
DOES RELIGIOSITY INFLUENCE ENVIRONMENTAL ATTITUDE AND BEHAVIOUR? THE CASE OF YOUNG LITHUANIANS

Genovaitė Liobikienė^{1*}, Andrius Niaura¹, Justina Mandravickaitė²
and Žydrūnas Vabuolas³

¹ *Vytautas Magnus University, Department of Environmental Sciences, str. 8, 44404 Kaunas,
Lithuania*

² *Baltic Institute of Advanced Technology, av. 15, 10224 Vilnius, Lithuania*

³ *Vilnius St. Joseph Seminary, Kalvariju str. 325, 08420 Vilnius, Lithuania*

(Received 5 May 2015, revised 12 October 2015)

Abstract

Religion is a significant social force that contributes in shaping environmental attitudes. The aim of this study is to analyse the religiosity impact on environmental attitude, concern, knowledge and behaviour, and to evaluate the main determinants of environmentally friendly behaviour. Results show that attitude of religious and practicing young Lithuanians is characterized as more ecocentric. The results also showed that the most significant determinants of environmentally friendly behaviour are environmental concern, new ecological paradigm (NEP), environmental action related and effectiveness knowledge. Thus it is important to stimulate people's interest in environmental issues and to provide more information about environment.

Keywords: environment, friendly, behaviour, religiosity, knowledge

1. Introduction

Religion is usually referred as an organized system of spiritual beliefs, rituals and cumulative traditions associated with a particular group [1] that also provides a world-view regarding the origin of life and the Universe. Palmeret *et al.* [2] and Hilary & Hui [3] suggest that participation in religion could be viewed as a rational action by which individuals enhance their human capital value. Also, it may serve as a source to derive morality and ethical laws which govern people lifestyle. Thus religions unify people according to common values, attitudes and behaviours [4].

* E-mail: g.liobikiene@gmf.vdu.lt

1.1. Religiosity and environmental attitude, concern and knowledge

Religion is a significant social force that shapes environmental attitudes [5, 6]. According to the Bible extracts, such as verse 1.26 in the Book of Genesis: ‘*And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the Earth, and over every creeping thing that creepeth upon the Earth*’, the Roman Catholic attitude to environment is conveyed as anthropocentric. Moreover, White [7] stated that Western Christianity is strongly rooted in Biblically literal directive stating that man has domination over the Earth. Consequently, humankind’s needs should be placed over the ones of the nature. Furthermore, he asserts that Judeo-Christianity is the most anthropocentric religion the world has ever seen.

However, no author analysing the relationship between religiosity and environmental attitude referred to the Catholic Church Teachings. Therefore when scrutinized and referred to the latter source, in the Compendium of the Social Doctrine of the Church in the Part of Safeguarding the Environment (CSDC) [8], the attitude of anthropocentrism is denied. This document highlights that man’s pretension of exercising unconditional dominion over the things is the main cause of environmental problems. However, the attitude of ecocentrism, which denotes a nature-centred approach, is unsustainable in this document. Thus, the research on the impact of religiosity to environmental attitude has been contentious [9].

J. Guth et al [10] found that Roman Catholicism indicates positive environmental attitude. Yet M. Slimak and T. Dietz [11] showed that Christianity had no influence on environmental attitudes. However, the comparison of religions by D.Y. Jeong [12] showed that Christianity has more environmentally friendly attitude than Buddhism or other religions. Meanwhile C. Kanagy and H. Nelsen [13] declared that religiosity is not related to identification of one’s self as an environmentalist. Environmentalism is evaluated referring to New Environmental Paradigm (NEP). However, P. Djupe and P. Hunt [14] stated that positive relationship between Church membership and pro-environmentalism perspectives is insignificant.

Furthermore, the CSDC [8] indicates that relationship between people and nature is the result of another still deeper relationship between man and God and the destroyed relationship with God also imbalanced the existing one between man and nature. Such teachings of the Catholic Church contributed to the idea of ‘stewardship’, which indicates that mankind should take care of the Earth. So, God holds humankind responsible for the care of all earthly creatures and charges humans to care for harmony among the creatures and their development. Thereby the Church position maintains an idea of sustainable development: “*It is a matter of a common and universal duty that of respecting a common good and responsibility for the environment, the common heritage of mankind, extends not only to present needs but also to those of the future*” [15]. So, for the above mentioned reason, human beings have obligations to everything on our planet,

and they are not allowed to withhold their interest in those who will come after them. Thus Roman Catholicism should be described as more ecocentric than anthropocentric, therefore we hypothesize that: **H1**. Among young Lithuanians more religious people are more related to ecocentric attitude than anthropocentric.

