

Insights to Ecocentric, Anthropocentric and Antipathetic Attitudes towards Environment in Diverse Cultures

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Suggested Citation:

Erten, S. (2008). Insights to ecocentric, anthropocentric and antipathetic attitudes towards environment in diverse cultures. *Eğitim Arastirmalari - Eurasian Journal of Educational Research*. 33, 141-156.

Abstract

Problem Statement: For almost 30 years, scientists from around the world have committed themselves to the endeavor of raising people's consciousness of the environment. It is possible to find many empirical studies about this subject in the related sources. Most of the studies are devoted to global or general consciousness of the environment. The subject of environmentally friendly behaviour is what constitutes the contents of the questionnaires cited in recent studies. To name some of them, these behaviours include separation of garbage, water saving, reduction of garbage, energy saving and driving private cars or using public transportation. Despite a great deal of both general and specific researches into environmentally conscious behaviours, there are very few studies and questionnaires devoted to researching people's value judgements as well as the source of values that urge people to protect environment.

Methods: The universe of the study is the population in and around the city of Giessen in Germany and the city of Ankara in Turkey. The sampling group of the study is composed of 250 Turkish teachers and 150 German teachers. The study utilizes a questionnaire which was adapted into Turkish and involves ecocentric, anthropocentric and antipathetic attitudes towards the protection of the environment. An independent t-test was carried out to determine whether differences between Turkish and German teachers' ecocentric, anthropocentric, and antipathetic attitudes towards protection of the environment are significant. Cronbach's alpha reliability coefficients of the questionnaire for Turkish teachers and German teachers were calculated as .80 and .77, respectively.

Findings and Results: This analysis was carried out not only for two different groups, but also for men and women separately and was instrumental to understanding whether both intercultural and intersexual differences are significant in light of the obtained data. There appeared to

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be no meaningful difference between German and Turkish teachers in antipathetic attitudes towards the environment. Of the overall differences between the attitudes of the Turkish and German teachers, the most attention-grabbing is that the averages belonging to Turkish teachers are on a higher level in ecocentric and anthropocentric attitudes. When the intersexual diversity of the two nations is considered, there was no detection of significant differences according to the t-test results in the above-mentioned attitudes of male and female German teachers, while the attitudes of the Turkish teachers differ according to sex. These differences appeared between ecocentric attitudes and antipathetic attitudes towards the environment.

Keywords: Ecocentric, anthropocentric, environmental apathy, environmental attitudes

Acknowledgement: I want to thank Prof. Dr. Reiner Klee and Prof. Dr. Sebastian Bamberg for their valuable insights and supports from University of Justus Liebig in Giessen.

The environmental problems and possible precautions to be taken against these risks, which have been at the top of the world agenda for almost 30 years, have prompted scientists to closely study this field. All these studies agree that the main actor in efforts to prevent environmental problems is the human, who is the main actor in creating these problems. This situation urges scientists studying in the field of environmental education to find answers to key questions. How can people become conscious of the environment? What does environmental consciousness mean? How can people adopt environmentally friendly behaviours? What kind of a relationship is there between attitudes towards environmental knowledge and the environment itself, and environmentally conscious behaviours? Do human beings have a sense of ethics about the environment they live in? What kinds of dilemmas exist in this sense of ethics?

For almost 30 years, scientists from around the world have committed themselves to the endeavor of raising people's consciousness of the environment. It is possible to find many empirical studies in the related sources. Most of the studies are devoted to global or general consciousness of the environment (Amelang, Tepe, Vagt & Wendt, 1977; Dunlap & van Liere, 1978; Dunlap, Gallup & Gallup, 1993; Lounsbury & Tornatzky, 1977; Maloney & Ward, 1973; Thompson & Barton, 1994; Weigel & Weigel, 1978).

The subject of environmentally friendly behaviour is what constitutes the contents of the questionnaires cited in recent studies. To name some of them, these behaviours include separation of garbage, water saving, reduction of garbage, energy saving and driving private cars or using public transportation (Erten, 2000a, 2000b, 2002a, 2002b, 2003; Bamberg, 1994, 1996; Bamberg & Schmidt, 2003; Mielke, 1985; Schahn, 1996, Schahn & Holzer, 1990a, 1990b). Despite a great deal of both general and specific researches into environmentally conscious behaviours, there are very few studies and questionnaires devoted to researching people's value judgements as

well as the source of values that urge people to protect the environment. Most studies fail to offer a certain distinction as to whether those environmentally friendly behaviours are demonstrated in favor of the environment or for the benefit of people. A study in Ankara, for example, shows that 82% of families warn their children “frequently” about energy saving at home (Erten, 2002b). What could be the reason for this behaviour? Do the families act this way to protect the environment or to save money because of the economic crisis experienced in Turkey for the last few years? More studies are needed in such matters to obtain better knowledge. A number of academic sources dwell on such situations with research into environment consciousness (Axelrod, 1994; Schrenk, 1994; Seligman, 1989; Seligman, Syme & Gilchrist, 1994; Stokols, 1990; Siegrist, 1996).

