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An Investigation of Determination of Environmental Awareness Level: A Case Study in the City of Izmir

Çevre Duyarlılığı Düzeyinin Belirlenmesi Üzerine Bir Araştırma:
İzmir İli Örneği

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ABSTRACT

The population that is increasing each day threatens biological life and biological cycle by an increase in negative effects on the environment. This study targets the determination of environmental awareness in the city of İzmir, which is the third largest city in Turkey in terms of its population, where various environmental problems are observed. Opinions and attitudes of individuals about environmental problems have been investigated through the survey prepared. 400 questionnaires, which were prepared using the “Easy Sampling Technique”, were distributed where 354 were answered. The survey was done in the November of 2015 by the interview technique. As a results the environmental awareness of the people of İzmir has been determined as 58.49 points. It has been found out that women are more environmentally aware than men.

ÖZET

Her geçen gün hızla artan nüfus, çevrede olumsuz etkilerini de artırarak; biyolojik yaşamı ve döngüsünü tehdit etmektedir. Yapılan bu çalışmada; Türkiye'nin nüfus bağlamında önemli ve aynı zamanda üçüncü büyük kenti olan, farklı çevre sorunlarının gözlemlendiği İzmir kentinde, halkın, çevre duyarlılığının belirlenmesi hedeflenmiştir. Bu amaç doğrultusunda, anket formları hazırlanarak bu anket çalışmalarıyla bireylerin çevre sorunları hakkında görüşleri ve tutumları araştırılmıştır. İzmir halkının ülkesel ve yerel boyutta çevre sorunlarına karşı duyarlılıklarını saptamak amacıyla ‘Kolayda Örneklem Tekniği’ ile 400 anket dağıtılmış, bunların 354 tanesinin geri dönüşü olmuştur. Anket, 2015 yılı Kasım ayı tarihleri arasında karşılıklı görüşme yöntemiyle uygulanmıştır. Araştırma sonucunda İzmir halkının çevre duyarlılığı puanı 58,49 olarak hesaplanmıştır. Kadınların erkeklere oranla çevre duyarlılıkları daha yüksek bulunmuştur.

INTRODUCTION

“Environment” is defined as a place where alive beings and matter can coexists and interact. Humans have the most prominent role in this interaction. Humans who have the ability and desire to use alive beings and matter for their own goals, lived for centuries without taking into account the position alive beings and matter or even themselves (Yücel *et. al.*, 2008; Yeşilyurt *et. al.* 2013; Gülgün *et al.*, 2016). In the 19th century, with the increased industrialization the use of natural resources has increased. In particular a development process with the idea of gaining much profit in less time and in parallel to that unlimited and

senseless consumption mentality has caused unreturnable natural corruption. The increase in population brought forward by the wealth provided by industrial revolution and wars caused by the fight for the natural resources required in the industry resulting in increased pollution caused environmentalist movements in the second half of the 20th century. The ability of nature to renew itself is limited though. Therefore it is of extreme importance for human to preserve the existing natural balance in order to survive (Kahyaoğlu *et. al.*, 2008; GülgünA *et al.*, 2014). This situation requires handling of the solution and various strategies to be developed.

It is required to improve the environmental awareness which can be defined as “not destroying environment and the comprehension of its sustainable use” in individual and sociological aspects (Yeşilyurt *et. al.*, 2013; Erdem *et al.*, 1996). In respond to these awareness emerging in the individual, the reactions they have to prevent or reduce environmental problems, that is, the collective attitudes, must be kept on the agenda. It is possible to define environmental awareness as the problems that have been proven or unproven to have effects on the environment and nature in the frame of the consciousness and the behaviors that have been manifested over time and the public perception of the problems. The concepts of environmental consciousness and sensitivity may differ according to the socio-economic structures of individuals (Yücel *et. al.*, 2008; Yeşilyurt *et. al.* 2013). As a quantitative concept there is a variation in environmental awareness with respect to individual traits (Yücel *et. al.*, 2003; GülgünB *et al.*, 2014). Determination of environmental awareness of individuals and various socio-economical-cultural groups that consist of individuals and as a results of this determination the taking of precautions to improve environmental awareness will have direct and indirect effects. Purpose of this study is to determine the environmental awareness levels of individuals residing in İzmir with respect to problems encountered in the country, region and local scale and to put forward suggestions in order to improve the awareness.