Moreover, for Roman Catholics environmental concern should be more important, as it maintains the Catholics rule of 'stewardship'. However D. Eckberg and T Blocker [16] declared that Biblical literalism is negatively related to environmental concern. C. Kanagy and F. Willits [17] also confirmed that religiosity has a negative relationship with environmental concern. Yet A. Greeley [18] declared that Roman Catholicism shows more environmental concerns than other religious affiliations. It follows the second hypothesis of our study: **H2**. More religious young people express more environmental concern.

The environmental concern is related to environmental knowledge. However, the religiosity impact on environmental knowledge is not examined. Therefore, taking in to account that more religious young people should care for the environment, at the same time they should wonder more about environment and it follows the third hypothesis: **H3**. The more religious young people are, the more have environmental knowledge they have.

1.2. Religiosity and environmentally friendly behaviour

Religiosity has a powerful influence on human behaviour [11]. A. Owen and J. Videras [19] ascertained that ethical precepts and spiritual elements shape perceptions about the natural environment and act as guiding principles regarding environmental behaviour. In addition, Slimak, Dietz [11] showed that environmental behaviour is based on environmental ethics such as stewardship. Also, it adheres to altruism [19] and the new ecological paradigm (NEP), which was presented by Dunlap and Van Liere [20]. NEP includes such beliefs as the fragility of nature and the natural limits of growth. Moreover, the leaders of the Catholic Church declare that when humanity puts its own desires first, this leads to rampant selfishness and such behaviour is viewed as sinful [5]. Thus people are prompted to behave in a more environmentally friendly way for the purpose of avoiding sins and in this way to pursue God's will. Furthermore, religiosity is related to values which should promote the changes of lifestyle [21]. Also, religiosity should be more related to normative goals, which convey that people should protect environment because it is the right thing to do [22].

However, Slimak and Dietz [11], Kanagy and Willits [17] stated that religious variables appear to be weak predictors of environmental behaviour. Therefore Hayes and Marangudakis [23] showed that Christianity has no effect on environmental behaviour [11]. It can be explained that active Catholics or other active participants of a particular religion contribute much more volunteering time to their church while providing financial support for a variety of charitable causes and this level of time and money giving exhaust their ability to give. Also, they may look to the leadership to select causes that are the most

worthy, and thereby relieving themselves of any other additional obligation [5, 19]. However, Guth *et al* [10] found that Roman Catholics show positive environmental behaviour.

Nevertheless, Church and community groups or more informal social networks formed by religious affiliation might encourage contributions to environmental behaviour either directly through their activities or indirectly through the sense of connectedness created by these memberships [19]. Therefore: **H4**. Religiosity influences environmental behaviour

In such a situation, policy makers may need to intervene to establish pro-environmental outcomes rather than rely on the values of individuals to create an action. Thus the collaboration with churches makes faith an important partner in the implementation of environmental and other policies.

Taking in to account that Pope Francis is preparing an encyclical letter about ecology, this study should take general view of current impact of religiosity to environmental attitude, concern, knowledge and behaviour. Moreover, considering that young people are the main drivers for the future quality of nature, the aim of this study is to analyse the religiosity of young people and its impact on their environmental attitudes, knowledge and behaviour as well as to evaluate the main determinants of environmentally friendly behaviour.

All the authors reviewed in this study evaluated, that environmental behaviour is mostly related to environmental attitude and concern [9, 11, 24-36]. However, much of the research relied on the theory of rezoned action and planned behaviour. However, it showed a gap between attitude and behaviour [37-39].

Moreover, environmental knowledge also promotes more environmentally friendly behaviour [40-43]. However most research studies stated that knowledge about environmental may raise people's concerns and awareness. However, it does not necessarily result in behavioural changes [44-46]. Ecological knowledge may be a mediating variable for attitudes toward environmental behaviour [47, 48]. Furthermore, according to J. Frick and *et al*. [49], environmental knowledge is divided into three groups: systemic (basic), action-related and knowledge of effectiveness. All these kinds of environmental knowledge have a different impact on environmentally friendly behaviour. And knowledge about how to behave more environmentally friendly is more important than the basic environmental knowledge, such as just knowing about the pollution of rivers [50]. Thus the following hypotheses are proposed: **H5**. Environmental behaviour is related to: (a) environmental attitude, (b) concern and (c) knowledge and it follows the last hypothesis that: **H6**. Environmental behaviour according to knowledge level is more related to action-related and knowledge of effectiveness rather than to basic knowledge.

The study contains suggestions for Roman Catholic communities and for policy makers regarding setting the priorities for environmental friendly behaviour. These suggestions are based on the results of this study. Thus the rest of paper proceeds as follows. Section 2 presents survey methods used in the

assessment of environmental attitudes, knowledge and behaviour of young Lithuanians. It also includes the statistical methods used for estimating the main determinants of environmentally friendly behaviour. Sections 3-4 discuss the results of religiosity impact on the NEP, knowledge of environmental concern and the main determinants of environmental friendly behaviour. Finally, Section 5 closes the paper with the main conclusions.