There are few studies that offer insights into people’s value judgements and motives (Dunlap & van Liere, 1978; Kortenkamp & Moore, 2001; Siegrist, 1996; Stern, Dietz & Kalof, 1993; Thompson & Barton, 1994). The ecocentric and anthropocentric attitudes designate ethical concepts that humans have about the nature (Kortenkamp & Moore, 2001). Efforts to search and find out the mentality (motives) behind the protection of the environment and a person’s consciousness of the environment constitute the focal point of research of environment psychology. There are differences between the ecocentric and anthropocentric approaches. Thompson and Barton (1994) developed an attitude scale to measure these concepts.

Dunlap and van Liere (1978) put forward the differences between the value judgements of the ecocentric and anthropocentric standards of judgement. What is understood from the concepts of ecocentricity and anthropocentricity? If a person views the world itself as a stand-alone value, believes that it has to be protected without first safeguarding his self interest and acts accordingly, it means that the person has an ecocentric point of view. People of this type may see plants and animals as having equal value with humans. In contrast, people adopting an anthropocentric point of view would want to protect the environment because they see it as indispensable in raising the quality of life and sustaining human life. They believe that the environment must be protected since it is for the benefit of humanity and that protection of the environment is tantamount to protection of humanity. They would argue that environmental pollution (air, soil and water pollution, etc.) must be prevented as it poses a serious threat to our health. Natural resources should be consumed reasonably so that we will not have to live with energy shortages and have a lower quality of life in the future. Anthropocentric attitudes are based on pragmatic philosophy.

In a questionnaire they used in 1994, Thompson and Barton added antipathetic attitudes towards the environment as a third dimension. This dimension is used to measure the reasons for protection of the environment as well as the individual’s value judgements about environmental degradation. Are some people negatively affected by recent efforts to preserve the environment, laws enacted, education initiatives and large coverage of environmental problems by visual and printed media? This question is addressed in light of antipathetic attitudes towards the environment. A person with either an ecocentric attitude or an anthropocentric

attitude could be conscious of protecting the environment under all circumstances. Dawes (1980) posits that most environmental issues could be interpreted with reference to social dilemmas. The differences arise from concepts behind the behaviours (Thompson & Barton, 1994). Are the ecocentric, anthropocentric and antipathetic attitudes towards the environment an indicator of the difference between eastern and western cultures? The argument section of this paper will seek an answer to that question. This study is important in determining what motivations are more apparent in attitudes towards the environment of teachers from different countries with diverse cultures. Since teachers could affect many students' attitudes towards the environment, they are chosen as the participants for this study. The most important reasons for including Turkish and German teachers in the study are listed as follows: 1. The fact that the researcher could carry out the research more easily in Germany than in any other western countries, and 2. The fact that these two countries have differences in environmental consciousness (Erten, 2000a).

Method

Sample

The universe of the study is the population in and around the city of Giessen in Germany and the city of Ankara in Turkey in the fall 2000 term. The sampling group of the study is composed of 250 Turkish teachers and 150 German teachers. The teachers who participated in the study were picked from among those working in the primary and elementary schools, and high school teachers who teach particularly in the fields of biology and chemistry, since it is they who address environmental issues predominantly in their courses. Teachers who work in similar places and fields were selected for the study from both countries. 69.4% of the Turkish teachers are women and 30.6% are men. Of these, 50% are teachers working in primary schools, 13.3% are branch teachers working in elementary schools at second level, and 36.7% work as biology or chemistry teachers in high schools. 33.6% of the German teachers are women and 66.4% are men. Of these, 72.9% work as biology teachers, and 27.1% work as chemistry teachers. 45.8% of the teachers in question work as first and second level teachers at primary schools whereas 54.2% serve as teachers in high schools. The variation in the percentages of female and male teachers was not purposeful, but an outcome of the distribution of teachers in the branches and schools surveyed in the study.