MATERIAL and METDOS

The data used in the study has been obtained through a survey study. In order to determine the awareness levels of the people of İzmir for the problems of the country and the local region 400 questionnaires were distributed using the “Easy Sampling Technique” and 354 of them got responses. The questionnaire that was used to measure the opinions of the people of İzmir consisted of 2 parts. The 1st section is that of “opinions and attitudes,” and the 2nd section is that of “determination of socio-economic status.” In the opinions and attitudes section, in order to measure environmental awareness levels of individuals 16 questions were prepared for their opinions, and 19 for their attitudes. Attitude questions were intended to determine the awareness of individuals for environmental problems, the positioning of these problems among others and their importance in the scales of İzmir and Turkey.

Moreover, pollution sources, contributions to improve the preservation of environment, precautions to prevent pollution have been investigated as regards their role in individuals’ mind. In order to measure the opinions of participants for the environmental awareness 16 expressions that have 5-point Likert scale. The answers given to the propositions range from “(1) I disagree completely” to “(5) I agree completely.” The 2nd part consisted of 6 demographic questions to determine the relation between environmental awareness and the socio-economic status of participants. (The propositions used in the survey were taken from the Paysage Architecture Department of Selçuk University). These questionnaires have been evaluated through IBM SPSS Statistics 21 method.

H_{1A}: There is a relation between gender and environmental factors

H_{1B}: There is a relation between the participants and environmental factors

H_{1C}: There is a relation between the education level of participants and environmental factors.

H_{1D}: There is a relation between the monthly income of participants and environmental factors.

Factor Analysis

The main purpose of the factor analysis is to collect many variables in less number of factors that are defined conceptually. Factor analysis gives the variables in the factors (survey questions). In between the high correlation factors, it yields results such that there are no relations between the factors. Factor analysis consists of a data reduction method.

In descriptive factor analysis, due to lack of intuition of the research for the relation between the variables investigated, researcher tries to unveil the possible relation between the variables (Altunışık *et. al.*, 2005, Yıldırım,2005; Yılmaz, 2004)

RESEARCH FINDINGS

Findings Related to the Demographics of the Participants

Percentage-frequency distribution of student participants of the survey is present in Table 1 according to their personal information. Accordingly, men constitute the 51.7% and women 47.3% of the urban population participated in the survey. Of the participants, 42.1% fall in the age range 20—30, 21.2% in 31—40, 20.6% in 41—50, 16.1% in 51+ (Table 2; Table 3).

Table 1. Demographics of the participants

Variables	Number	%	Variables	Number	%
Gender			Working condition		
Men	183	51,7	Jobless	32	9,0
Women	171	48,3	Retired	53	15,0
Total	354	100,0	Student	64	18,1
Age			Artisan- worker	121	34,2
20-30	149	42,1	Farmer	25	7,1
31-40	75	21,2	Officer	59	16,7
41-50	73	20,6	Total	354	100,0
51+	57	16,1	Monthly income (TL)		
Total	354	100,0	0-500	14	4,0
Marital status			500-1000	68	19,2
Married	191	54,0	1000-2000	152	42,9
Single	163	46,0	2000-3000	50	14,1
Divorced		100,0	3000-4000	39	11,0
Total	354	100,0	4000+	31	8,8
Educational status			Total	354	100,0
Primary school	35	9,9			
Secondary education	137	38,7			
Associate Degree	24	6,8			
University	136	38,4			
Master	21	5,9			
Total	354	100,0			