2. Methods

2.1. Survey methods

Considering that young people are the main users of the internet and wanting the survey questionnaire to achieve more respondents, an internet survey was conducted in 2010-2011. The questionnaire was performed using a Lithuanian website, which is very popular for conducting vast surveys among the young. The questionnaire was aimed at young Lithuanians from 17 to 36 years old and involved 459 respondents. All questionnaires were valid and usable.

Regarding respondents of the survey, 41% of them were men and 59% women. The average age of respondents was 23 years. According to religiosity, respondents were divided in three distinct groups that comprised of: 30.3% - religious and practicing, 50.1% - believe in God, but do not practice and 19.6% - irreligious or atheists. The biggest share of respondents was Roman Catholics (84%), followed by 2.1 % of respondents who were the members of other Christian churches (Protestants, Orthodox), 9% with affiliation to Hinduism, 0.7% - affiliated to Buddhism, 4.3% - to other religions.

2.2. The survey scales

Beside socio-demographic variables, the survey was comprised of three scales. First scale was devoted to evaluate environmental attitude of young people. Considering the environmental attitude we referred to the NEP, which shows environmental worldview of the people. The NEP scale is theoretically related to principles of living in harmony with or having mastery over natural and social world [24]. On the other hand, it encompasses ecocentric and anthropocentric attitudes. However, when measuring in the NEP scale, anthropocentric statements are being converted. Thus the NEP scale revised by R. Dunlap and colleagues [24] was applied in this study. This revised scale was also vastly used by other authors [9, 34, 51-54]. From 15 affirmations, seeking the bigger scale reliability, our NEP scale consisted of eleven items. It is presented in Table 1. The internal consistency of scale was determined using Cronbach's alpha.

The second scale of this survey reveals the level of environmentally friendly behaviour. This scale was constituted considering environmentally friendly habits, purchasing decisions and recycling behaviour. The full scale of environmentally friendly behaviour is presented in Table 2.

Table 1. Mean and standard deviation of the NEP scale items.

NEP	Mean	SD	
Humans have the right to modify the natural environment to suit their needs	3.40	1.08	Alpha = 0.77
When humans interfere with nature, it often produces disastrous consequences	2.08	1.02	
Human ingenuity will insure that we do not make the Earth unlivable	3.04	1.06	
Humans are severely abusing the environment	1.83	0.89	
Plants and animals have as much right as humans to exist	1.71	0.99	
Despite our special abilities, humans are still subjects to the laws of nature	1.64	0.80	
The so-called 'ecological crisis' facing humankind has been greatly exaggerated	3.69	0.93	
Earth is like a spaceship with very limited room and resources.	2.57	0.96	
Humans were meant to rule over the rest of nature	3.88	1.03	
The balance of nature is very delicate and easily upset	2.08	0.93	
If things continue on their present course, we will soon experience a major ecological catastrophe	2.33	0.99	

Table 2. Mean and standard deviation of environmentally friendly behaviour scale items.

Behaviour	Mean	SD	
Recycle paper	2.31	1.077	Alpha = 0.76
Recycle glass	2.73	1.048	
Recycle plastic	2.31	1.054	
Recycle metal	2.32	1.099	
Recycle hazardous waste	2.74	1.148	
Purchase goods in bigger packages	2.65	0.690	
Purchase environmental friendly goods	2.53	0.782	
Purchase eco-efficiency appliances (bulbs)	2.89	0.873	
Take a bag going to the shop	3.19	0.793	
Turn off the tap when brushing teeth	3.29	0.951	
Wait until there's a full load for washing	3.42	0.699	
Reduce hot water temperature when washing dishes	2.63	0.792	
Turn out the light in unused rooms	3.22	0.738	

The third scale was devoted for environmental knowledge. Referring to J. Frick *et al.* [49] methodology, environmental knowledge was evaluated at three levels: systemic, action related and effectiveness. The items of these levels are presented in Table 3.

Table 3. The items of distinctive levels of environmental knowledge.