Data Gathering Instruments

The study utilizes a questionnaire which was adapted into Turkish and involves ecocentric, anthropocentric and antipathetic attitudes towards the protection of environment. The questionnaire was first developed by Thompson and Barton (1994) in the United States of America. Then in 1996 it was adapted into German by Siegrist. The researcher is the first to adapt it into Turkish (Erten, 2007). The questionnaire was translated from German to Turkish and vice versa to avoid a discrepancy in the content. The process of translation was carried out by two people with advanced knowledge of the Turkish and German languages. In addition, the original text in

English was translated and checked by a person who has a good knowledge of both English and Turkish. The questionnaire was referred to the related experts after being examined for lingual considerations by linguists. It is a valid questionnaire in terms of measure, construction and scope (see Erten, 2007).

The questionnaire involves proposals of twelve ecocentric, eight anthropocentric and seven antipathetic attitudes. The matters which are specific to the Turkish adaptation of the questionnaire have been omitted because of cultural differences. The questionnaire is a seven-point scale ranging from "strongly disagree" (1) to "strongly agree" (7). The questionnaire is present in attachment in the form of a table.

The quantitative data gathered was analyzed with an SPSS program. Mean, standard deviation, kurtosis and skewness values were used as descriptive statistics throughout the study. The Mann-Whitney U test was used to figure out whether differences between Turkish and German teachers' ecocentric, anthropocentric, and antipathetic attitudes towards protection of the environment are meaningful.

The result of the questionnaire's reliability analysis was carried out according to Turkish and German samples. Cronbach's alpha reliability coefficients of the questionnaire for Turkish teachers and German teachers were calculated as .80 and .77, respectively. The Cronbach α value of ecocentric attitudes of the scale which was adapted by Siegrist is at $\alpha = .82$. The Cronbach α value of anthropocentric attitudes is at $\alpha = .72$. The Cronbach value of antipathetic attitudes towards the protection of the environment is at $\alpha = .74$.

Procedure

This study was conducted involving teachers who practice teaching in schools in Ankara, the capital of Turkey. The Ministry of National Education was asked for official permission for implementation of the phases of the study. After being granted the required official permission, the researcher chose 23 schools which represented every socio-economic level with a view to Ankara's socio-economic characteristics. With that choice, the researcher aimed at ensuring full representation of the target population and preempting claims that economic differences could ultimately have an influence on the choices of the teachers who teach at schools. All the schools involved in the study are state-supported schools. The researcher himself visited the schools, met and discussed with the teachers and asked them to take the questionnaire, noting that this is an intercultural study. Some of the teachers stated that they had no time for the questionnaire at the time, so the questionnaires were given to them and recollected on the scheduled day. The full completion of the questionnaires took 15 days. 280 teachers were contacted but 30 of them failed to hand in the questionnaire, because either they were in bad health, or they were charged with other tasks and therefore were not available or simply did not take it.

The second phase of the study took place with the German teachers by researchers in 2000. The German city of Giessen and its neighbourhood was determined as the study area. Before the study was initiated in Germany, the Ministry of Education of this specific region was informed and asked for official permission as a prerequisite for the

start of the study. These permission papers were considered acceptable by the directory boards of the relevant schools as well as the families' union. The study was carried out in 13 schools with the help of assistants who speak German. There were not many problems in deciding which schools to choose, as the area did not have as great a socio-economic level gap as Ankara, nor as high a population.

Findings and Results

Table 1 shows the descriptive statistical results that vary depending on differences of sex and culture. Skewness and kurtosis values are both within acceptable limits for all three attitudes. Looking at the averages of the German and Turkish teachers, one will see that the attitudes have differences which make sense, since they have different cultural values regarding the environment.

When the teachers give the answers to all questions in the attitude scales, the maximum points they can obtain are 84 (12 questions) for the ecocentric attitude, 56 (8 questions) for the anthropocentric attitude and 49 (7 questions) for the antipathetic attitude towards the environment. If a teacher responds to all the questions as "undecided", he/she will get 42 points for the ecocentric attitude, 23 for the anthropocentric attitude and 24 for the antipathetic attitude towards the environment. Therefore, if it is taken into consideration that both male and female teachers' average points are higher than these points (except in the antipathetic dimension), it can be said that those with positive attitudes overwhelm the negative ones.