Table 2. The most important pollution sources of Turkey and Izmir

Criteria	The Most Important Problem in Turkey		The Most Important Problem in İzmir	
	Person	%	Person	%
Unemployment	230	65	198	55,9
Environment	7	2,0	56	15,8
Health	8	2,3	13	3,7
Terror	48	13,6	6	1,7
Traffic	11	3,1	49	13,8
Educational	43	12,1	23	6,5
Inflation	7	2,0	9	2,5
Total	354	100	354	100

Table 3. The most important pollution sources of Turkey

Air pollution			Soil pollution			Noise pollution			Water pollution			Radioactive pollution		
Source	Person	%	Source	Person	%	Source	Person	%	Source	Person	%	Source	Person	%
Settlement	146	41,6	Settlement	139	39,3	Settlement	94	26,6	Settlement	92	26,0	Nuclear centr.	209	59,0
Industry	126	35,6	Transportation	32	9,0	Transportation	150	42,4	Industry	161	45,5	Nükleer	48	13,6
Transportation	66	18,6	Industry	99	28,0	Industry	30	8,5	Sea transport	20	5,6	Hospital	57	16,1
Farming	3	0,8	Farming	83	23,4	Construction waste	50	14,1	Farming	21	5,9	Natural reason	39	11,0
Natural reason	13	3,7				Commercial	30	8,5	Solid Waste Storage.	60	16,9			
Total	354	100	Total	354	100	Total	354	100	Total	354	100	Total	354	100

The Results of Descriptive Factor Analysis

In social sciences, in general, KMO value greater than 0.60 means that the sampling size is big enough. It has been found that the data are suitable for the factor analysis study in the light of the calculated statistics (Table 4). As a results of the descriptive factor analysis, 6 factors were obtained. Factors are named most appropriately, taking into account the size and meaning

of the factor loads of the expressions they contain. The result of descriptive factor analysis and the expressions the factors include;

Factor 1: Ecological degradation; Question 7: Climate change and global warming will increase, Question: 8: Poverty and hunger will increase, Question 10: Quality drinking water will be reduced and it will be very expensive.

Factor 2: Natural resources and environment; Question 1: Natural resources are common property of all mankind. For this reason, businesses using and polluting resources can use 'polluter pays' thought, provided that they meet the loss. Question 2: Natural resources are common property of all mankind. For this reason, its use should be shared. They cannot be sold and rented. Question 3: As long as people do not interfere, the environment and nature can continue without losing their functioning. Question 6: There must be intergenerational equality in the direction of sustainable development goals. An intact environment should be left to future generations.

Factor 3: Socio-economic questions; Question 4: If economic benefits are to be gained from natural sources, first it should be used and its protection should be of secondary importance Question 5: Governments may have more important socio-economic problems than environmental problems. Therefore, socio-economic problems should be prioritized.

Factor 4: Socio-scientific; Question 12: nuclear energy will be abandoned, Question 13: People will be cloned.

Factor 5: Environmental pollution; Question 9: Petroleum products will be reduced and other types of fuel will be used for vehicles, Question 11: Disputes will arise on the aspect of war for resources and water reserves, Question 14: Ecological agriculture will gain importance.

Factor 6: Global warming; Question 15: As a result of the melting of glaciers, coastal settlements will remain under water, Question 16: Desertification will accelerate.

T-test analysis for the effect of gender on environmental awareness

As it is seen in Table 5 the number of men and women participated almost equally. As for environmental awareness, the mean for women is higher than men with lower standard deviation.

In Table 6, in the t-test used to evaluate the effect of gender on the environmental awareness sub-factors; Ecological degradation ($0,026 < 0,05$); Socio-economic questions ($0,000 < 0,05$), Global warming ($0,028 < 0,05$) are statistically meaningful.