Environmental knowledge	Items
Systemic The average of right answers 2.96 (SD = 0.96), no knowledge (0), biggest knowledge (5)	1. Glass decomposes in less (more) than 600 years
	2. Emission of CO ₂ is due to global warming
	3. Share of good's price fell on package about 16%
	4. 70% of energy in the EU is used for household heating
	5. The state of Lithuanian rivers since 1990 have not been deteriorating
Action-related The average of right answers 2.6 (SD = 0.91), no knowledge (0), biggest knowledge (5)	1. Metallic garbage can be throw in to the glass container
	2. Travelling by plain is the least ecological way to travel
	3. According to the law of the Republic of Lithuania waste regulation we are supposed to separate electronic waste from municipal waste
	4. In the case of shifting our consumption habits, we contribute to biodiversity protection and saving natural resources
	5. For the aluminium process of recycling waste saved more energy than was used for the production of new ones
Effectiveness The average of right answers 1.5 (SD = 0.78), no knowledge (0), biggest knowledge (4)	1. Plastic packaging is more environmentally friendly than those which are from unrecycled paper
	2. Reduction of the housing heating by 1°C will reduce bill by 5-10% and in this way 300 kg less of CO ₂ emissions will be released
	3. We save more than 40 % energy if we don't leave TV set stand by
	4. We save 80% energy using energy-saving light bulbs
The average of total correct answers 7.1 (SD = 1.74), no knowledge (0), biggest knowledge (14)	

2.3. Statistical analysis

For estimating the determinants of religiosity, correlation analysis was used. Dispersion analysis (ANOVA) was used for examining statistical significance of differences in the mean score of the NEP, environmental concern, environmental knowledge level, behaviour and the religiosity categories.

In order to evaluate the determinants of environmentally friendly behaviour, the causal model of environmentally friendly behaviour includes socio-demographic variables (gender, education, and income), religiosity and environmental attitude (NEP), environmental concern and knowledge factors. The model was estimated using generalised linear regression. This method helped to evaluate which variables influence environmental behaviour the most.

Then standard measures of co-linearity and variance inflation were employed to test the independence of the data. Also, probability plots of regression residuals were used to test the normality and scatter plots of the predicted values - to check for heteroscedasticity. All in all, this analysis did not reveal any problems that would deviate from the statistical assumptions underlying the inference reported in this study.

3. Results

3.1. Environmental attitude, concern and religiosity

The responses of young Lithuanians regarding various NEP items were diverse (Table 1). They agreed the most weakly with propositions that despite our special abilities humans still are subjected to the laws of nature ($M = 1.64$, $SD = 0.8$) (4 - strongly agree, 1 – disagree) and that plants and animals have as much right to exist as humans ($M = 1.71$, $SD = 0.99$). The strongest agreement occurred regarding statements that humans were meant to rule over the rest of the nature ($M = 3.88$, $SD = 1.03$) and that the so-called ‘ecological crisis’ facing humankind has been greatly exaggerated ($M = 3.69$, $SD = 0.93$). Therefore these results show that attitudes of young Lithuanians towards the environment are more anthropocentric and the aggregate score of the NEP for Lithuanian young is rather low ($M = 2.17$, $SD = 0.5$).

Table 4. Differences in the mean of NEP scale, environmental concern, knowledge and religiosity level.

	Religiosity level		
	F	P	η_p^2
NEP	9.10	0.001	0.040
Environmental concern	4.30	0.010	0.020
Environmental systemic knowledge	0.36	0.690	0.002
Environmental action related knowledge	0.90	0.400	0.004
Environmental effectiveness knowledge	0.14	0.630	0.001
Environmental friendly behaviour	2.16	0.110	0.009

Taking in to account impact of religiosity to environmental attitude, in comparison with those who do not practice and atheists, religious and practicing people demonstrated significantly stronger agreement regarding the following: when humans interfere with nature, it often produces disastrous consequences ($F(2.456) = 9.87$, $p < 0.001$, $\eta_p^2 = 0.04$); Earth is like a spaceship with very limited room and resources ($F(2.456) = 4.07$, $p = 0.02$, $\eta_p^2 = 0.02$); the balance of nature

is very delicate and easily made upset ($F(2,456) = 14.24, p < 0.001, \eta_p^2 = 0.06$); if things continue on their present course, we will soon experience a major ecological catastrophe ($F(2,456) = 4.95, p = 0.001, \eta_p^2 = 0.02$). Overall, controlling for gender, there was observed a significant difference between religiosity levels and the aggregate levels of the NEP (Table 4), which revealed that practicing religious young people inclined to be more ecocentric than those who do not practice or were atheists.

Moreover, according to the statement ‘they do have interest in environment’ there were analysed the differences of environmental concern among the religiosity levels. Thus the results also confirmed that practicing religious young people are more environmentally concerned than those who do not practice or are atheists.

3.2. Environmental knowledge

Our findings displayed that distinctive levels of environmental knowledge varied among the young Lithuanians. They were mostly characterized with systemic (basic) knowledge systemic about the environment (average = 2.96, SD = 0.96). Also, they had less action-related knowledge (average = 2.6, SD = 0.91) and their knowledge of effectiveness was the least (average = 1.5, SD = 0.78). Taking into account total environmental knowledge, we evaluated that young Lithuanians know about environment moderately well (average = 7.1 SD = 1.74, no knowledge (0), expert knowledge (4)) (Table 3).

