



The Relationship between Religiosity, Environmental Orientation and Environmental Behaviors: An Empirical Study with Turkish and British Muslim Samples

**Dindarlık, Çevreci Yönelim ve Çevreci Davranışlar Arasındaki İlişki:
Türk ve İngiliz Örneklemeler Üzerine Bir Araştırma**

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Abstract: This article examines the relationship between environmental orientation, behaviour, and religiosity. It also deals with the relations between environmental orientations, behaviours and socio-demographic variables, such as, gender, country and age. The correlational survey method and the questionnaire technique are used for research. The sample covers 342 people ranging from ages 16 to 74. 26% ($N= 90$) of the sample are British Muslims and 74 % ($N= 252$) are Turkish Muslims. “Environmental Orientation Scale”, “Environmental Behaviour Scale”, and “Religiosity Scale” measures are applied. The findings indicate that religiosity has a positive effect on ‘environmental stewardship’ and ‘waste management’ however it has no relation to ‘environmental dominion’ and ‘active environmentalism’. In addition, the findings demonstrate that the age and the environmental dominion factors were more effective on environmental behaviour rather than religiosity. The implications of these results and the suggestions for future research are discussed.

Keywords: Religiosity, Environmentalism, Global Warming, Environmental Orientation Scale, Environmental Behaviour Scale, Waste Management, Environmental Dominion and Stewardship

Öz: Makale, bireylerin çevreye karşı yönelimleri, çevreci davranışları ve dindarlık düzeyleri arasındaki ilişkiyi ele almaktadır. Ayrıca makalede söz konusu değişkenlerin cinsiyet, ülke ve yaş gibi değişkenlerle ilişkisi de araştırılmaktadır. İlişkisel tarama modeli ve anket tekniği bu araştırmada kullanılmıştır. Araştırmanın çalışma grubu yaşları 16 ile 74 arasında değişen 342 kişidir. Grubun %26’sı ($N= 90$) İngiliz ve %74’ü ($N= 252$) ise Türk Müslümanlardan oluşmaktadır. *Çevreye Karşı Yönelim Ölçeği*, *Çevreci Davranış Ölçeği*, *Dindarlık Ölçeği* veri toplama aracı olarak kullanılmıştır. Bulgulara göre dindarlık ‘emanet görme’ ve ‘israftan kaçınma’ boyutları üzerinde etkili iken ‘sahip olma’ ve ‘aktif çevrecilik’ boyutları üzerinde ise dindarlığın anlamlı bir etkisi tespit edilememiştir. Ayrıca bulgular, yaş ve ‘sahip olma’ boyutunun çevreci davranışlarda dindarlıktan daha etkili olduğunu ortaya koymuştur.

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Introduction

The environmental values and behaviours have been studied from numerous perspectives, especially during the last decades.¹ As a research field environmental values and behaviours has been studied with regards to their relation to various variables such as gender, age, socio-economic status, ideological background, religiosity, personality, and life style.² These issues concerning the environment have been studied and debated for a long time and the focus regarding this matter has evolved over a period of time. Initially the focus was on the political, industrial and social structures that were seen as the real culprits behind the environmental problems. However, due to this skewed focus it was not possible to appreciate the wider picture, which included the human ethical side of the question. Consequentially, the environmental problems continued to grow, which led the researchers and the environmentalists to begin to look at all the dimensions related to the environmental crisis.³

Thus, the main aim of the current study is to examine the relationships between religiosity, environmental orientation, and environmental behaviours in the cases of Turkish and British-Muslim samples. The reason why these two samples have been chosen is to verify if there is any variety in the findings due to being minority and majority society, life style and different level of modernisation. To examine the relationships between religiosity, the dimensions of environmental orientation and the dimensions of environmental behaviours, we will review any differences based on nationality, the role of religiosity, and the most effective factor in predicting environmental behaviour from the variables such as religiosity, environmental orientation and age. The rationale for including stewardship and dominion, and age in a single block in the regression analysis is due to the emphasis on finding out whether Muslims have the environmental orientation of stewardship or dominion. As far as the variable of age is concerned, it has been argued in many studies that when people mature or age their pro-social towards others and the environment increases.⁴

- 1 B. C. Hayes - M. Marangudakis, "Religion and Environmental Issues within Anglo-American Democracies", *Review of Religious Research*, 2000, 42 (2), p. 159-174; C. Tsimpo - Q. Wodon, "Faith affiliation, religiosity, and attitudes towards the environment and climate change", *The Review of Faith - International Affairs*, 2016, 14 (3), p. 51-64.
- 2 J. L. Guth - J. C. Green - L. A. Kellstedt - C. E. Smidt, "Faith and the Environment: Religious Beliefs and Attitudes Towards Environmental Policy", *American Journal of Political Science*, 1995, 39 (2), p. 364-382; Ali Ayten, "'Sahip Olma' mı 'Emanet Görme' mi? Çevre Bilinci ve Dindarlık Üzerine Bir Araştırma [Possession or Custodianship: An Empirical study on the relationship between environmental orientation, environmental behaviours and religiosity]", 2010, *Din Bilimleri Akademik Araştırma Dergisi*, 10 (2), p. 203-233.
- 3 J. R. Des Jardins, *Çevre Etiği: Çevre Felsefesine Giriş* [Environmental Ethics: Introduction to Environmental Philosophy], Ankara: İmge Kitabevi, 2006, p. 46-7.
- 4 Ayten, "'Sahip Olma' mı 'Emanet Görme' mi?...?", p. 203.