Table 4. Results of descriptive factor analysis

Factors	Ecological degradation	Natural resources and environment	Socio economic questions	Socioscientific	Environmental pollution	Global warming
L10	,784					
L8	,773					
L7	,748					
L1		,461				
L2		,683				
L3		,601				
L6		,814				
L4			,708			
L5			,802			
L12				,676		
L13				,673		
L9					,521	
L11					,573	
L14					,717	
L15						,860
L16						,507
Main value	2,754	1,651	1,533	1,24	1,163	1,016
Variance	15,18	10,17	9,068	8,532	8,231	7,309
Expl. rate						
Total Explained Variance rate=			58,49			
KMO=	0,684					
Bartlett Test Value	=717,208					

Footnote: The reliability of the data obtained by the questionnaires was tested before the factor analysis. Bartlett Test and Kaiser-Mayer-Olkin (KMO) Measure were used to assess the suitability of data to factor analysis. Bartlett Test is a globality test that shows whether the data are related to each other. Value of the Bartlett Test was calculated to be equal to 717.208, with $p = 0.000$. On the other hand, the Kaiser – Mayer – Olkin (KMO) Test assesses the suitability of data size for factor analysis. KMO value was calculated to be 0.684; $p = 0.000$.

Table 5. Definitive statistics about the effect of gender of environmental awareness

		N	Average	Standard deviation	Average Standard Error
Ecological degradation	men	183	4,1056	,78509	,05804
	women	171	4,2768	,63969	,04892
Natural resources and environment	men	183	2,0328	,78921	,05834
	women	171	2,0585	,65914	,05041
Socio-economic questions	men	183	3,1120	1,05600	,07806
	women	171	3,4795	,88177	,06743
Socio-scientific	men	183	2,5874	1,05898	,07828
	women	171	2,4825	,83647	,06397
Environmental pollution	men	183	3,9818	,75247	,05562
	women	171	3,9942	1,49835	,11458
Global warming	men	183	3,9317	1,03482	,07650
	women	171	4,3187	2,11143	,16146

Table 6. The results of t-test analysis on the effect of gender on environmental awareness sub-factors.

	t	s.d	Importance	Average Differences	Stand.error Differences
Ecological degradation	-2,240	352	,026	-,17116	,07643
Natural resources and environment	-,331	352	,741	-,02569	,07757
Socio-economic questions	-3,541	352	,000	-,36751	,10378
Socio-scientific	1,030	352	,304	,10498	,10189
Environmental pollution.	-,099	352	,921	-,01237	,12481
Global warming	-2,212	352	,028	-,38702	,17499

Findings towards a relation between age of the participants and the environmental awareness.

While there is no meaningful relation with $p=0.05$ between the environmental sub-factors "Ecological degradation" ($p=0.794>0.05$), "Socio-scientific" ($p=0.907>0.05$), "Environmental pollution" ($p=0.438>0.05$), "Global warming" ($p=0.887>0.05$), and the age of the participants as a results of the data in Table 7, there is a meaningful relation between the sub-factors " Natural resources and environment" ($p=0.019 < 0.05$) and " Socio-economic questions " ($p=0.00 < 0,05$) with $p=0.05$. TUKEY Test was carried out for binary

relations between the meaningful factors determined by the variance analysis in Table 8. In the "Natural resources and environment" sub-dimension there is a ($p=0.010<0.05$) meaningful relation between the age ranges 51+ and 31-40. Since the difference between the age averages in the ranges 31-40 and 51+ is 0.39579, the average of the age range 31-40 turned out to be higher than the average of the age range 51+. In the " Socio-economic questions" sub-dimension in between the 51+ and 20-30 age ranges there is a ($p=0.000<0.05$) meaningful relation, and for 51+ and 31-40 age ranges the relation is meaningful with $p=0.004<0.05$.

Table 7. The results of the variance test on the effect of the age of participants on the environmental sub-factors.

