The Internet Generation and Their Environmental Concern

Parental Influence in Poland and the Netherlands

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Preface

Now that the end of my student days has finally arrived, I reflect on my seven years of being a student. I took on major challenges, the biggest of which was the move to a new city for my Master's degree. Not knowing that other changes were yet to come, I entered the academic year in good spirits and started preparing for the thesis in November. Where I was very happy with my assigned supervisor at the beginning, unfortunately I was forced by circumstances to switch supervisors at a crucial point. At that time I did not know that this would turn out well for me, because now I know that I would not have wanted it any other way.

Special attention should also be given to the Coronavirus. Because of this, I have (still) not been able to see and speak to my supervisor in real life. I spent many hours on this thesis, but also many empty hours because of the forced study at home instead of at university. Here I come to my favourite statement since the Coronavirus outbreak:

"You're only unproductive by the standards of the world we lived in two months ago – and that world is gone now." – Michael James Schneider

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Abstract

This study examines the relationship between internet use and environmental concern of young adults, and in particular the role parents have in shaping this relationship. This study looks at young adults in Poland and in the Netherlands specifically, because of the differences in internet access in these countries and their different family ties. The data used in this study is from the European Social Survey 2016. Statistical analyses, using one-way and two-way ANOVA tests, revealed a positive effect of internet use on environmental concern. Also, a significant three-way interaction between internet use, parental education and the country was found. In the Netherlands, the relationship between time spent on the internet by young adults and their environmental concern, becomes stronger when the level of education of their parents is higher. In Poland this level of education does not have significant effects on the relationship between internet use and environmental concern.

Keywords: environmental concern, internet generation, internet use, parental influences, young adults

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1. Introduction

Climate change is subject to a lot of discussion in the global society. Global awareness of climate change and global warming is raised due to the coverage by popular media, especially the coverage on the internet (Byg & Salick, 2009). The internet can therefore play a prominent role in raising awareness. Due to the growing interest in and the increasing attention for climate change and global warming, research into the causes and determinants of environmental concern is of additional value. Fu et al. (2020) define environmental concern as the degree to which people are aware of the problems associated with the environment and the degree to which they care about those problems. One may wonder whether the internet influences the awareness and concern among young adults. As they grow up with the internet and in an online environment, this generation is therefore also referred to as the *internet generation*. These young adults are also in a stage of life where their parents still have an influence on their behaviour. As a consequence, one may incline to think that parents monitor the time young adults spend on the internet. This makes it relevant to look at how parents influence the amount of time their children spend on the internet and consequently, how it affects the environmental concern of the children. Parents in general have a big influence on their children, and parents with a higher level of education more frequently stay near their children while they are online, compared to parents with a lower attained educational level (Livingstone & Haddon, 2009). This thesis therefore studies the relationship between the amount of internet use and the environmental concern of young adults, and the role parents play in shaping this relationship. Specifically, this study looks at young adults in Poland and the Netherlands, because of the differences in internet access in these countries and their different family ties. This will be further elaborated in the next paragraphs.

1.1 Internet use

Now that 89 percent of the households in European countries have access to the internet (Eurostat, 2020), one can assume that the internet is an effective way to gain and deliver information. According to Statistics Netherlands (CBS, 2018), the Netherlands is the leading group of EU-27 countries as the country accommodating the most households with access to the internet. In 2017, 98 percent of Dutch households had access to internet at home. A country scoring relatively lower on that scale is Poland, with 82 percent of the households having access to the internet at home in 2017 (Eurostat, 2020). Therefore, one of the two reasons for the

conducted comparison between Poland and the Netherlands in this study, is because of the relative difference in internet access in these countries.

The internet can play a role in informing about climate change in different ways, both positively and negatively. A higher amount of internet use can possibly mean a more accurate collection of information about global warming, leading the user to have a higher concern about the environment. However, incorrect information can create an opposite outcome. For example, Vargo, Guo and Amazeen (2017) made the observation that many websites emerged in the last years on the internet that appear to be spreading plausible information that turns out to be incorrect. This questionable role of the internet should therefore also be kept in mind.