It is important that environmental studies be provided with a wider range of samples beyond the Judeo-Christian samples in order to have a wider and more complete picture of how human beings understand their environment based upon their world view. Therefore, this study demonstrates the need to have more Muslim samples regarding this topic from the wider Muslim world, in order to fully understand Muslim environmental attitudes as a wider understanding of the human perception of the environment.

According to Erich Fromm,⁵ psychologically the human being has two essential attitudes towards everything in life be that his or her attitude towards love, conscience, or faith. These two essential attitudes are 'to have' and 'to be'. These two attitudes of the human being result in various types of human behaviour. In the 'to have' orientation the person is a consumer that trivialises everything and has an attitude of dominion and wastefulness, for example, if the human being has this attitude in a relationship then he or she are always trying to control and dominate the other and benefit solely from the relationship without sharing. On the other hand, the 'to be' orientation in a relationship cherishes the other in their full capacity and by showing respect to the other one fully actualises oneself. As noted by J. Baird Callicot,⁶ there are possibly two approaches to environmental ethics; one approach is 'anthropocentrism' i.e. the human-centred approach, whereby all is calculated according to cost and benefit, whereas, the second approach is 'non-anthropocentrism' i.e. that nature has an intrinsic value as a sacred object. In studying the relationship between environmentalism and religiosity it is apt for this current study to adapt Fromm's two psychological orientations to more closely explain this phenomenon. Hence, in this current study the 'to have' orientation, which is anthropocentric, will be labelled 'environmental dominion' and the 'to be' orientation, which is non-anthropocentric, will be labelled 'environmental stewardship'. In the 'environmental dominion' orientation the human being sees him/herself as a supreme owner of the natural environment and tries to manipulate it for his/her own benefits. Furthermore, in this orientation the human being has an inclination to use the facilities of technology even when they know that it is harmful for the environment. On the other hand, in the 'environmental stewardship' orientation the human being sees him/herself as a custodian of nature based upon his/her faith; they view the environment as a sacred gift in its beautiful entirety, and accept their responsibility to protect it for future generations.

In the majority of religions, it is possible to come across teachings and writings concerning the relationship between the human being and nature. Most religious adherents of faiths across the world would argue that their faith has a positive view of nature. Although there are many religious teachings in all of these faiths that demonstrate the importance of nature and its protection, some western scholars have gone as far as to argue that the cause of the environmental problems hinges on the religious approach.⁷ More than half

5 E. Fromm, *To have or to be*. London: Abacus, 1987.

6 J. B. Callicot, "Multicultural Environmental Ethics", *Daedalus*, 2001, 130 (4), p. 77-8.

7 E. Woodrum - T. Hoban, "Theology and Religiosity Effects on Environmentalism", *Review of Religious Research*,

a century ago, Lynn White,⁸ published his essay, ‘The Historical Roots of Our Ecological Crisis’, in *Science* arguing that the Judeo-Christian belief negatively affected the attitudes of humans towards the environment by promoting an anthropocentric world view i.e. a dominion over nature attitude. He argued that this exploitive attitude was historically documented throughout the Middle Ages and that this attitude was strengthened by the proponents of the industrial revolution who believed that they had a prerogative over the earth and its resources. Due to this negative view of religious impact on the environment, many other scholars in the West advanced another contrasting view, which argued that the Judeo-Christian religious traditions encouraged an environmental stewardship ethic, whereby, the human being is asked to be responsible for all of God’s creation.⁹ Since then there have been numerous studies regarding the opinion of the Judeo-Christian understanding of the environment. Some of these studies show the positive impact of religiosity on environmentalism, whereas, others demonstrate a negative impact. The evidence of the role of religion concerning the environmental attitudes in the Judeo-Christians traditions is unfortunately inconclusive, since recent studies demonstrate that different denominations and groups tend to have different attitudes towards stewardship and the dominion environmental ethic.¹⁰ It is clear from these studies that there is still no clear understanding of the relationship between religion and environmentalism in the Judeo-Christian west. It is important to note here that although there are many studies with regards to the Judeo-Christian understanding of religion and the environment, there are very few studies available on the Islamic perspective concerning this topic. Looking at the primary sources in Islam it is clear that there are numerous Qur’anic verses and Prophetic traditions, which mention the importance of the environment and its protection; they emphasise the significance of planting trees, and not wasting natural resources etc.¹¹ Furthermore, some Muslim scholars in their respective theological and philosophical writings described nature as a, ‘Living Revelation’, which guides people to the existence of God.¹²

Over the past two decades, considerable empirical research has been accrued concerning the relationship between environmentalism and religiosity. Some of these studies focused on the role of religiosity,¹³ religious commitment,¹⁴ religious beliefs and values,¹⁵ religious

1994, 35 (3), p. 193-206.

