests showing the conformity between the data in the structural equation model and the model, was found to be significant ($p=0.000$). The standard chi-square value, obtained through division of the chi-square value by the degree of freedom, was found to be 1.427. This value is supposed to be close to zero or at least below five. This value obtained for the chi-square statistic points to a good fit. However, as the chi-square statistic is a statistic sensitive to sample size, other goodness-of-fit criteria also have to be examined to determine the conformity between the model and the data. For that reason, GFI, AGFI, NFI, IFI, and CFI values were also examined. The closeness of these values to 1.0 indicates the conformity between the model and the data. Another criterion used for evaluating the conformity between the model and the data is RMSEA. In the present study, RMSEA value was found to be 0.033. The Hoelter .05 index and the Hoelter .01 index indicate the minimum sample sizes required to test the research hypotheses at the significance levels of 0.05 and 0.01 respectively. As shown in Table 2, the minimum sample size required to test the research hypotheses at the significance level of 0.05 was 339, while the minimum sample size required to test the research hypotheses at the

significance level of 0.01 was 369. The sample size of the present study, which was 393, was much above the minimum sample sizes required by the Hoelter .05 and Hoelter .01 indices.

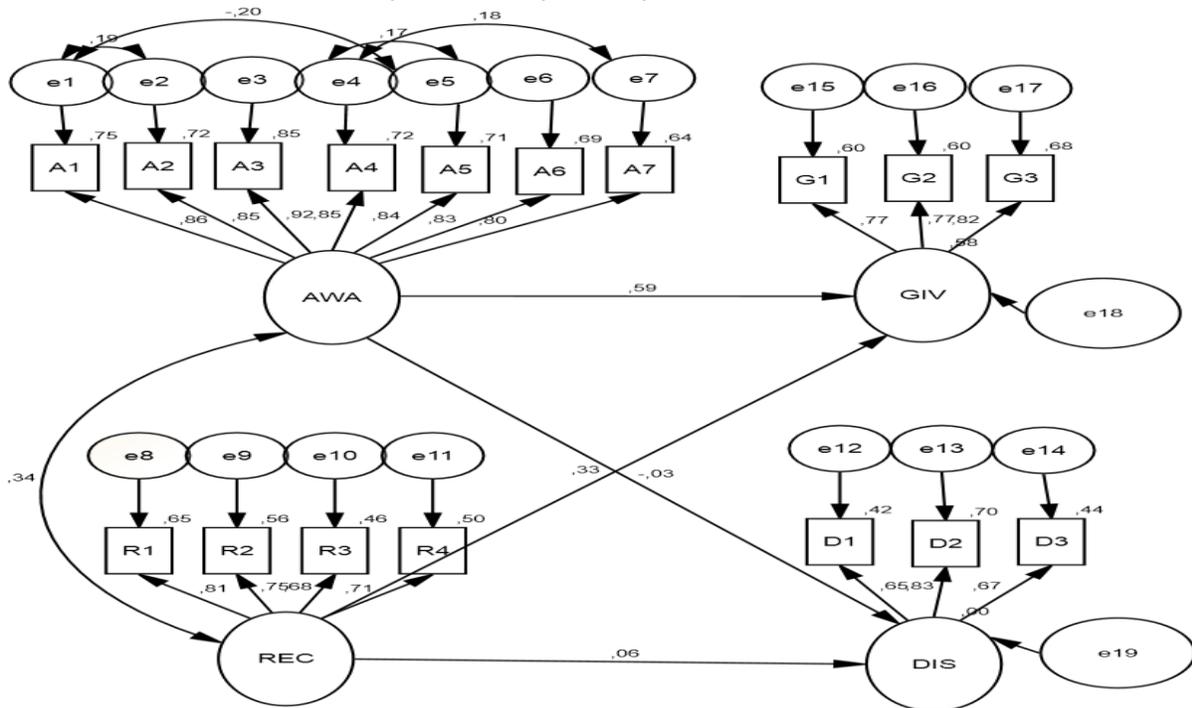


Figure 3. Structural Model

Table 5 shows the results of the structural equation modeling applied for testing the validity of model aimed at explaining the factors affecting consumers’ used clothing disposal behaviors.

Table 5. Regression Coefficients

			Standard Value	Standard Error	t Value	Sig.	R ²
DIS	<--	AWE	-0.032	.032	-0.509	0.611	0.003
DIS	<--	REC	0.055	.047	0.825	0.410	0.003
GIV	<--	REC	0.328	.048	6.325	0.000	0.581
GIV	<--	AWE	0.586	.037	10.882	0.000	0.581

Table 5 presents the results of the t-test carried out for regression coefficients and the levels of significance. The variables of awareness of the environment and recycling behavior explain 58% of the disposal behavior of giving used clothing to family. As it can be understood from the table above, the hypotheses “H₁: Awareness of the environment affects the disposal behavior of giving to family or friends” and “H₃: Recycling behavior affects the disposal behavior of giving to family or friends” were accepted. However, the hypotheses “H₂: Awareness of the environment affects the disposal behavior of donating to a charity” and “H₄: Recycling behavior affects the disposal behavior of donating to a charity” were rejected. T-test was conducted to see whether

the consumers' used clothing disposal behaviors varied by gender. The t-test results are given in Table 6.