Also, our findings confirmed that, comparing the impact of environmental knowledge to distinctive level to environmentally friendly behaviour, the greatest impact was observed in regard to action-related knowledge (Table 5). Meanwhile systemic (basic) environmental knowledge had no significant impact on environmentally friendly behaviour.

The results also showed that religiosity has no significant influence to systemic (basic), action related knowledge as well as knowledge of effectiveness (Table 4). It conveys that religious young people are not interested in nature which is created by God and assigned to people to care for.

Table 5. Correlation between environmentally friendly behaviour and distinctive level of environmental knowledge.

	Systemic knowledge	Action related knowledge	Effectiveness knowledge
Environmentally friendly behaviour	0.04	0.132*	0.126*

* $p < 0.05$

3.3. Environmentally friendly behaviour and its determinants

According to the aggregate score, behaviour of young Lithuanians is rather environmental friendly ($M = 2.79, SD = 0.47$) (4 - very environmental friendly, 1 - the least environmental friendly). They rather often wait until there is a full load for washing ($M = 3.42, SD = 0.69$), turn off the tap when brushing

their teeth (M = 3.29, SD = 0.95). However, young people rather seldom recycle paper, plastic, metal (M = 2.31, SD = 1.1) or purchase environmental friendly goods (M = 2.53, SD = 0.78) which are more expensive (Table 2).

Table 6. Correlation between NEP, environmental concern, knowledge and behaviour.

	NEP	Environmental concern	Environmental knowledge
Environmental concern	0.31*		
Environmental knowledge	0.10*	0.23*	
Environmental friendly behaviour	0.29*	0.43*	0.15*

* p < 0.05

Table 7. Regression of environmental behaviour of Model 1.

Parameter	B	Std. Error	Wald Chi-Square	Sig.
(Intercept)	3.291	0.1706	372.14	0.000
[Gender = female] comparing with male	0.109	0.0439	6.13	0.013
[Relig = irreligious, atheist] comparing with religious and practicing	0.004	0.057	0.005	0.942
[Relig = believe in God, but do not practice] comparing with religious and practicing	0.028	0.052	0.283	0.595
Education	0.025	0.0175	2.115	0.146
Income	0.017	0.0125	1.850	0.174
NEP	0.144	0.0419	11.752	0.001
Environmental concern	0.198	0.0268	54.60	0.000
General environmental knowledge	0.018	0.0114	2.487	0.115
N = 459, Adjusted R ² = 0.22, Deviance value/df = 0.173)				

When analysing the determinants of environmental friendly behaviour, firstly correlation among the NEP, environmental concern, knowledge and behaviour, which is listed in Table 6, is evaluated. All scales are positively and significantly correlated with each other, meaning that all these variables are related. The highest observed coefficient is 0.43 and exists between environmental concern and environmentally friendly behaviour. Moreover, correlation between the NEP and environmental concern was one of the highest as well. This result reveals that there is strong relation between the latter variables, i.e. the more of young people have ecocentric attitude, the more they are environmentally concerned. Meanwhile the weakest correlation was observed between the NEP and environmental knowledge.

In order to evaluate the determinants of environmentally friendly behaviour, our causal model (1) of environmentally friendly behaviour includes socio-demographic variables (gender, education, and income) and factors of

religiosity, environmental attitudes (NEP), environmental concern and environmental knowledge.

Regression analysis of Model 1 reveals that independent variables account for 22% of the variance (adjusted R²). Thus Table 6 presents un-standardized regression coefficients for each independent variable entered into the model. According to the Wald Chi-Square level of significance, religiosity, education and income level have no significant impact on environmentally friendly behaviour of young people. Yet, out of the socio-demographic variables only gender has a significant impact (Table 7).

As indicated by the regression of the environmental model, the environmental concern is the most important factor for environmentally friendly behaviour. These results showed that interest in environment contribute to more environmentally friendly behaviour. The NEP also has an impact on environmental behaviour. However, it is weaker than environmental concern. Meanwhile general environmental knowledge had insignificant impact on environmentally friendly behaviour (Table 7). However, in the causal model (2), including action related knowledge as well as knowledge of effectiveness, the level of variable has positive and significant impact to environmentally friendly behaviour (Table 8)

Table 8. Regression of environmental behaviour of Model 2.