8 L. White, “The Historical Roots of Our Ecologic Crisis”, *Science*, 1967, 155 (3767), p. 1203-7.

9 M. B. Arbuckle - D. M. Konisky, “The role of religion in environmental attitudes”, *Social Science Quarterly*, 2015, 96 (5), p. 1246.

10 Arbuckle - Konisky, “The role of religion in environmental attitudes”, p. 1245-6.

11 M. Izzi Dien, *The Environmental Dimensions of Islam*, Cambridge: The Lutterworth Press, 2000; I. Abdul-Matin, *Green Deen: What Islam Teaches about Protecting the Planet*, San Francisco: Berrett Kohler Publisher, 2010.

12 S. H. Nasr, *İnsan ve Tabiat* [The Human Being and Nature], İstanbul: Yeryüzü Yayınları, 1982.

13 C. L. Kanagy - H. M. Nelsen, “Religion and environmental Concern: Challenging the Dominant Assumption”, *Review of Religious Research*, 1995, 37 (1), p. 33-45; Aytén, “‘Sahip Olma’ mı ‘Emanet Görme’ mi?...”, p. 203-33.

14 Tsimpo - Wodon, “Faith affiliation, religiosity...”, p. 51-64.

15 Guth - et al., “Faith and the Environment...”, p. 364-382; M. A. Kirman, “Religious and secularist views of the nature

leaders,¹⁶ and faith based organisations dealing with attitudes towards global warming, environmental problems, and climate changes.¹⁷ Some of the results of these studies indicate that religious people were more likely to be friendly towards the environment and more interested in environmental issues as opposed to their non-religious counterparts,¹⁸ but some studies show that there is a negative relationship between religiosity and environmentalism.¹⁹ Whereas some of them show that there is no significant relationship between religiosity and environmentalism.²⁰ In some research it has been found that religiosity has a positive effect on the human being's orientation towards the environment which leads them to behave responsibly and friendly concerning nature.²¹ Research in the psychology of religion and the sociology of religion concerning the environment has involved the analysis of largely Judeo-Christian drawn from western societies. However, there are very limited studies or almost no empirical study available based on Muslim samples regarding the relationship between religiosity, environmental orientation and behaviour. Thus, the intention of this study is to open a door for future studies to fill this gap.

The main aim of this study is to investigate the relationships between religiosity, environmental orientation, and environmental behaviours in the cases of Turkish and British-Muslim samples. To examine the relationships between religiosity, the dimensions of environmental orientation and the dimensions of environmental behaviours, we asked the following research questions: (1). Are there any differences based on gender or nationality regarding the participants' religiosity levels, environmental orientation and environmental behaviour? (2). What is the role of religiosity on environmental orientation and environmental behaviour? (3) Which factor is more effective in predicting environmental behaviour, religiosity, environmental orientation or age? Based upon these questions and the findings of other studies we constructed these following hypotheses (H_{1-s}):

H_1 : Females will score higher than males in religiosity (H_{1a}), environmental stewardship (H_{1b}), waste management (H_{1c}) and active environmentalism (H_{1d}). However, males will score higher than females in environmental dominion (H_{1e}).

and the environment". *The Journal of International Social Research*, 2008, 1 (3), p. 268-277.

- 16 M. E. Tucker - J. A. Grim, "Introduction: The Emerging Alliance of World Religions and Ecology". *Daedalus*, 2001, 130 (4), p. 1-22.
- 17 Y. Yazid, *Faith-Based Environmentalism: A Case Study of Islamic-Based Environmental Organisations in the United Kingdom*. Kuala Lumpur: IS, 2008.
- 18 C. L. Kanagy - F. K. Willits, "A 'Greening' of religion? Some evidence from a Pennsylvania sample", *Social Science Quarterly*, 1993, 74 (3), p. 674-683; D. L. Eckberg - T. Blocker, "Christianity, Environmentalism, and the Theoretical Problem of Fundamentalism". *Journal for the Scientific Study of Religion*, 1996, 35(4), p. 343-55.
- 19 Arbuckle - Konisky, "The role of religion in environmental attitudes", p. 1245-6.
- 20 Woodrum - Hoban, "Theology and Religiosity Effects..." p. 193-206; D. M. Konisky - J. Milyo - L. E. Richardson, "Environmental Policy attitudes: Issues, geographical scale, and political trust", *Social Science Quarterly*, 2008, 89 (5), p. 1066-1085.
- 21 Ali Ayten, *Empati ve Din*, İstanbul: İz Yayıncılık, 2010.

H₂: British Muslims will score higher than Turkish Muslims in active environmentalism (H_{2a}) whilst Turkish Muslims will score higher than their British counterparts in environmental stewardship (H_{2b}).

H₃: Religiosity will have a positive effect on environmental stewardship (H_{3a}) and a negative effect on environmental dominion (H_{3b}).

H₄: Religiosity will have a positive effect on both waste management (H_{4a}) and active environmentalism (H_{4b}).

H₅: Environmental orientation and age will be more effective factors regarding environmental behaviour as opposed to religiosity.

Method

The survey method and the questionnaire technique were used in this research. Independent sample *t*-test, Pearson's correlation and regression analysis were used for data analysis.