1.2 Parental education

An important aspect of this study is the influence of the parents. To distinguish the different magnitude of influence parents can have on their children, this study looks at the highest attained educational level of the parent. Parental influence may depend on more as well, for example the types of family ties that exist might play a role. Reher (1998) stated that countries in the centre and north of Europe are characterized by relatively weak family ties. In families with weak ties, individualistic values predominate, whereas in families with stronger ties, the main focus is on the familial group rather than the individual (Reher, 1998). In the situation where the autonomous individual is encouraged, it is possible that parents monitor their children less, and thus have less influence on their child's internet use. The attained level of education of the parent may play an important role in the families with stronger ties because, as mentioned earlier, parents with a high attained education level more frequently stay near their children while they are online (Livingstone & Haddon, 2009).

Next to the relative difference in internet access, the other reason for the comparison between Poland and the Netherlands is because Poland is among the countries in Europe with the strongest family ties while the Netherlands is among the ones with the weakest family ties (Alesina & Giuliano, 2007). This can be connected to the findings of Kirwil (2009). The results of this study stated that in Poland, collectivistic values in childrearing are of high importance while the importance of individualistic values is very low. In the Netherlands, however, this is the other way around. It is expected that there will be higher monitoring in Poland because of the more collectivist values and strong family ties, and less monitoring in the Netherlands because of individualistic values and weaker family ties. Thus, the effect of parental involvement is expected to be stronger in Poland than in the Netherlands.

1.3 Problem statement

This study investigates how the amount of time young adults in Poland and the Netherlands spend on the internet is of influence on their environmental concern. Particular attention is paid to the influence of the parents on this relationship, and their level of education. This study uses data from the European Social Survey (2016) module on attitudes towards climate change. The following research question is formulated: *How is the amount of internet use related to the environmental concern of young adults and how is this relationship influenced by the level of education of the parent, comparing Poland and the Netherlands?* The conceptual model below illustrates the aim of this study, in the context of the countries of Poland and the Netherlands.