Mann-Whitney U tests were implemented as procedural statistics analysis. This analysis was carried out not only for the two different cultural groups, but also for men and women separately and was instrumental to understanding whether both intercultural and intersexual differences are meaningful in light of the obtained data. It was concluded from the results of the Mann-Whitney U tests that there are striking differences among ecocentric, anthropocentric and antipathetic attitudes of German and Turkish teachers. The sensibility rate for the difference of ecocentric attitudes is $z=-7.117, p<.000$; the sensibility rate for anthropocentric attitudes is $z=-7.715, p<.000$; and finally, the sensibility rate for antipathetic attitudes towards the environment was calculated to be $z=-2.807, p<.005$.

There appeared to be no meaningful difference between German and Turkish teachers in antipathetic attitudes towards the environment. Of the overall differences between the attitudes of the Turkish and German teachers, the most attention-grabbing is that the averages belonging to Turkish teachers are on a higher level in ecocentric and anthropocentric attitudes. When the intersexual diversity of the two nations was considered, there was no detection of significant differences according to Mann-Whitney U test results in the above-mentioned attitudes of German teachers, while the attitudes of the Turkish teachers differed according to sex. These differences appeared between ecocentric attitudes ($z=-1.928, p<.05$) and antipathetic attitudes towards environment ($z=-3.274, p<.001$). The differences between nations and sexes can be seen in Table 1. When these results are examined, it is obvious that

the highest-rating attitudes are the ecocentric and anthropocentric attitudes, regardless of the comparison being on the point of general differences or on intersexual differences. The ecocentric attitudes of both Turkish and German female teachers are higher than those of male ones. The researchers in this field show that women are more sensitive than men on environmental protection (Erten, 2000a; Kuckartz, 1998). German male instructors tend to adopt anthropocentric attitudes more often compared to female instructors. If we take a general look at the attitudes of teachers of each nation, the German teachers define their ecocentric attitude as "I'm hesitant", while the Turkish ones define it as "I agree". An interesting finding was observed in Turkish teachers' attitudes in the research. It is normally expected that the more ecocentric attitudes an individual develops, the less anthropocentric he/she gets. However, both attitudes were simultaneously rated high in Turkish teachers.

Table 1*Descriptive Statistical Results According to Gender and Nation*

Attitude	Nation	Gender	N	Min.	Max.	Average	Standard Distribution	Skewness	Kurtosis
Ecocentric Attitude	Turkish Teachers	Female	125	51	84	75.65	6.19	-0.82	0.59
		Male	54	52	84	73.26	7.61		
	German Teachers	Female	36	49	84	68.78	8.90	-0.73	0.39
		Male	67	45	82	67.30	8.14		
Anthropo-centric Attitude	Turkish Teachers	Female	125	21	56	44.50	7.80	-0.99	0.68
		Male	54	20	55	43.11	8.08		
	German Teachers	Female	36	18	51	36.22	8.12	-.612	.335
		Male	67	21	52	37.30	6.31		
Antipathetic Attitude towards Environment	Turkish Teachers	Female	125	7	49	15.43	9.85	1.43	1.28
		Male	54	7	48	20.50	11.54		
	German Teachers	Female	36	8	30	16.25	5.28	.625	-.007
		Male	67	7	36	18.09	8.43		

As can be seen in Table 2, Turkish and German teachers' ecocentric attitudes are rather high. Upon comparison, German teachers' attitudes were found to be a bit lower than their Turkish colleagues. Nevertheless, the researchers had expected to find higher ecocentric attitudes in the Germans because other researchers (De Haan et al., 1997) show that Germany is one of the most environmentally conscious societies in the world. The possible reason for this could be the frequent appearance of environmental issues in the media in Turkey recently.

Table 2*General Averages of Turkish and German Teachers*

Attitudes	Nation	Subjects	Mean	Standard Deviation
Ecocentric	Turkish	179	74.9	6.7
	German	103	67.6	8.3
Anthropocentric	Turkish	179	44.0	7.8
	German	103	36.9	6.9
Environmental Antipathy	Turkish	179	16.9	10.6
	German	103	17.4	6.0

Antipathetic attitudes towards the environment are higher in both German and Turkish male teachers. When the two countries results are looked into, it can be seen that Germans adopt antipathetic attitudes towards the environment slightly more than Turks. The reason for this may be that environmental problems have been occupying the German agenda for many years.

Correlation Results

Correlations of the ecocentric, anthropocentric and antipathetic attitudes with each other confirm the previous results. The differences between sexes are given in Table 3 and Table 4. According to the data, a person having dominant ecocentric attitudes tends to have lower antipathetic attitudes towards the environment. There is a meaningful relationship based on sex in each of the three attitudes. It was observed that the rise of ecocentric attitudes in Turkish instructors is on equal footing with the rise in anthropocentric attitudes. While the similar rise of the two attitudes is not observed in western societies, it is the case with the Turkish teachers here.