Participants

The sample consists of 342 participants recruited from different districts of İstanbul (Turkey), London and Cardiff (UK) through non-random snowball sampling techniques. 26% (*N*= 90) of the sample were British Muslims and 74 % (*N*= 252) were Turkish Muslims. Participants reported their gender as the following; 46.5 % (*N*= 159) are females and 53.5 % (*N*= 183) are males. Participants' ages range between 16 to 74 years old as follows; 16-21 years (23.4%, *N*= 80), 22-34 years (45.3%, *N*= 155), 35-45 years (21.9%, *N*= 75), 46-74 years (9.4%, *N*= 32). The mean age of the sample is 30 (*SD*= 10.5).

Measures

In order to gather data for the research questions and to test the hypotheses, a questionnaire consisting of demographics (gender, age, and country), the Brief Islamic Religiosity Scale²², an Environmental Orientations Scale and an Environmental Behaviours Scale²³ were administered to the sample.

Religiosity

Respondents' religiosity was measured by the *Brief Islamic Religiosity Scale (BIRS)* in this study. Kaiser-Mayer-Olkin parameter and Bartlett test measure were utilised for data

22 Ali Ayten, "Kimlik ve Din: İngiltere'deki Türk Gençleri Üzerine Bir Araştırma [Identity and Religion: A Study on Turkish Youngs in England]", *Çukurova Üniversitesi İlahiyat Fakültesi Dergisi*, 2012, 12 (2), p. 101-119.

23 Ayten, "‘Sahip Olma’ mı ‘Emanet Görme’ mi?...?", p. 212-5.

suitability and factor analysis [$KMO = .77$, $\chi^2 = 258.387$; $p = .000$]. In the present study, the BIRS's Cronbach alpha was found as ($\alpha = .85$) which is consistent with Ayten's²⁴ results.

The measure was generated with 9 items that assess the degree of the belief in God, such as, the fulfilment of religious rituals (e.g. praying daily prayers), fasting in Ramadan, supplicating to God (dua), the recitation of the Qur'an and the effect of religious principles on daily life (e.g. the decision making process regarding important issues such as, the style in which clothes are adorned, eating and drinking etc.). Every item covers three options such as, "always, sometimes, never" or "extremely influential, somewhat influential, not at all influential". Referred values to options are ranging from 3 to 1 point respectively (from positive to negative). The BIRS sub-scales are labelled as, "consequential" and "ritual" dimensions. Here Cronbach's alphas ($\alpha = .82$ and $\alpha = .73$) are compatible for both sub-scales, respectively.

Environmental Orientation Scale (EOS)

The Environmental Orientation Scale was developed by Ayten²⁵ in his study on the relationship between religiosity, environmental orientation and environmental behaviours. The measure consists of 11 items based on the main attitudes towards the environment, such as, accepting the environment as a sacred gift and protecting it for the future generations or accepting that the human being is the supreme owner of it. Each item contains five options that assess the suitability of these items in relation to the respondents (e.g. "strongly agree", "agree", "neutral", "disagree" and "strongly disagree"). Items are rated on a 5 point Likert-type scale ranging from strongly disagree to strongly agree. The Kaiser-Mayer-Olkin parameter and the Bartlett test measure data were utilised for the suitability for factor analysis [$KMO = .725$, $\chi^2 = 402.60$; $p = .000$]. Ayten has found the EOS's Cronbach alpha as ($\alpha = .85$) in his study.

Environmental Behaviour Scale (EBS)

Environmental Behaviour Scale was used to measure the degree of the sample's environmental behaviours. This scale was developed by Ayten²⁶ in his study mentioned above. The measure consists of 14 items based on main behaviours concerning environmentalism, such as, refraining from wasting natural sources (water, energy, paper, bread etc.) avoiding polluting the nature, using energy saving home products, being sensitive to recycling issues, reading about environmental problems, attending environmental protests and conferences. Each item contains five options assessing the suitability of items for respondents (e.g. "never", "almost never", "sometimes", "fairly often" and "very often"). Items are rated on a 5 point Likert-type scale ranging from 'never' to 'very often'. The Kaiser-Mayer-Olkin parameter and the Bartlett test measure for data suitability was utilised for factor analysis [$KMO = .81$, $\chi^2 =$

24 Ayten, "Kimlik ve Din...", p. 101-119.

25 Ayten, "Sahip Olma' mı 'Emanet Görme' mi?...", p. 212-5.

26 Ayten, "Sahip Olma' mı 'Emanet Görme' mi?...", p. 212-5.

851.815; $p=.000$]. In the present study, the EBS's Cronbach alpha was found as ($\alpha=.79$) which is consistent with Ayten's results ($\alpha=.80$). Two sub-scales of the measurement are labelled as the, 'waste management' and the 'active environmentalism' dimensions.