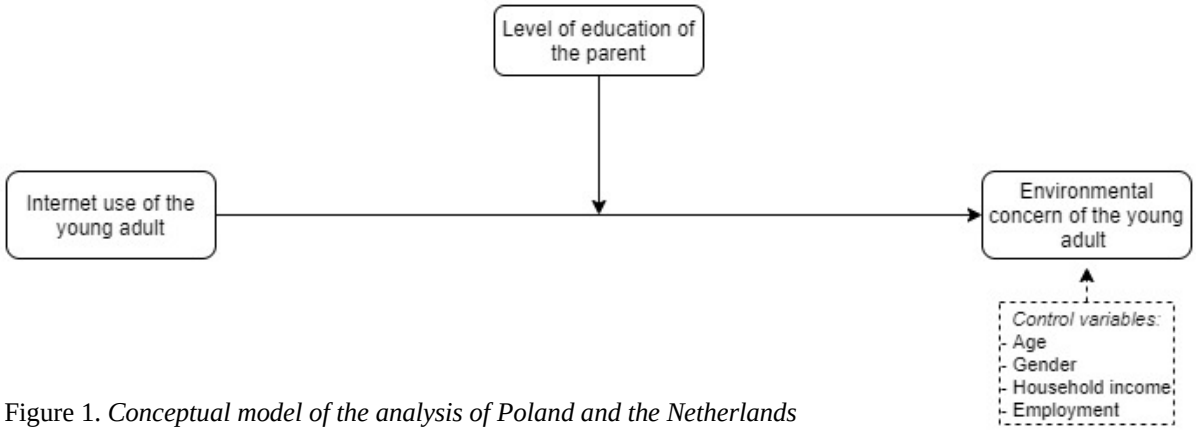

Figure 1. *Conceptual model of the analysis of Poland and the Netherlands*

1.4 Relevance

Using data from the Chinese General Social Survey, Gong, Zhang, Cheng, Wang, and Yu (2020) found that using the internet, opposed to never using the internet, had a positive impact on the pro-environmental behaviour of the Chinese individual. The authors also found this internet use has an even greater effect on the pro-environmental behaviour of individuals who are higher educated. However, they did not consider negative implications. The Chinese study of Gong et al. (2020) tends to show mainly the benefits of internet use leading to more pro-environmental behaviour. This study on the Chinese individual lacks the considerations about what young adults do on the internet, and does not consider the negative side of more internet use. For example, the possibility that news read and spread on the internet are fake and thus more internet use could lead to more misleading information (Zhang & Ghorbani, 2020), is not taken into consideration. Furthermore, Gong et al. (2020) did not study moderating effects and encouraged further studies to analyse the moderating effect of socio-economic factors on the relationship between internet use and pro-environmentalism. This way, a more specific mechanism of the impact of the amount of internet use can be investigated. Additionally, the

focus of the study of Gong et al. (2020) is the Chinese population. In 2019, China had an internet penetration rate of 60.1 percent, compared to Poland that was penetrated with 78.2 percent and the Netherlands with 95.6 percent (Internet World Stats, 2020). The internet penetration rate shows the share of the population that uses the internet, looking at a specific country. China has a relatively low internet penetration rate because China deals with large regional differences regarding internet access (Statista, 2019). It is therefore not suited to generalize the findings of the study of Gong et al. (2020) to Poland and the Netherlands, where internet access is better distributed. This study builds on the findings of Gong et al. (2020) by examining whether the positive effect of internet use on environmental behaviour of Chinese individuals, can be observed for environmental concern of young adults in Poland and the Netherlands. The aim in this study is therefore to take the negative side of more time spent on the internet into consideration and to test the socio-economic factor 'level of education of the parent' as a moderating effect.

Gong et al. (2020) did not study a specific age group, but there are substantive reasons for doing so. Meeusen (2014) described in the *impressionable-years-hypothesis* that young people shape their social and political attitudes during late adolescence and early adulthood. These tend to be stable from this moment through the rest of their lives. The coming study will therefore focus on the formation of environmental concern of young adults between the ages 15 and 25. These individuals are part of *Generation Z.* It is known that they are digital natives, raised with and on the internet, and are strongly shaped by digital possibilities (Burghout, 2020). Examples can include awareness of the greatness of the internet, vis-à-vis older generations who had less broad and direct media at the centre of their youth. This Generation Z is therefore also known as the internet generation. If this study does find that time spent on the internet is of positive influence on environmental concern – meaning that more internet use leads to more environmental concern – policy makers can make use of this study by using the internet as a method to spread accurate information about the environment to young adults. In the case that parents influence this relationship, and this influence changes according to their educational level, policy makers could then focus on different policies for lower-educated parents and their children on the one hand, and higher-educated parents and their children on the other.

2. Theoretical Framework

2.1 Environmental concern

Environmental concern represents, as stated earlier, the degree to which people are aware of problems associated with the environment and the degree to which they care about those problems (Fu et al., 2020). Environmental concern relates closely to environmental knowledge, which is the level of knowledge about the environment including its problems and possible solutions. Environmental concern, however, seems to have a more emotional component: caring about the problems concerning climate change. Likewise, according to Fransson and Gärling (1999), environmental concern relates to the anthropocentric altruism, where people care about the environment because of the belief that bad environmental quality is a threat to the health of human beings. This poses that it is not only the threat to the environment, but also the threat to the well-being of people that shapes environmental concern. The next section explains the relevance of internet use as a predictor of environmental concern of young adults, along with parental level of education as moderator for this relationship. In paragraph 2.4, all this will come together in the context of Poland and the Netherlands.