		Sum of squares	S.d.	Average squares	F	Importance
Ecological degradation	Between groups	,541	3	,180	,343	,794
	In groups	183,793	350	,525		
	Total	184,334	353			
Natural resources and environment	Between groups	5,244	3	1,748	3,361	,019
	In groups	182,033	350	,520		
	Total	187,277	353			
Socio-economic questions	Between groups	22,987	3	7,662	8,275	,000
	In groups	324,084	350	,926		
	Total	347,071	353			
Socio-scientific	Between groups	,511	3	,170	,184	,907
	In groups	323,511	350	,924		
	Total	324,023	353			
Environmental pollution.	Between groups	3,741	3	1,247	,907	,438
	In groups	480,984	350	1,374		
	Total	484,725	353			
Global warming	Between groups	1,763	3	,588	,213	,887
	In groups	964,254	350	2,755		
	Total	966,017	353			

Table 8. The results of the (Post Hoc Tests-Tukey) test. The results of the comparison between age of the participants and the environmental sub-factors.

The dependent variable	(I) D21	(J) D22	Average differences (I-J)	Stand. Error	Importance
Natural resources and environment	31-40	51+	0,39579	0,12672	0,010
Socio-economic questions	20-30	51+	0,74432	0,14986	0,000
	31-40	54+	0,58105	0,16909	0,004

Findings related to relation between the education level of participants and environmental awareness

As regards the results in Table 9 there is no meaningful relation between the environmental subfactors "Ecological degradation" ($p=0,574>0,05$), "Natural resources and environment" ($p=0,882>0,05$), "Socio-scientific" ($p=0,669>0,05$), "Environmental pollution" ($p=0,717>0,05$), "Global warming" ($p=0,634>0,05$), and the education level of the

participants with 0,05 meaningfulness level, there is a meaningful relation between the "Socio-economic questions" ($p=0,00 < 0,05$) sub-dimensions and the education level of participants with 0,05 meaningfulness level. The binary comparisons (TUKEY test) between the factors found meaningful according to the results of the variance analysis in Table 6 was carried out. However, in TUKEY test a statistically meaningful difference could not be found under the socio-economical category.

Table 9. The results of variance analysis of the effect of education level of participants on the environmental sub-factors.

		Sumof Squares	S.d.	Average squares	F	Importance
Ecological degradation	Between groups	2,010	5	,402	,767	,574
	In groups	182,324	348	,524		
	Total	184,334	353			
Natural resources and environment	Between groups	,939	5	,188	,351	,882
	In groups	186,338	348	,535		
	Total	187,277	353			
Socio-economic questions	Between groups	53,448	5	10,690	12,669	,000
	In groups	293,624	348	,844		
	Total	347,071	353			
Socio-scientific	Between groups	2,952	5	,590	,640	,669
	In groups	321,071	348	,923		
	Total	324,023	353			
Environmental pollution.	Between groups	3,992	5	,798	,578	,717
	In groups	480,733	348	1,381		
	Total	484,725	353			
Global warming	Gruplar Arası	9,431	5	1,886	,686	,634
	Gruplar İçi	956,586	348	2,749		
	Toplam	966,017	353			

Findings related to the relation between the income of participants and environmental awareness

According to the results in Table 10 there is no meaningful relation with meaningfulness level of 0.05 between the environmental sub-factors "Ecological degradation" ($p=0,565>0,05$), "Natural resources and environment" ($p=0,529>0,05$), "Socio-scientific" ($p=0,334>0,05$), "Environmental pollution" ($p=0,633>0,05$), "Global warming" ($p=0,924>0,05$), and the income of participants, there is a meaningful relation between the income of participants and the "Socio-economic questions" ($p=0,047 < 0,05$) sub-dimensions with the meaningfulness level of 0.05.