Procedure

The data of the present study was collected from Sunni Muslims from the different districts of London and Cardiff (UK) in February 2016 and from different districts of Istanbul (Turkey) in September and October 2016. The sample was recruited through the non-random snowball sampling technique. Questionnaires containing the *Brief Islamic Religiosity Scale*, the *Environmental Orientations Scale* and the *Environmental Behaviours Scale* were distributed to participants on the streets outside and inside the mosques and in theology faculties. Participants were surveyed in similar settings. Therefore, it seems that there were no context-effects on attitudes. Researchers informed the participants about the objectives of the study and what their participation would entail. They also answered participants' questions regarding the study and the questionnaire. Completion of the questionnaire took approximately 15 minutes based on voluntary participation. Participants neither hesitated nor objected to answering the questionnaire.

Results

Relationship between gender, religiosity, environmental orientation and environmental Behaviour

An Independent Sample *t*- test was conducted in order to answer Research Question 1 and examine group differences between females and males with regards to the level of religiosity, (consequential dimension and ritualistic dimension), dimensions of environmental orientation (environmental dominion and environmental stewardship) and environmental behaviour (waste management and active environmentalism). Table 1 presents the ranges, means, and the standard deviations of the main variables of the present study.

Table 1. Range, mean, and standard deviations for the main variables of the study

	Females (N=159)			Males (N=183)		
	Range	M	SD	Range	M	SD
1.Age	16-74	29.38	9.339	16-74	30.79	11.54
2. Environmental dominion	1-5	2.40**	0.624	1-5	2.68**	0.681
3. Environmental stewardship	1-5	4.39*	0.648	1-6	4.18*	0.708
4. Active environmentalism	1-5	2.30	0.692	1-7	2.30	0.685
5. Waste management	1-5	4.07*	0.581	1-8	3.89*	0.602
6. Ritual	1-3	2.66	0.426	1-3	2.70	0.307
7. Consequential	1-3	2.67	0.453	1-4	2.64	0.372
8. Religiosity (total)	1-3	2.67	0.391	1-5	2.67	0.311

* $p < .01$; ** $p < .001$

As can be seen in Table 1, females scored higher in the consequential dimension of religiosity as opposed to the males. Males recorded higher ritualistic dimension scores than females. However, the difference between the two groups for both dimensions of religiosity did not reach the levels of statistical significance ($p > .05$). This result indicated that there were no gender differences in religiosity, moreover, it did not support the H_{1a} research hypothesis that females will score higher than male in religiosity.

Table 1 displays that females scored higher in the waste management ($t(340)=2.942$; $p < 0.01$), and the environmental stewardship ($t_{(340)}=2.972$; $p < 0.01$) dimensions than males did. As for the dimension of environmental dominion, males recorded higher scores than females ($t_{(340)}=-3.930$; $p < 0.001$). All the differences between the two groups were statistically significant. Findings from t -test analysis also show no significant ($p > .05$) mean gender differences in active environmentalism between females ($M=2.30$; $SD=.692$) and males ($M=2.30$; $SD=.685$). This finding supported H_{1b} , H_{1c} , H_{1e} research hypotheses that *females will score higher than males will in environmental stewardship, waste management but less than males in environmental dominion*. However, the H_{1d} research hypothesis that *females will score higher than males will in active environmentalism* is not supported by findings.

Are there any differences between British Muslims and Turkish Muslim in the levels of religiosity, environmental orientation and environmental behaviour?

Independent Sample t -Test was conducted in order to understand group differences between British and Turkish Muslims, and whether the country factor made a difference in terms of religiosity, environmental orientation and environmental behaviour. Table 2 presents means, and standard deviations for both groups.

Table 2. Means, standard deviations for British and Turkish Muslims.

	British Muslims (N=90)	Turkish Muslims (N=252)	t	P
	Mean (SD)	Mean (SD)		
Religiosity	2.54 (.229)	2.71 (.373)	-4.118	.000
Waste management	3.95 (.746)	3.98 (.537)	-.410	.682
Active environmentalism	2.34 (.591)	2.28 (.718)	.669	.504
Environmental stewardship	3.43 (.621)	4.58 (.398)	-20.046	.000
Environmental dominion	2.89 (.534)	2.42 (.668)	6.19	.000

The findings of t -test analysis showed that there were significant ($p=.000$) mean differences in religiosity, environmental stewardship, and environmental dominion between British Muslims and Turkish Muslims. According to means Turkish Muslims scored higher

than British Muslims did in religiosity (respectively $M=2.71$, $SD=.373$; $M=2.54$, $SD=.229$) and environmental stewardship (respectively $M=4.58$, $SD=.398$; $M=3.43$, $SD=.621$). However, British Muslims scored higher than Turkish Muslims did in environmental dominion (respectively $M=2.89$, $SD=.534$; $M=2.42$, $SD=.668$). There were no significant ($p>.05$) differences observed between the two groups with regards to waste management and active environmentalism. These findings support the research hypothesis that *Turkish Muslims will score higher than British Muslims in environmental stewardship* (H_{2b}). However, the hypothesis that *British Muslims will score higher than Turkish Muslims in active environmentalism* is not supported by findings (H_{2a}).

The Effect of religiosity on environmental orientation and environmental behaviour

Simple linear regression analyses (enter method) were used to assess whether religiosity has an effect on environmental orientation and environmental behaviour (see Table 3.). Thus, religiosity is used as an independent variable; environmental dominion, environmental stewardship, waste management and active environmentalism are used as dependent variables. It should be noted that that the DV is the predicted variable and the IVs are the variables entered into the equation are predictors.