Table 3*The Relationship between Turkish Teachers' Attitudes and Gender*

	2.	3.	4.
1. Ecocentric Attitudes	.30**	-.28**	.15*
2. Anthropocentric Attitudes		.17*	.07
3. Antipathetic Attitudes towards Environment			-.20**
4. Sex			

N=179, Women 1, Men 0 coded, *p<.05, ** p<.001

Table 4*The Relationship between German Teachers' Attitudes and Gender*

	2.	3.	4.
1. Ecocentric Attitudes	.23*	-.31**	-.06
2. Anthropocentric Attitudes		.18	.06
3. Antipathetic Attitude towards Environment			.14
4. Sex			

N=103, Women 1, Men 0 coded, * $p < .05$, ** $p < .001$

In view of the t-test results of the means, a significant difference based on sex could not be found in German instructors in either attitude. The correlation coefficient between ecocentric attitudes and anthropocentric attitudes in German teachers are rated lower than those in Turkish teachers. A reverse correlation was observed between the ecocentric attitudes and antipathetic attitudes towards environment protection in the German teachers and the Turkish ones alike. This indicates that the more the individual is prone to ecocentric attitudes, the less he/she is prone to antipathetic attitudes towards the protection of the environment.

Discussion

There is little research and insufficient data dating back to past times on ecocentric and anthropocentric attitudes. The differences between these two concepts were first included in the sphere of social science researches by Dunlap and van Liere (1978). Thompson and Barton (1994) argued that materialists represent the anthropocentric view holders; while abstractionists stand for ecocentrism. A person with an anthropocentric view has a sense of ethical factor regarding nature, because harming or preserving it will come back as a harm or benefit to him/her.

The anthropocentric view advocates upholding human beings as creatures higher than nature. For example, according to this doctrine, destroying the rain forests cannot be justified ethically as they contain potential cures to many diseases. For a person with an ecocentric view, protecting the rain forests means protecting the biological diversity. This point of view stresses the need to establish empathy with nature instead of exploiting it for the sake of human interests. The average of Turkish teachers' ecocentric attitudes is higher than the average of German teachers'. While German teachers chose the option 'I am hesitant' as their response to anthropocentric attitude questions, Turkish teachers agreed with the anthropocentric view. It can be said that the data does not reveal the way of thinking underlying protection efforts of Turkish teachers. The results point to the fact that German teachers are less anthropocentric than Turkish ones.

Turkish teachers' average anthropocentric attitude scores are higher than those of German teachers, which may be the result of the belief in Turkish society's cultural structure that humans are created superior to other living things. Based on this belief,

humans are the most excellent of the created beings, and everything is created for them. According to this belief, humans should take advantage of things they need. This feature of Turkish society was the way western societies behaved until a short time ago. Because of this, the natural resources of the world have come to the point of exhaustion until recently. To stop this, intense environmental protection studies have started and the ecocentric way of thinking has been developed by way of education and studies on this issue. Based on the ecocentric way of thinking, protection of the environment happens through behaviors that are suitable to benefit analysis. People who have this way of thinking protect the environment as long as they observe benefits to themselves and the observation of the benefits and environmental protection has a direct ratio.

German teachers agreed with ecocentric attitude proposals, while they were hesitant with anthropocentric attitude proposals. It is possible to explain this result with the following argument. One of the most important differences between Turkish culture and German culture is the education systems. Germany has shown a great degree of development in the last 20 to 25 years, especially in the area of environmental education, by including this subject in its education system. Based on the investigations of some scientists (de Haan et al., 1997; Kuckarts, 1998) environmental awareness in Germany is fairly high compared to that in other societies of the world. This result naturally causes German teachers to think more ecocentrically than Turkish teachers.

Because Germany is an industrialized country, people who live in Germany have been uncomfortable with the environmental problems such as pollution, acid rain, noise pollution, and nuclear waste for a long time. This negative situation has caused environmental awareness studies to progress in a rapid way. Because studies have shown that "individuals' perception of environmental problems as a risk and as a threat, motivates environmentally friendly behavior" (Martens & Rost, 1998).