2.2 Internet use

This section discusses the theories according to the relationship between internet use and environmental concern. Internet use consists of using the internet for personal purposes and for work. Because of the great proportion of households having access to the internet nowadays, it can be assumed that individuals use the internet to gain information about the changing environment. The internet is used more generally and more often to create awareness about the changing environment as it provides the opportunity for individuals to instantly respond to subjects or topics of their interest, including climate change (Kushwaha, 2015). This response can mean that people react or place comments on a related topic or repost certain information. According to Kushwaha (2015), this engagement with certain subjects is possible because social media sites are used for sharing news and information, and thus it can also be useful for staying up to date about specific topics. Furthermore, the internet, and the additional media arising from the internet, has a central role in the socialisation of children and young adults (Grønhøj & Thøgersen, 2011, 2017). This central role of the internet in socialisation exists because on the internet children and young adults can acquire knowledge and skills relevant to their functioning in society. The internet is also an important factor in shaping the next generations' environmental concern and overall awareness (Meeusen, 2014).

The German communication- and media-scientist Früh constructed the *Dynamic-Transaction approach* (Früh & Schönbach, 1982). This approach means that a person's interest and curiosity influences the way in which this person appropriates certain information. Moreover, the individual's need to obtain information relates to the way that individual perceives information and content (Taddicken, 2013). The way a person's interest influences the way in which this person appropriates certain information, works especially for information found on the internet, because internet is a self-selected medium. More internet use can then mean more access to the information the person is interested in, in this case climate change, and therefore leads to more environmental concern.

It is important to keep in mind that more time spent on the internet could also lead to a greater access to false information. Due to the growing popularity of the internet and social media platforms, it becomes an ideal environment for spreading fake news and misleading information (Zhang & Ghorbani, 2020). Young adults could perhaps also have friends on social media who are not at all concerned about the environment. The internet, then, could also cause uncertainty about the magnitude of climate change and global warming. However, young adults could also be looking for this information themselves. This reversed effect can be explained by the *theory of Echo Chambers* which represents a symbolic place where only particular ideas about a certain subject are shared (Dubois & Blank, 2018). In this symbolic place, people will only find things they already agree with. Considering this theory of Echo Chambers, more internet use can then lead to less environmental concern. Young adults who are already sceptical about the changing environment may search for information on the internet confirming their ideas. Of course, this effect can in itself also be reversed: young adults who are aware of the changing environment and know that global warming is really happening, may search for information and scientific proof confirming these ideas.

Coming to this point, it is clear that with the current structural environment of the internet, it is challenging for people to evaluate the quality of information found online (Leeder, 2019), and not everyone is equally adept at managing this challenge. Previous research of Guess, Nagler and Tucker (2019) found that adults with the age of 65 or higher are more likely to share and spread fake news on the internet than younger individuals. One may therefore assume that young adults are more likely to distinguish correct information from incorrect information than older individuals. Because of the challenge of evaluating the quality of information found online, the following competing hypotheses are formulated about the relation between the internet use of the young adults and their environmental concern:

H1a: More internet use of the young adult is positively related to the environmental concern of the young adult.

H1b: More internet use of the young adult is negatively related to the environmental concern of the young adult.

Although Gong et al. (2020) did not give a complete vision of the effect of the amount of internet use on pro-environmentalism, they did find that internet use has a greater effect on the pro-environmental behaviour of individuals who are higher educated. The assumption made in that study is that the participants who were higher educated, were more knowledgeable about environmental legislation and the negative effects of pollution. In this study, young adults are the main focus with their parents as a possible influence on their environmental concern. The educational attainment of young adults is difficult to measure, because many of them have not yet finished their schooling. Instead of the level of education of the individual, this study will therefore focus on the level of education of the parent of the young adult. The intention is to deal with the complication of the outcome of environmental concern after more time spent on the internet, by including the parent's level of education. The next section will discuss the effects of both higher parental education and lower parental education.

2.3 Parental education

This study will use the highest attained level of education of the parent as a possible moderator shaping the relationship between the time spent on the internet by the young adult and their environmental concern. Therefore, it is of importance to describe why parental education can play a substantial part here, and furthermore why it is tested as a possible moderator.