Parameter	B	Std. Error	Wald Chi-Square	Sig.
(Intercept)	3.324	0.1358	598.941	0.000
[Gender = female] comparing with male	0.110	0.0437	6.391	0.011
[Relig = irreligious, atheist] comparing with religious and practicing	-0.006	0.0573	0.010	0.919
[Relig = believe in God, but do not practice] comparing with religious and practicing	-0.031	0.0525	0.344	0.557
Education	0.025	0.0174	2.148	0.143
Income	0.019	0.0125	2.235	0.135
NEP	0.141	0.0418	11.335	0.001
Environmental concern	0.202	0.0262	59.328	0.000
Environmental action related and effectiveness knowledge	0.056	0.0248	5.035	0.025
N = 459, Adjusted R ² = 0.22, Deviance value/df = 0.171)				

4. Discussion and implication for policy makers for setting the priorities for environmental friendly behaviour

Despite that the survey is not representative, however, we can make some valuable inference. Therefore our analysis confirmed hypothesis that religious and practicing young people are more ecocentric (H1). Also, religious and

practicing young people are inclined to declare bigger environmental concern than those who do not practice or are atheists (H2). Therefore our study reveals that respondents, of whom the biggest share consists of Roman Catholics, follow the Church teachings and are interested in environment, which the God assigned them to care for. Also, their attitude is more ecocentric than anthropocentric. It can be related that among religious people the option is established that when humanity puts its own desires in the first place, this leads to rampant selfishness and thus it is viewed as sinful. However, future research might evaluate the third attitude – teocentric, which should be the straightest attitude among religious people, and its impact on environmentally friendly behaviour.

Furthermore, our findings denied the hypothesis (H3) that the more religious young people are, the more environmental knowledge they have. Thereby, despite that more religious people express more concern about the environment, however, their knowledge about the environment does not differ. Moreover, it was confirmed that comparing the impact of environmental knowledge belonging to distinctive level to environmentally friendly behaviour, the greatest impact was observed in regard to action-related knowledge as well as knowledge of effectiveness (H6). Meanwhile systemic (basic) environmental knowledge had no significant impact on environmentally friendly behaviour. So, these findings highlight the necessity to educate people and to provide more information about their behavioural impact on the environment and how to reduce it in particular. Thus appropriate attention of it should be given in religious communities, teachings and practices in order to seek more environmentally friendly behaviour. Moreover the suggestion for future research would be that researchers might elaborate environmental knowledge more and include knowledge about personal behaviour impact on environment. Also, possible future research should explore the ways to behave more environmentally friendly as knowing that 5 electronic appliances in standby mode consume the same amount of energy as 60W bulb.

According to our causal model, there was revealed that among demographic variables only gender has a significant impact. The results that females are more environmentally friendly were also confirmed by other authors [42, 55, 56]. Meanwhile education and income impact on environmental friendly behaviour was insignificant. Moreover, despite the fact that religious and practicing young Lithuanians were characterized by more environmental concern than those who do not practice or are atheists, however, considering environmentally friendly behaviour, no significant differences among these groups were observed, thus the hypothesis H4 was denied. This can be explained by the fact that actively religious people give more attention to charitable activities than to environmental issues [5, 19]. Therefore it is very important for the religious leaders to emphasize that environmentally friendly behaviour is one of the obligatory orders to care for other people in religious life and that to safeguard the environment is very important. In nowadays this practice seldom occurs in the churches. Therefore for future research it would be interesting to analyse the confessional practice, in the light whether religion leaders help to

clarify and name that, for example, not recycling is sinful and whether that changes human behaviour.

As indicated by the regression model, environmental concern is the most important factor for environmentally friendly behaviour. The NEP has positive and significant impact on environmentally friendly behaviour as well (H5 a,b). Thus the results showed that interest in environment and ecocentric attitude contribute to a more environmentally friendly behaviour. However, other authors ascertained a gap between attitude and behaviour [37, 38, 39, 52, 55, 57, 58]. Nevertheless, in this case no difference between what young Lithuanians declare and how they behave was observed. Therefore promoting interest in environment at the policy making level is the most important affair in order for young Lithuanians' behaviour to become more environmentally friendly. As an example, it could be an advertising campaign stating that ecological lifestyle is fashionable and attractive [59, 60].

Meanwhile general environmental knowledge has insignificant impact on environmentally friendly behaviour, so hypothesis H5c was denied. However, in the causal model, including action related knowledge as well as knowledge of effectiveness, the level of the latter has positive and significant impact on environmentally friendly behaviour. Therefore ecological education is very important [43, 61-63]. It is also included in the Lithuanian national strategy for sustainable development [*The Lithuanian strategy for sustainable development*, Approved by Resolution No.1247 of September 16, 2009 of the Government of the Republic of Lithuania, 46]. One of the main long-run tasks of this strategy is to promote sustainable development ideas at all levels of education and to ensure the systematic development of Science and technologies that would allow building knowledge society based on Science. However, in this strategy there is lack of suggestions of what information is needed and what means are the most acceptable for society. Therefore, in order to promote more environmentally friendly behaviour, the main suggestion for policy makers would be to educate people about their behavioural impact on the environment and how to reduce it. Moreover, the final suggestion for future research would be to consider environmental education as means to change people environmental behaviour.