Similar to Turkish teachers, German teachers provided an inverse correlation between the ecocentric attitudes and negative attitudes towards environmental protection. This shows that the more a person has an ecocentric attitude, the less he/she has negative attitudes towards environmental protection. The similarity of negative attitudes of German and Turkish teachers may be the result of the intense environmental agenda for the last 30 years in Germany, the laws that went into effect about these issues and the frequent demonstrations. It is possible that some people have become uncomfortable with the regulations because of their negatively effected benefits. Information obtained from short interviews with Turkish teachers may explain the negative attitudes of Turkish teachers as people who live in Turkey view the economic and terrorist problems as ranking higher than the environmental problems.

It has been planned that such studies will be done with university students and a country that has different ultural values than Turkey.

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Farklı Kültürlerde Çevre Merkezli, İnsan Merkezli ve Çevreye Karşı Olan İticilik Tutum Anlayışları

(Özet)

Problem Durumu: Yaklaşık 30 yıldan beri dünyanın birçok yerinde birçok bilim adamı insanların çevre bilinçlerini geliştirmek için büyük çaba sarf etmektedirler. Bununla ilgili kaynaklarda birçok deneysel çalışma bulmak mümkündür. Bu araştırmaların büyük çoğunluğu küresel sorunlara ya da genel çevre bilincine yöneliktir. Son yıllarda yapılan araştırmalarda kullanılan anketlerin içerikleri çevre dostu davranışlara yöneliktir. Bunlara örnek olarak; çöpleri ayırma davranışı, su tasarrufu, çöplerin azaltılması, enerji tasarrufu davranışları ile özel otomobili veya toplu taşıma araçlarını kullanım davranışları verilebilir. Çevreye yararlı davranışların araştırılmasında özgül birçok araştırma bulmak mümkündür. Bu araştırmalarda, insanların kişisel değer yargılarını ve çevre dostu davranışlarının kaynaklarını ortaya koyan çalışmalar ve bunun için geliştirilmiş anketler çok ta yaygın değildir. Birçok araştırmada, ortaya çıkan çevre dostu davranışların, çevrenin yararı için mi yoksa davranışı gösteren kişilerin çıkarları için mi gösterildiği çok belli değildir. Örneğin, Araştırmacının Ankara'daki bir başka araştırmasında, ailelerin % 82'sinin evde çocuklarını enerji tasarrufu konusunda "sıkça" uyardıkları ortaya çıkmıştır. Bu davranışın arkasında yatan sebep nedir? Ailelerdeki bu davranışların nedeni çevreyi mi korumak? yoksa son yıllarda Türkiye'de görülmekte olan ekonomik krizden dolayı para tasarrufu mu yapmaktır? Bu gibi çalışmalara ağırlık verilmesi gerçek bilgilerin elde edilmesinde gereklidir. Çevre merkezli ve insan merkezli yaklaşımlar insanoğlunun doğaya karşı taşıdığı etik anlayışlarını, çevrenin korunmasındaki ve bir insanın çevre bilincinin arkasında yatan anlayışları araştırıp bulmak çevre psikolojisinin ve çevre eğitimcilerinin araştırma merkezini oluşturmaktadır.

Araştırmanın Amacı: Çevre merkezli (Ekosentrik), insan merkezli (Antroposentrik) ve çevrenin korunmasına karşı insanlarda olan iticilik tutumlarının iki farklı kültürdeki durumlarını tespit etmek ve buna uygun öneriler geliştirmektir.

Yöntem: Araştırmanın evrenini, Almanya'da Giessen şehri ve çevresi ile Türkiye'de Ankara şehri oluşturmaktadır. Araştırmanın örneklemini 250 Türk ve 150 Alman öğretmen oluşturmaktadır. Araştırmada daha önceden Türkçeye uyarlaması yapılan Ekosentrik, Antroposentrik ve çevrenin korunmasına yönelik antipati tutumlarını içeren anket kullanılmıştır. Söz konusu anket ilk defa araştırmacı tarafında Türkçeye uyarlanmış. Ankette 12 tane Ekosentrik, 8 tane Antroposentrik ve 7 tane de antipatik tutum önermeleri yer almaktadır. Anket Likert tipinde 7 aralıklı bir ölçeklidir. Cevaplar "Kesinlikle katılmıyorum" (1) ile "kesinlikle katılıyorum" (7) arasında değişebilmektedir. Tanımlayıcı istatistik olarak ortalama, standart sapma, basıklık ve çarpıklık değerlerine bakılmıştır. Türk ve Alman öğretmenlerin çevre merkezli, insan merkezli ve çevrenin korunmasına yönelik iticilik tutumlarının arasındaki farkın anlamlı olup olmadığını anlamak için ise bağımsız t-testi yapılmıştır.