Table 3. Regression analysis for religiosity on the dimensions of environmental orientations and the dimensions of environmental behaviours

IV: Religiosity			
DV: Environmental stewardship	$\Delta R^2=.116$	$F=45.682$	$p=.000$
	$\beta=.344$	$t=6.759$	$p=.000$
DV: Environmental dominion	$\Delta R^2=.004$	$F=2.250$	$p=.135$
	$\beta= -.081$	$t=-1.500$	$p=.135$
DV: Waste management	$\Delta R^2=.016$	$F=6.700$	$p=.010$
	$\beta=.139$	$t=2.588$	$p=.010$
DV: Active environmentalism	$\Delta R^2=.001$	$F=1.413$	$p=.235$
	$\beta= -.064$	$t=-1.189$	$p=.235$

Results indicate that religiosity is a significant predictor of the *environmental stewardship* dimension of environmental orientation. However, religiosity only accounts for 11% of the variance in the stewardship style of the environmental orientations. Nevertheless, with regards to beta coefficients, a positive correlation is found between religiosity and *environmental stewardship* ($\beta= .334$, $t= 6.759$, $p= .000$). Findings show that *environmental stewardship* increases as *religiosity* increases. Even with relatively low variance explained these findings

support the H_{3a} research hypothesis that *there is a positive relationship between religiosity and stewardship*. On the other hand, according to the findings, religiosity is not a significant predictor of the environmental dominion of environmental orientation. In addition, with regards to beta coefficients, there is no significant correlation between religiosity and environmental dominion ($p=.135$). Thus, the findings do not support the H_{3b} research hypothesis *there is a negative relationship between religiosity and environmental dominion*.

As for the relationship between religiosity and environmental behaviours, findings which have been presented in Table 3, indicate that religiosity is a significant predictor of the waste management dimension of environmental behaviour. However, religiosity only accounts for 1% of the variance regarding the waste management dimension of environmental behaviour. Nevertheless, with regards to beta coefficients, a positive correlation is found between religiosity and waste management ($\beta= .139$, $t= 1.189$, $p= .010$). Findings show that waste management increases as *religiosity* increases. Even with the relatively low variance mentioned above, these findings support the H_{4a} research hypothesis that *religiosity will have a positive effect on waste management*. On the other hand, according to the findings, religiosity is not a significant predictor of the active environmentalism dimension of environmental behaviour. Moreover, with regard to beta coefficients, there is no significant correlation between religiosity and active environmentalism ($p=.235$). Thus, the findings do not support the H_{4b} research hypothesis that *religiosity will have a positive effect on active environmentalism*.

Which factor is more effective in predicting waste management, religiosity, environmental orientation (environmental stewardship and environmental dominion) or age?

Multiple regression analysis (stepwise method) is performed to assess the effects of religiosity, environmental stewardship, environmental dominion and age regarding waste management. In Step 1, the factor religiosity is entered alone. In step 2, the four predictors of religiosity, environmental stewardship, environmental dominion and age are entered simultaneously. The dependent variable is waste management. The multiple regression analysis is presented in Table 4.

Table 4. Stepwise regression of religiosity, environmental dominion and age on waste management

DV: Waste management		β (p)	R^2 (p)	ΔR^2 (p)
Step 1	Religiosity	.139(.000)	.019 (.010)	.016 (.010)
Step 2	Religiosity	.119(.035)		
	Environmental stewardship	.043(.468)	.063 (.001)	.052 (.000)
	Environmental dominion	-.125(.026)		
	Age	.154(.004)		

According to regression analysis, religiosity, environmental dominion and age were significant predictors on the waste management dimension of environmental behaviour. As Table 4 shows, in step 1, 'religiosity' alone accounts only for 1% of the variance regarding the waste management dimension. However, in step 2, 'religiosity', 'environmental dominion' and 'age' together account for 6% of the variance in relation to the waste management aspect. According to the β coefficients, positive correlation is found between religiosity and age with regards to waste management and negative correlation is found between environmental dominion and waste management. The results indicate that the level of waste management increases as religiosity and age increase. But waste management decreases as environmental dominion increases. β coefficients also show that environmental orientation and age are more effective factors on environmental behaviour than religiosity. The findings support the H₅ research hypothesis that environmental orientation (environmental stewardship and environmental dominion) and age will be more effective factors on environmental behaviour (waste management) as opposed to religiosity.

Discussion and Conclusion

For many decades, scholars from the fields of the Psychology and the Sociology of religion have examined the role of religiosity on environmentalism (environmental attitudes, orientation and behaviours) and its ability to shape environmental attitudes. However, their focus has mostly been on the Judeo-Christian tradition. The aim of this current paper was to contribute and fill the gap that exists in the literature regarding religiosity and the environment in relation to traditions outside the Judeo-Christian culture. Hence, this study recruited two different Muslim samples from Turkey and the United Kingdom. Furthermore, the study aimed to investigate the relationship between environmental behaviours and the variables 'environmental orientation', 'gender' and 'age'.