5. Conclusions

The attitude of young Lithuanians is considered to be more anthropocentric; meanwhile, more religious young people were attributed to more ecocentric attitude. Thereby despite that more religious people express more concern about the environment; however, their knowledge about the environment does not differ. Considering environmentally friendly behaviour, no significant differences among religiosity levels were observed as well. Therefore it is very important that religious leaders should amplify for churchgoers the necessity to behave with more responsibility towards environmental issues.

Finally, the most significant determinant of environmentally friendly behaviour is environmental concern and the NEP. In the causal model, including action related knowledge as well as knowledge of effectiveness, the latter has positive and significant impact on environmentally friendly behaviour . Therefore, in order to achieve that young Lithuanians would behave more environmentally friendly, it is important to promote interest in environment and to educate people, providing more information about the impact of their behaviour on the environment and how to reduce it in particular.

References

- [1] T.F. Stillman, F.D. Finchman, K.D. Vohs, N.M. Lambert and C.A. Phillips, *J. Econ. Psychol.*, **33** (2012) 1-7.
- [2] M. Palmer and V. Finlay, *Resour. Conserv. Recy.*, **41** (2004) 365-366.
- [3] G. Hilary and K.W. Hui, *J. Financ. Econ.*, **93** (2009) 455-473.
- [4] S. Ontakharai, R. Koul and J. Neanchaleay, *J. Beliefs Values*, **29(3)** (2008) 305-311.
- [5] L.M. Hunter and M.B. Toney, *Soc. Sci. J.*, **42** (2005) 25-38.
- [6] O. Lelkes, *J. Econ. Behav. Organ.*, **59** (2006) 173-1996.
- [7] L. White, *Science*, **155** (1967) 1203-1207.
- [8] ***, *Compendium of the social doctrine of the church*, Libreria Editrice Vaticana, Vatican, 2005, online at http://www.vatican.va/roman_curia/pontifical_councils/justpeace/documents/rc_pc_justpeace_doc_20060526_compendio-dott-soc_en.html.
- [9] W.C. Martin and C.R. Bateman, *J. Bus. Res.*, **67** (2014) 5-11.
- [10] J.L. Guth, J.C. Green, L.A. Kellstedt and C.E. Smidt, *Am. J. Polit. Sci.*, **39(2)** (1995) 364–382.
- [11] M.W. Slimak and T. Dietz, *Risk Anal.*, **26(6)** (2006) 1689-1705.
- [12] D.Y. Jeong, *Island Futures: Conservation and Development Across the Asia-Pacific Region*, **1** (2011) 107-123.
- [13] L. Kanagy and H.M. Nelsen, *Rev. Relig. Res.*, **37(1)** (1995) 33–45.
- [14] P.A. Djupe and P.K. Hunt, *J. Sci. Stud. Relig.*, **48(4)** (2009) 670–686.
- [15] John Paul II, *Acta Apostolicae Sedis*, **83(37)** (1991) 840.
- [16] D.L. Eckberg and T.J. Blocker, *J. Sci. Stud. Relig.*, **35(4)** (1996) 343–355.
- [17] C.L. Kanagy and F.K. Willits, *Soc. Sci. Quart.*, **74(3)** (1993) 674–683.
- [18] A. Greeley, *J. Sci. Stud. Relig.*, **32(1)** (1993) 19–28.
- [19] A.L. Owen and J.R. Videras, *J. Environ. Econ. Manag.*, **54** (2007) 162-180.
- [20] R. Dunlap and K. Van Liere, *J. Environ. Educ.*, **9** (1978) 10-19.
- [21] S. Oreg and T. Katz-Gerro, *Environ. Behav.*, **38(4)** (2006) 462–483.
- [22] L. Steg, J.W. Boldedijk, K. Keizer and G. Perlaviciute, *J. Environ. Psychol.*, **38** (2014) 104-115.
- [23] B.C. Hayes and M. Marangudakis, *Rev. Relig. Res.*, **42 (2)** (2000) 159-174.
- [24] R.E. Dunlap, K.D. Van Liere, A.G. Mertig and R.E. Jones, *J. Soc. Issues*, **56 (3)** (2000) 425-442.
- [25] J. Thøgersen and F. Olander, *J. Econ. Psychol.*, **23** (2002) 605-630.
- [26] R. Fernández-Manzanal, L. Rodríguez-Barreiro and J. Carrasquer, *Sci. Educ.*, **91(6)** (2007) 988–1009.
- [27] P. Casey and K. Scott, *Aust. J. Psychol.*, **58(2)** (2006) 57–67.
- [28] E. Fraj and E. Martinez, *J. Consum. Mark.*, **23(3)** (2006) 133–144.