Suppose, the influence of the amount of internet use on environmental concern of the young adult is high when the level of education of the parent is high. The possible cause of this is that young adults with higher educated parents may be able to judge whether information about climate change is reliable better. A possible reason for this is that young adults want to model their parent's behaviour, which can be explained by the *Social Learning theory* (Bandura, 1997). This theory suggests that parents can serve as role models for their children because they have more experience in life. Higher educated parents have raised their children to identify true news from fake news. Then, the young adults with higher educated parents will disregard false information, because they have been taught to do so, and because they model their parents' behaviour on dismissing fake news. However, the positive influence of spending more time on the internet on the young adults' environmental concern can also be because higher educated parents may monitor their children's internet usage more. Young adults with higher

educated parents will then have more fact-based information about the changing environment, leading to more environmental concern. Young adults with lower educated parents will not disregard false information for the same reasons higher educated parents have, leading them to still have less fact-based information and knowledge about climate change, and thus leading to less environmental concern. Keeping in mind that internet use could have a negative effect on environmental concern, the level of education of the parent could also weaken this negative relationship. The following hypotheses on the role of parental education are therefore formulated:

H2a: The positive relationship between internet use and environmental concern of the young adult will be stronger when the level of education of the parent is high.

H2b: The negative relationship between internet use and environmental concern of the young adult will be weaker when the level of education of the parent is high.

2.4 Poland and the Netherlands

This study expects that the relationship between time spent on the internet by young adults and their environmental concern is shaped in a different way by level of education of the parent in the countries Poland and the Netherlands.

The comparison is of relevance because, measured in OECD (Organisation for Economic Co-operation and Development) countries (Alesina & Giuliano), Poland is among the countries with the strongest family ties while the Netherlands is among the countries with the weakest family ties. The influence of educational level of the parent in Poland is expected to be more than in the Netherlands due to the more individualist childrearing orientation in the Netherlands. In Poland the orientation is mainly collectivistic and family ties are strong (Kirwil, 2009). Besides, eastern European countries are known for their high levels of obligation to family (Calzada & Brooks, 2013), and their close kin relations (Höllinger & Haller, 1990). More specifically, in Poland, family ties are strong because of the high engagement between family members (Karpinska & Dykstra, 2018). The *Social Learning theory* stating that parents are considered as role models can be taken into consideration here. In individualist-oriented families, children are taught to be independent. Considering this theory, the effect of high parental education on the relationship between time spent on the internet and environmental concern of the young adult is weaker in the Netherlands. In Poland this effect would be stronger because of the strong family ties and the collectivist orientation in childrearing.

As stated earlier, higher educated parents may also monitor their children's internet use more. Co-residence is an important argument here. In Eastern Europe, the share is higher for

those living with their parents (Eurostat, 2019). It is therefore quite likely that a higher proportion of the Polish residents than of the Dutch residents are still living at home. Parents can better monitor their children's behaviour if they still live at home. This study will therefore control if young adults are still living at home. In the next paragraph, this will be further set out.

Additionally, parents who monitor their children frequently, may have greater insight into their internet use (Vaala & Bleakley, 2015). Parents want their children to use the resources on the internet, but also want to protect them from questionable content (Wang, Bianchi, & Raley, 2005). The following hypothesis about the effect of parental level of education on the positive or negative relationship between the amount of internet use and the environmental concern of the young adult, comparing Poland with the Netherlands, is made:

H3: The effect of parental education on the relationship between internet use and environmental concern is weaker in the Netherlands than in Poland.

2.5 Household income, gender, age, employment, and still living at home

Previous literature revealed that individual factors like age, gender, employment and household income can contribute to attitudes towards climate change and environmental concern. Therefore, these variables are included in this study, along with whether or not the respondent still lives at home. The specific group of respondents used in this study is in line with studies that showed that the formation of social and political attitudes takes place when leaving secondary school, variating in ages between 15 and 25 (Meeusen, 2014). There is quite a difference in age between 15 and 25 year old young adults and this can result in different outcomes per age. Fifteen-year-olds can for example be more hormonal, emotional, and start to form an identity at that age. Therefore, this study includes age of the respondent as a control variable.