With regards to the first research hypothesis (H1_{a-e}), the findings indicate that there is no statistically significant relationship between gender and religiosity. However, this finding is not consistent with the data from other studies that were conducted using different samples; in contrast various other studies have demonstrated a statistically significant relation between gender and religiosity i.e. where females are shown to score higher than males in religiosity.²⁷ Nevertheless, according to the findings of this study, females scored higher than their male counterparts in environmental stewardship and waste management. This reveals that females are more sensitive to the subject of stewardship and waste management. On the other hand, findings demonstrated that the males scored higher than the females in environmental dominion. This evidence might be explained in the light of the roles allocated

27 J. Hintikka - T. Koskela - O. Kontula - K. Koskela - H. Koivumaa-Honkanen - H. Viinamaki, "Religious Attendance and Life Satisfaction in the Finnish General Population", *Journal of Psychology and Theology*, 2001, 29 (2), p. 158-164; Ayten, *Empati ve Din*, p. 133.

to males and females in traditional Muslim settings that are found in the majority of Muslim households in both the United Kingdom and Turkey. In the case of females, it seems that they are given a caregiver role in this traditional setting. Hence, mothers and their daughters are socialised into being house stewards where they have an orientation to take care of the house, manage waste, and cherish their surroundings, whereas, males are socialised, in comparison to females, to not have any specific caretaker role within the home. Conversely, sons following their fathers are socialised into the role of the governor of the home where the attitude is one of control and protocol. Hence, it could be argued that Muslim females, who are socialised into being sensitive towards their surroundings, adapt this same orientation towards the wider environment. The same argument is valid for the Muslim males whose socialisation is adapted to become one of environmental dominion.

Furthermore, our findings indicated that the Turkish Muslims scored higher than their British counterparts regarding environmental stewardship, whereas, the British Muslims scored higher than their Turkish counterparts concerning environmental dominion. However, there was no significant difference in their environmental behaviours (active environmentalism and waste management). These findings demonstrate that the different cultural settings affected the environmental orientation but the same is not evident with regards to environmental behaviours. Even though it is not easy to categorise or classify contemporary cultures and societies, in many social studies with regards to pro-social attitudes and behaviours, the discussion comes down to collectivism and individualism.²⁸ The difference between these two orientations is that an individualistic society focuses more on the individual's right and the individuals' ownership, whereas, the collectivist society is generally based upon a traditional framework where everybody has a designated role. Subsequently, the Turkish society represents a much more collectivist society where the females designated role as the steward of the wider environment as discussed above, translates into the conclusion that in general Turkish Muslims score higher than their British counterparts in environmental stewardship. In a similar way, the British society being an individualistic society in general seems to translate into the supposition that British Muslims being influenced by their individualistic society, score higher than their Turkish counterparts regarding environmental dominion.

The question concerning the role of religiosity regarding environmental orientation and environmental behaviour has been investigated in various studies. However, in general, the relationship between religiosity, environmental orientation and behaviour has been examined using Judeo-Christian samples, in contrast to this study which used Muslim samples. Some of the results of the earlier studies indicate that religious people were more likely to be friendly towards the environment and more interested in environmental issues than their non-religious

28 R. Wuthnow, *Acts of Compassion: Caring for Others and Helping Ourselves*. Oxford: Princeton University Press, 1991; S. E. Taylor - L. A. Peplau - D. O. Sears, *Social Psychology*, Englewood Cliffs, NJ: Prentice Hall, 2006.

counterparts,²⁹ but some studies show that there is a negative relationship between religiosity and environmentalism.³⁰ Furthermore, some of them show that there is no significant relationship between them.³¹ The only study carried out using a Muslim sample by Ayten³² regarding the relationship between religiosity, environmental orientation and behaviour shows that as religiosity increases, environmental stewardship and waste management increase as well. However, the same study indicated that there is no statistically significant relationship between religiosity, active environmentalism and environmental dominion. Being broadly in line with Ayten's³³ previous research these authors' findings reveal that religiosity is positively related to environmental stewardship and waste management. However, the findings indicate that there is no statistically significant relationship between religiosity, environmental dominion and active environmentalism. These findings support the research hypotheses (H3_a) and (H4_a) on the positive relationship between religiosity, stewardship and waste management, however, it does not support the other research hypotheses (H3_b) and (H4_b) with regards to the links between religiosity, environmental dominion and active environmentalism. Furthermore, in the regression analysis, the variable 'religiosity' accounts for only 1% of the variance in determining environmental behaviour (only the dimension of waste management). The result suggests that other factors (e.g. age, environmental orientation such as, environmental dominion or stewardship) may play a larger part in the development of one's capacity for environmental behaviour. In conclusion it might be said that religiosity promotes the propensity to fulfil environmentally friendly behaviour such as, waste management (e.g. avoiding the wastage of water, energy, bread, paper etc.). However, due to the dire shortage of data that links religiosity and environmentalism, especially, concerning the relationship between religiosity and active environmentalism (e.g. reading about environmental problems and solutions, attending meetings and social events regarding environmental problems etc.) more research is needed to provide further clarification and evidence that environmentalism is indeed an element of religiosity. Furthermore, it must be said that the present study measures respondents' self-reported environmentalism (including waste management and active environmentalism). If we measure environmentalism with regards to 'real life' events, then the relationship between religiosity and environmentalism may decrease.