- [29] J.I.M. de Groot and J.L. Steng, *Environ. Behav.*, **40(3)** (2008) 330-354.
- [30] M. Toth, *The sustainability of the consumption of university students*, Proc. of Sustainable Consumption 2008 Conference, Corvinus University of Budapest, Budapest, 2008, 150–162.
- [31] K. Lee, *J. Environ. Psychol.*, **31** (2011) 301-308.
- [32] C.A. Klockner, *Global Environmental Change*, **23** (2013) 1028-1038.
- [33] M. Hurst, H. Dittmar, R. Bond and T. Kasser, *J. Environ. Psychol.*, **36** (2013) 257-269.
- [34] C.J. Van Riper and G.T. Kyle, *J. Environ. Psychol.*, **38** (2014) 288-297.
- [35] O. Sapci and T. Considine, *Journal of Behavioural and Experimental Economics*, **52** (2014) 29-34.
- [36] H-H. Zhao, Q. Gao, Y-P. Wu, Y. Wang and X-D. Zhu, *J. Clean. Prod.*, **63** (2014) 343-351.
- [37] R. Ozaki, *Bus. Strateg. Environ.*, **20(1)** (2011) 1-17.
- [38] J. Pickett-Baker and R. Ozaki, *J. Consum. Mark.*, **25(5)** (2008) 281-293.
- [39] D. Gadennan, B. Sharma, D. Kerr and T. Smith, *Energ. Policy*, **39(12)** (2011) 7684-7694.
- [40] M.M. Mostafa, *Psychol. Market.*, **24 (5)** (2007) 445-473.
- [41] J. Brizga, *Household environmentally sustainable behaviour and communication in Latvia*, Proc. of Sustainable Consumption 2008 Conference, Corvinus University, Budapest, 2008, 50–61.
- [42] A. Balžekienė and A. Telešienė, *Socialiniai mokslai*, **4(74)** (2011) 7-19.
- [43] A. Zsóka, Z. M. Szerenyi, A. Szech and T. Kocsis, *J. Clean. Prod.*, **48** (2013) 126-138.
- [44] A. Kollmuss and J. Agyeman, *Environ. Educ. Res.*, **8** (2002) 239-260.
- [45] S. Bamberg and G. Möser, *J. Environ. Psychol.*, **27** (2007) 14-25.
- [46] F. Bartiaux, *J. Clean. Prod.*, **16(11)** (2008) 1170-1180.
- [47] A.N. Zsóka, *J. Clean. Prod.*, **16(3)** (2008) 322-329.
- [48] M.R. Cohen, *J. Environ. Educ.*, **5(2)** (1973) 5-8.
- [49] J. Frick F. G. Kaiser and M. Wilson, *Pers. Individ. Differ.*, **37** (2004) 1597–1613
- [50] V. Corral-Verdugo, G. Carrus, M. Bonnes, G. Moser and J.B.P. Sinha, *Environ. Behav.*, **40(5)** (2008) 703-725.
- [51] P.W. Schultz, L. Zelezny and N.J. Dalrymple, *Environ. Behav.*, **32(4)** (2000) 576–591.
- [52] L. Nistor, *Rootless and clustered environmentally significant consumption*, Proc. of Sustainable Consumption 2008 Conference, Corvinus University, Budapest, 2008, 101-118.
- [53] N. Erdogan, *J. Agric. Res.*, **4(10)** (2009) 1023-1031.
- [54] L.J. Hawcroft and T.L. Milfont, *J. Environ. Psychol.*, **30** (2010) 143-158.
- [55] S. Barr and A. Gilg, *Geoforum*, **37** (2006) 906-920.
- [56] A. Gilg and S. Barr, *Ecol. Econ.*, **57** (2006) 400-414.
- [57] J. Urban, M. Scansny and I. Zverinova, *Buy or not to buy organic food? A case study on Prague's population*, Proc. of Sustainable Consumption 2008 Conference, Corvinus University, Budapest, 2008, 50–61.
- [58] J.O. Jensen, *Ecol. Econ.*, **68(1)** (2008) 353-361.
- [59] ***, *Household Behaviour and the environment. Reviewing the evidence*, OECD (Organisation for Economic Co-Operation and Development), Paris, 2008, 261.
- [60] L. Beaman and A. Dillon, *J. Dev. Econ.*, **98(1)** (2011)124-135.
- [61] T. Jackson, *Prosperity without growth? The transition to a sustainable economy*. Sustainable Development Commission report, Earthscan, London, 2009, 122.

- [62] A. Tukker, S. Emmert, M. Charter, C. Vezzoli, E. Sto, M.M. Andersen, T. Geerken, U. Tischner and S. Lahlou, *J. Clean. Prod.*, **16** (2008) 1218-1225.
- [63] S. Musti, K. Kortum and K.M. Kockelman, *Transport. Res. D – Tr. E.*, **16** (2011) 49-56.