Table 6. Consumers' Clothing Disposal Behaviors

Variables	t	df	p*	Men		Women	
				Mean	Std. Deviation	Mean	Std. Deviation
Giving to Family or Friends	-2.173	391	0.030	3.3557	0.95588	3.5563	0.85653
Donating Charity Disposal Behaviour	0.427	391	0.670	2.1455	0.82645	2.0705	0.70624

* p<0.000

In Table 6, the respondents' means of the used clothing disposal behavior were compared by gender. According to the t-test results, while there is a difference between the women and the men in terms of giving used clothing to family, there is no significant difference between them in terms of donating used clothing to a charity. Thus, the hypothesis "*H₅: The behavior of giving used clothing to friends or family varies by gender*" was accepted. However, the hypothesis "*H₆: The behavior of donating used clothing to a charity varies by gender*" was rejected. Furthermore, the means show that women exhibit the behavior of giving used clothing to family or friends more than men do (3.5563 > 3.3557).

DISCUSSION OF FINDINGS

As in many fields, consumers exhibit sustainable consumption in the field of clothing as well. They bring their worn clothing into re-use in various ways. Main ways of preparing clothing for re-use are selling, donating, or giving it away. Although selling worn clothing is not very common in Turkey, especially in its eastern part, donating or giving it away are quite common. The present study aimed to determine how consumers' recycling behaviors and awareness of the environment affect their used clothing disposal behaviors (giving to family or friends or donating).

It was found out that the consumers in Muş province give away their used clothing to others for recycling, but do not donate it to charity. Also, it was determined that although their awareness of the environment affects their behavior of giving away their used clothing to others, it does not affect their behavior of donating it to charity. According to these results, the hypotheses H1 and H3 were accepted, while the hypotheses H2 and H4 were rejected. The fact that recycling behavior and awareness of the environment do not affect the disposal behavior of donating to a charity may be resulting from that there is no store or organization in Muş province to which they can donate their used clothing. The finding that recycling behavior and awareness of the environment affect giving used clothing to others is consistent with the literature (Morgan and Birtwistle, 2009; Bianchi and Birtwistle, 2010). The higher effect of awareness of the environment on disposal behavior compared to recycling behavior is also consistent with the literature. According to the literature, while consumers' awareness of environmental issues is rising, their recycling behaviors are still low. In addition, the effect on clothing disposal behavior was not found significant in terms of the disposal behavior of donating. This result is in line with

the literature. According to the literature, consumers generally avoid donating their used clothing to charities (Haws et al., 2012).

Another result obtained in the study is that women exhibit the disposal behavior of giving used clothing to others more than men do (Latif et al., 2013: 38). Accordingly, while the hypothesis H5 was accepted, the hypothesis H6 was rejected. It is also consistent with the literature that no significant difference was found between the means in terms of the effect of awareness of the environment on the disposal behavior of giving to others (Bianchi and Birtwistle, 2012).

RECOMMENDATIONS AND LIMITATIONS

This study has an important contribution to the literature on consumer disposal of clothing. First, this study addressed gaps in the consumer behavior literature by providing insights into how consumers dispose of their used clothing. Second, the findings clearly showed differences in the clothing disposal behavior of female and male consumers.

The fact that consumers do not donate their used clothing to charities may be attributed to that there is no organization or store in Muş to which they can donate it. In this regard, to support sustainable consumption, businesses may launch second-hand stores in eastern provinces of Turkey. Moreover, the consumers in the eastern part of Turkey should be informed of the existence of online stores whereby they can donate their used clothing (e.g. eBay). Although consumers' awareness and knowledge about the environment are high, recycling is still rather low. It should be highlighted from a marketing viewpoint that recycling is an issue of distribution channel. To make used clothing disposal behavior common, businesses may give more advertisements, offer more incentives, and launch services for collecting clothing from the house. The finding of the study that the effect of recycling behavior on the disposal behavior of donating to a charity is insignificant and its effect on the disposal behavior of giving to others is low implies that businesses should make efforts to increase the recycling behavior of consumers, especially in the eastern part of Turkey.

Among the consumers in Muş province, awareness of the environment affects the disposal behavior of donating used clothing than recycling behavior does. It is seen that the consumers are aware of the environment and thus give their clothing to others. This result is just the contrary of the situation in some different countries (e.g. Scotland, Australia). The existence of different results suggests that researchers should increase the number of studies dealing with the disposal behavior of donating used clothing, especially in the east. Similar research may be conducted in different regions as results may even differ from region to region. Comparative studies involving different provinces or having samples from the east and the west may be carried out. Disposal behaviors such as selling to a store, reuse, and discard may also be evaluated. Fashion innovators try to dispose clothing by giving it to recycling, second-hand stores, or family and friends. These consumers do not donate to a charity. They are the group of consumers that exhibit the least social responsibility when clothing is in question (Ha-Brookshire and Hodges, 2009). Considering this situation, a study may be carried out on fashion innovators. Whether clothing disposal behavior affects disposing for economic or commercial purposes (giving to second-hand stores, eBay) may be investigated in the places where there are second-hand stores, or through research on consumers using these stores. Qualitative

studies may be conducted to determine to what extent disposal behavior is known and exhibited in Turkey and what other variables affect disposal behavior in addition to awareness of the environment and recycling. The lowness of the effect of recycling behavior on disposal behavior may be resulting from that the product group under examination in the present study is clothing, but consumers mostly think that they should benefit from the recycling of products such as paper, glass, and aluminum. In this respect, research may be conducted based on different product groups.

The most important limitation of this study is that it was only conducted on consumers living in Muş province. Hence, the results cannot be generalized to other provinces of Turkey. Another limitation is that it only focused on the product group of used clothing. Therefore, the results cannot be generalized to different product groups.

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