In the "Socio-economic questions" sub-dimension there is a meaningful relation between the monthly income (500tl-1000tl) and the monthly income (2000tl-3000tl) with ($p=0,021 < 0,05$). Since the difference

between (2000tl-3000tl) and (500tl-1000tl) is 0.57912, the average of (2000tl-3000tl) has been higher than that of (500tl-1000tl) (Table 11).

Findings related to job status of participants and the environmental awareness

As regards the results in Table 12 there is no meaningful relation between the environmental sub-factors "Ecological degradation" ($p=0,998 > 0,05$), "Socio-scientific" ($p=0,878 > 0,05$), "Environmental pollution" ($p=0,130 > 0,05$), "Global warming" ($p=0,742 > 0,05$), and the job status of the participants with the meaningfulness level 0.05, there is a meaningful relation between the "Socio-economic questions" ($p=0,000 < 0,05$) ve "Natural resources and environment" ($p=0,018 > 0,05$) sub-dimensions and the job status of the participants with meaningfulness level of 0.05.

Table 10. Results of variance tests of the effect of the income of participants on environmental sub-factors.

		Sum of squares	S.d.	Average squares	F	Importance
Ecological degradation	Gruplar Arası	2,041	5	,408	,779	,565
	Gruplar İçi	182,293	348	,524		
	Toplam	184,334	353			
Natural resources and environment	Gruplar Arası	2,206	5	,441	,829	,529
	Gruplar İçi	185,071	348	,532		
	Toplam	187,277	353			
Socio-economic questions	Gruplar Arası	10,979	5	2,196	2,274	,047
	Gruplar İçi	336,092	348	,966		
	Toplam	347,071	353			
Socio-scientific	Gruplar Arası	5,264	5	1,053	1,149	,334
	Gruplar İçi	318,759	348	,916		
	Toplam	324,023	353			
Environmental pollution.	Gruplar Arası	4,747	5	,949	,688	,633
	Gruplar İçi	479,978	348	1,379		
	Toplam	484,725	353			
Global warming	Gruplar Arası	3,868	5	,774	,280	,924
	Gruplar İçi	962,149	348	2,765		
	Toplam	966,017	353			

Table 11. The results of binary comparison (Post Hoc Tests-Tukey) between the income of participants and environmental sub-factors.

The dependent variable	(I) D25	(J) D25	Average different(I-J)	Stand.error	Importance
Socio-economic questions.	2000tl-3000tl	500tl-1000tl	0,57912	0,18308	0,021

Table 12. The result of the variance analysis test between the job status of the participants and the environmental sub-factors.

		Sum of squares	S.d.	Average squares	F	Importance
Ecological degradation	Between groups	,145	5	,029	,055	,998
	In groups	184,189	348	,529		
	Total	184,334	353			
Natural resources and environment	Between groups	7,149	5	1,430	2,762	,018
	In groups	180,128	348	,518		
	Total	187,277	353			
Socio-economic questions	Between groups	68,586	5	13,717	17,141	,000
	In groups	278,485	348	,800		
	Total	347,071	353			
Socio-scientific	Between groups	1,651	5	,330	,357	,878
	In groups	322,371	348	,926		
	Total	324,023	353			
Environmental pollution.	Between groups	11,660	5	2,332	1,716	,130
	In groups	473,064	348	1,359		
	Total	484,725	353			
Global warming	Between groups	7,516	5	1,503	,546	,742
	In groups	958,501	348	2,754		
	Total	966,017	353			

In the "Natural resources and environment" sub-dimension there is a meaningful relation ($p=0.017 < 0.05$) between the job status (artisan-private-worker) and the farmer. Since the difference between the (artisan-private-worker) and the farmer 0.50964 the

monthly income of (artisan-private-worker) turned out to be higher than that of the average of farmer. In the "Socio-economic questions." sub-dimension, there is a meaningful relation ($p=0.000 < 0.05$) between the student, jobless and the farmer (Table 13).

Table 13. The results of the (Post Hoc Tests-Tukey) test. The binary comparison of the effect of job status of the participants with the environmental sub-factors.)