In this current study we did not find any significant correlation between religiosity and environmental dominion in relation to the Muslim samples. Conversely, some studies carried out on the Western samples showed that there is a negative correlation between these two variables. These studies attempted to clarify the kind of environmental attitudes,

29 Kanagy - Willits, "A 'Greening' of religion?", p. 674-683.

30 Tsimo - Wodon, "Faith affiliation, religiosity...", p. 51-64.

31 Woodrum - Hoban, "Theology and Religiosity Effects..." p. 193-206; D. M. Konisky - J. Milyo - L. E. Richardson, "Environmental Policy attitudes: Issues, geographical scale, and political trust", *Social Science Quarterly*, 2008, 89 (5), p. 1066-1085.

32 Ayten, "'Sahip Olma' mı 'Emanet Görme' mi?...", p. 203-33.

33 Ayten, "'Sahip Olma' mı 'Emanet Görme' mi?...", p. 203-33.

whether dominion or stewardship, best describe the Judeo-Christian religious viewpoint. For instance, Eckberg and Blocker³⁴ and Boyd's³⁵ findings were consistent with White's 'dominion theory'. On the other hand, some other studies demonstrated that even though people affiliated with the Judeo-Christian traditions tend to be predisposed to environmental dominion, there are wide variations between the numerous denominations that exist within the Judeo-Christian traditions³⁶. Furthermore, more research is needed to provide further clarification and evidence that would explain the difference between Western and Muslim samples (especially since there is extremely limited data available) regarding religiosity and its link to environmental dominion.

As we mentioned and argued above, some researchers³⁷ have all argued in various ways that religion and especially, religiosity (as constrained by how it is currently measured) may not be the most important determinants of environmental behaviours (e.g., waste management, active environmentalism). With regards to the fifth research hypothesis (H₅), the findings indicate that religiosity, environmental dominion and age are three independent predictors of environmental behaviour (waste management), but age is the best predictor. The results of the regression analysis indicate that age and environmental dominion are more effective on environmental behaviour than religiosity (see Table 4). Accordingly, it might be argued that age and environmental orientation strongly promote environmental behaviour. In our study we found that when people mature and become older their level of environmentalism or positive environmental behaviour increases. However, in some other studies that were carried out on western samples the researchers found that younger people are more likely to be environmentally friendly.³⁸ The difference between these findings might be explained through the effect of factors such as life style, education, and government policy.

Furthermore, in the regression analysis, variables 'religiosity, environmental orientation (stewardship and dominion) and age account only for 6% of the variance in determining environmental behaviour (only the dimension of waste management). These findings indicate that there are some other factor/factors which are effective in shaping environmental behaviour such as, life style, education level, development level, personality, level of empathy to the environment etc.

34 D. L. Eckberg - T. J. Blocker, "Varieties of Religious Involvement and Environmental Concern: Testing the Lynn White Thesis", *Journal for the Scientific Study of Religion*, 1989, 28 (4), p. 509-17.

35 H. H. Boyd, "Christianity and the Environment in the American Public", *Journal for the Scientific Study of Religion*, 1999, 38 (1), p. 36-44.

36 C. M., Hand - K. D. van Liere, "Religion, Mastery-Over-Nature, and Environmental Concern", *Social Forces*, 1984, 63 (2), p. 555-70.

37 Hayes - Marangudakis, "Religion and Environmental ...", p. 159-174; A. L. Owens - J. R. Videras, *Culture and Public Goods: The Case of Religion and the Voluntary Provision of Environmental Quality*, Mimeo: Hamilton College, 2006.

38 C. J. Carman, "Dimensions of Environmental Policy Support in the United States", *Social Science Quarterly*, 1998, 79 (4), p. 717-33; G. Ignatow, "Cultural Models of Nature and Society: Reconsidering Environmental Attitudes and Concern", *Environment and Behaviour*, 2006, 38, p. 441-61.

Research limitations and directions for future research

This research is one of the pioneer studies on the relationship between religiosity and environmental attitudes and behaviours, utilizing Muslim samples. Hence, it has a number of limitations. The first limitation resides in the way that the sample is constituted, it does not represent all different ages (the mean age of the sample is 30) or different religious backgrounds (Shiites, Alevis, and secular people). Moreover, this study demonstrates the need to have many more Muslim samples regarding this topic from the wider Muslim world, in order to fully understand Muslim environmental attitudes. In addition, there should be a debate concerning terms “Sacred” and “God” in the items of the measure of environmental orientation scale (stewardship subscale) so that we can recognize the positive correlation, if any, between religiosity and environmental stewardship. Future research concerning religiosity and environmentalism should specifically focus on factors such as life style, economic development, cultural socialisation, political attitudes to the environment and environment education in relation to environmental attitudes and behaviour amongst the adherents of the Muslim faith. Finally, in order to understand the difference between Western and Muslim understanding of religiosity and its relationship to environmentalism we need to make numerous comparative studies between Western and Muslim samples.

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