Ölçeğin Türkiye ve Almanya örnekleme göre yapılan güvenilirlik analiz sonuçları; Türk öğretmenlerinde kullanılan anketin Cronbach α değeri, $\alpha = .80$, Alman öğretmenlerinde ise $\alpha = .77$ olarak bulunmuştur. Siegrist'in uyarılama çalışmasını yaptığı ölçeğin Ekosentrik tutumlarının Cronbach α değeri, $\alpha = .82$, Antroposentrik tutumların ise $\alpha = .72$ ve çevrenin korunmasına yönelik antipatik tutumların Cronbach α değeri de $\alpha = .74$ 'dür.

Bulgular: Alman ve Türk öğretmenlerin ortalamalarına bakıldığında tutumlar arasında anlamlı farkların olduğu görülmektedir. İstatistik analizleri olarak Mann-whitney U testi analizleri yapılmıştır. Bu analizleri iki farklı grup için yapıldığı gibi gruplar içerisinde bayan ve erkekler için de ayrı yapılarak hem kültürler arasındaki farkların hem de cinsiyetler arasındaki farkların anlamlı olup olmadığına bakılmıştır. Mann-whitney U testi sonuçlarından Alman ve Türk öğretmenlerin çevre merkezli ve insan merkezli tutumları arasında anlamlı farklar olduğu ortaya çıkmıştır. Çevre merkezli tutumlar arasındaki farkın anlamlılığı $z = -7.117$, $p < .000$ 'dir. İnsan merkezli tutumlar arasındaki farkın anlamlılık derecesi ise $z = -7.715$, $p < .000$ 'dir. Çevreye karşı iticilik tutumlarında ise $z = -2.807$ $p < .005$ 'dir. Alman ve Türk öğretmenlerin tutumları arasındaki bu farklarda dikkati çeken çevre merkezli ve insan merkezli tutumlarda ortalamaların Türk öğretmenlerde daha yüksek oluşudur. İki ulusun cinsiyetler arası farklarına bakıldığında ise Alman öğretmenlerin söz konusu tutumları arasında Mann-whitney U testi sonuçlarına göre anlamlı farklar bulunmaz iken Türk öğretmenlerin cinsiyetlere bağlı olarak tutumları arasında anlamlı farklar bulunmuştur. Bu farklar çevre merkezli tutum ($z = -1.928$, $p < .05$) ile çevreye karşı olan iticilik tutumlarında ($z = -3.279$ $p < .001$) ortaya çıkmıştır. Bu sonuçlar incelendiğinde ister genel anlamdaki farklarda olsun ister cinsiyetler arasındaki farklarda olsun en yüksek tutumlar çevre merkezli ve insan merkezli tutumlardır. Türk ve Alman bayan öğretmenlerin çevre merkezli tutumları erkek meslektaşlarından daha yüksektir. Bu konudaki araştırmalar, bayanların çevrenin korunması konularında erkeklere göre daha duyarlı olduklarını göstermektedir. Alman öğretmenlerin erkekleri bayanlara göre daha insan merkezli tutumlara sahiptirler. Genel anlamda iki ulusun öğretmenlerinin tutumlarına bakacak olursak Alman öğretmenler insan merkezli tutumlarını "kararsızım" olarak değerlendirirken Türk öğretmenler "katılıyorum" şeklinde değerlendirmişlerdir. Araştırmada ilginç bir bulgu da Türk öğretmenlerdeki tutumlarda ortaya çıkmıştır. Bir insan ne kadar çevre merkezli tutuma sahip olursa insan merkezli tutumlarının da o derece az olması beklenir. Fakat Türk öğretmenlerinde her ikisi de yüksek çıkmıştır. Bunun sebebi kültürel farklılık olarak açıklanabilir

Tartışma: Türk öğretmenlerin insan merkezli tutumlarının ortalaması Alman öğretmenlerin aynı konudaki tutumlarının ortalamasından daha yüksek olması, Türk toplumunun bu konudaki kültür yapısının temelinde insanın diğer canlılardan daha üstün yaratıldığı düşüncesinin bulunması olabilir. Buna göre, insan yaratılanların en üstün olanıdır ve her şey onun için yaratılmıştır ve insan ihtiyaç duyduğu şeylerden yararlanmalıdır.