The dependent variable	(I) D23	(J) D23	Average Different(I-J)	Stand.error	Importance
Natural resources and environment	Artisan-private-worker	Farmer	0,50964	0,15806	0,017
Socio-economic questions	Student	Jobless	0,92188	0,19368	0,000
		Farmer	1,68063	0,21098	0,000
	Artisan-private-worker	Jobless	0,68208	0,17782	0,002
		Farmer	1,44083	0,19653	0,000
	Officer	Jobless	0,84905	0,19640	0,000
		Farmer	1,60780	0,21348	0,000
Retired		Farmer	1,31358	0,21705	0,000

RESULTS

According to this research, the sensitivity to the environment is related to the educational status of the individuals. As a result, an educational system should be developed that responds positively to environmental incentives and activate students in environmental issues so that environmentally sensitive individuals can be trained. Attention should be given to raising individuals who are mutually respectful, and have humane values. It is thus possible to find out all the items of the environment exactly and correctly and to protect the environment (Glover and Deckert, 1998). Environmental awareness can be defined as a willingness to take positive initiatives against environmental problems (Çalışkan, 2002). In this case, the development of environmental awareness in the individual may be possible by increasing the level of consciousness. Increasing the level of consciousness can also be related to the environmental education that will be provided by appropriate level of education (Türksoy, 1991; Çelikkıran 1997; Kapyla ve Wahlstrom, 2000; Gökdağ, 1994). The relation between environmental problems and environmental awareness can be seen.

One of the results of this study is that women, as in previous studies, are environmentally more aware than men. Participants regarded the most important three problems in Turkey as 65% unemployment, 13.6% terrorism, 12.1% education. They regarded the most important three problems in İzmir as 55.9% unemployment, 15.8% environment, 13.8% traffic. It is seen that the most important differences lie in the fields of environment, traffic, terrorism and education.

According to the research findings there is a meaningful relation between the monthly income and environmental sub-factors. The average of monthly income (2000tl-3000tl) has turned out to be higher than (500tl-1000tl). In the study carried out by Yücel *et. al.*, (2008); when the monthly income is investigated, the ones who have monthly average income lower than 500 YTL had lower environmental scores than any other group. According to the findings, the number of members to civil societies are too low. By making better advisements for civil societies that care about

environment and nature, it may be possible to increase the number of their members and hence to contribute to increase in environmental awareness.

According to the results of the research, it has been found out that the educated people are more environmentally aware than unemployed and uneducated. In the study carried out by Yücel *et. al.*, (2008) university graduates have higher means in all environmental categories than the other groups, and this proves one more time that there is a relation between the education level of a person and environmental awareness. Therefore, Bodur (2010) indicated that 74.7% of students express that mass communication systems are important in the development of environmental awareness. Maskan *et. al.* (2006) put forward that most of the teacher candidates gather information about environment through written and visual media. Yılmaz *et. al.* (2002) expressed that university students in Turkey obtain information about environment through written and visual media. In addition to revealing recreational habits and behaviours of the residents, differences in recreational habits among the residential areas depending upon demographic structure were also found out in İzmir (Gülgün *et. al.*, 2015).

These findings together show that the written and visual media play an active role in creating environmental awareness. According to Aydın (2011) it is required as a result to use the written and visual media actively. Moreover, in creation of sustainable societies, it is required to strengthen the role of higher education institutions by considering that individuals in the society should be knowledgeable, have abilities and opinions (Çabuk *et. al.*, 2011). It is seen that in the research done, the individuals segregate about 32% of the batteries. 26% do not separate the trash. To inform the public about the most appropriate use of environmentally harmful products, the disposal forms and alternatives to these products (such as reusable glasses, rechargeable batteries or solar energy technology instead of metal cans and batteries); The level of environmental attitudes should be increased by ensuring that individuals are aware of the wrong attitudes they make.

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