Alman öğretmenler çevre merkezli tutum önermelerine katılırken insan merkezli tutum önermelerinde kararsız kalmışlardır. Bu sonucu da şu şekilde açıklamak mümkündür. Türk toplumu ile Alman toplumu arasındaki en önemli farklardan biri de eğitim sistemindeki farklılıktır. Almanya'nın son 20-25 yılda özellikle çevre eğitimi alanında büyük gelişmeler göstermesi, eğitim sistemi içerisinde bu konuyu almasıyla olmuştur. Ayrıca Almanya'nın sanayi ülkesi olması nedeniyle, Almanya'da yaşayanlar, çevre kirliliğinden, asit yağmurlarından, gürültü kirliliğinden, nükleer atık sorunları gibi birçok çevre sorunundan uzun süre rahatsız olmuştur. Bu olumsuz durum çevre bilinci çalışmalarının hızlı bir şekilde gelişmesine neden olmuştur. Çünkü araştırmalar "çevre sorunlarının birey tarafından risk olarak algılanması ve tehdit olarak görülmesi çevreye yararlı davranışları motive etmekte" olduğunu göstermektedir.

Alman öğretmenlerde de Türk öğretmenlerde olduğu gibi çevre merkezli tutumlar ile çevrenin korunmasına yönelik itici tutumları arasında ters yönde korelasyon ortaya çıkmıştır. Bu da, bir kişinin ne kadar çevre merkezli tutuma sahipse o kişinin çevre sorunlarının çözümüne karşı o derece de az itici olduğunu gösterir. Alman öğretmenler ile Türkler öğretmenlerin çevre konularına karşı olan iticiliklerinin benzer olması, Almanya'da yaklaşık son 30 yıldır yoğun bir şekilde çevre konularının gündemden düşmemesi ve bu konuda çokça yasaların yürürlüğe girmesi ve çok sık gösterilerin olması olabilir. Ayrıca yapılan düzenlemelerden bazıları çıkarları gereği rahatsız olmuş olabilir. Türk öğretmenlerinde görülen iticilik ise Türk öğretmenleriyle yapılan kısa görüşmelerden elde edilen bilgiler doğrultusunda şu şekilde açıklanabilir. Türkiye'de yaşayan insanların sorunlarının ilk sıralarında, çevre sorunlarından ziyade ekonomik ve terör sorunlarının bulunması olabilir. Gelecekte bu tür çalışmaların üniversite öğrencileriyle ve Türkiye dışındaki farklı kültürel yapıya sahip bir ülkeyle yapılması planlanmaktadır.

Anahtar Sözcükler: Ekosentrik, antroposentrik, çevre antipatisi (çevreye duyulan iticilik) ve çevre tutumları

Appendix

Questions	Ecocentric Environment Attitudes
1.	One of the worst results of the permanent increased population is continuous occupation of natural areas.
2.	On holidays, I spent a lot of my time enjoying nature.
3.	I sorrow when I see forests ceasing to exist (cutting, fires, etc.).
4.	At times, if I want to be happy, I feel that I have to spend my time in nature.
5.	At times, if I feel unhappy, I find consolation in nature.
6.	I sorrow when I see how much the natural environment is spoiled.
7.	Nature alone is a valuable being.
8.	I get rid of stress when I spend time in nature.
9.	One of the most important reasons to protect nature is to protect nature for its own sake.
10.	Humans are not more valuable than other beings in nature.
11.	Protection of animals is at least as important as health of humans.
12.	Nature must be protected notwithstanding the limitation of human needs.
	Anthropocentric Environment Attitudes
13.	One of the most important reasons to protect nature is to lengthen the life of the human being.
14.	One of the most important aims of recycling is saving money.
15.	Nature is important because of its benefits to human health and happiness.
16.	We have to protect natural resources to live at ease.
17.	One of the most important reasons to protect the nature is to guarantee our comfortable life.
18.	Persistently processing soil to get crops is necessary for our comfortable life.
19.	The worst side of cutting forests is destroying the valuable natural resources.
20.	When I think that I use nature intensively, the thing that most concerns me is the spoiling of necessary fundamental materials to survive.
	Antipathetic Attitudes towards Environment
21.	Claims about dangers coming from the environment, such as destroyed forests and the depleting ozone layer, are overblown.
22.	It seems to me that most of the environmentalists are pessimistic and some of them are paranoid.
23.	I do not believe that natural resources have been depleted as seriously as is being declared.
24.	It is difficult for me to tackle environment problems.
25.	I do not worry about environment problems.
26.	I am against governmental activities to protect natural life and natural resources against environmental pollution.
27.	Superfluous value is placed on nature.

The questionnaire is a seven-point scale ranging from “strongly disagree” (1) to “strongly agree” (7).