The study of McCright (2010) found that women tend to have stronger norms, values, attitudes, and concerns about the environment. To evaluate different outcomes for environmental concern of boys and girls, gender will be included as a control variable. Additionally, Strieder-Philippsen, Angeoletto, and Santana (2017) noticed that there is a strong positive association between household income and environmental awareness or environmental concern. Income is therefore incorporated in the models as a control variable as well. Keeping in mind that the respondents may not have insights in their parents' income, the number of respondents actually answering this question could be low. This will be reflected on further in the study. Internet use in this study consists of the internet used for work and personal

purposes. It cannot be assumed that young adults use internet for work because at this age most of them are leaving secondary school (Meeusen, 2014), and continue their studying elsewhere. On the other hand, it also cannot be assumed that young adults do not use the internet for work, although internet used for work does not necessarily have the purpose to search for information about climate change. For this reason this study also includes employment as a control variable.

It is also important to check whether the respondent still lives at home. If the respondent does still lives at home, it is more likely that he or she is under the direct influence of his or her parents. Therefore, this study also controls if the respondent is still living at home by looking at the relationship between the respondent and the second person in the household. This is done by including 'still living at home' as a control variable.

3. Data & Method

This study uses statistical analyses to test the hypotheses mentioned in the previous section. The research is based on secondary data collection. This data is collected by the European Social Survey (ESS) in 2016, also known as Round 8. Furthermore, the module on public attitudes to climate change, energy security and energy preferences is used to obtain information about environmental concern among young adults aged 15 to 25 in Poland and the Netherlands.

Considering that the ESS seeks to protect the identity of the respondent, this study does not include personal information which can be traced back to individual respondents. The information is fully anonymised and the ESS makes sure the respondent, and the data user community, are aware of this anonymity. The integrity of the respondent is also taken into account because respondents are not forced to answer the questions if they do not want to. The possible risk of the socially desirable answer of the respondent is lowered due to this option of refusing to answer a question. Participants could otherwise intentionally lower or raise the amount of internet use, because they may think that it is more socially appropriate.

The responsibility for the management, storage and backup of the data lies with the researcher. The data will be stored on a personal laptop and on the secured network of the Erasmus University of Rotterdam. The backup of the data will be done daily, ensuring short-term data security. The full checklist on ethics and privacy can be found in Appendix 3.

3.1 Data

The data in the ESS 2016 came from 23 European countries. This study focuses on the Netherlands and Poland, therefore only these respondents are selected from the dataset. This selected dataset then consists of 3375 respondents. Because this study also focuses on the age group 15 to 25, the selection is specified for respondents of this age. This leaves a dataset consisting of 429 participants, divided into 180 Dutch respondents and 249 Polish respondents. The gender divide within this specific dataset is 53.6 percent female and the remaining 46.4 percent male, which means that gender is well distributed.

3.2 Measures

3.2.1 Dependent variable

The items used for measuring the variable environmental concern were taken from the ESS codebook. The items 'how worried are you about climate change', 'do you think world's climate is changing', and 'I believe it is important to care for the environment', will be used to form the scale for environmental concern. The ESS data also intends to show if Europeans agree the climate is changing and if they are concerned about that (European Social Survey, 2018). The values of 'how worried are you about climate change' have the following order: (0) not at all worried, (1) not very worried, (2) somewhat worried, (3) very worried, and (4) extremely worried. The values of 'do you think world's climate is changing' have the order (0) definitely not changing, (1) probably not changing, (2) somewhat changing, (3) probably changing, and (4) definitely changing. Lastly, the item 'I believe it is important to care for the environment' has the following order of values: (0) not like me at all, (1) not like me, (2) somewhat / a little like me, (3) like me, and (4) very much like me. The higher the respondent scores on these items, the higher the environmental concern. Cronbach's Alpha for the three items is .724, the scale for environmental concern is reliable. This means that the scale for the respondents aged 15 to 25 from the Netherlands and Poland is internally consistent. All three items have an ordinal scale from 0 to 4. The items were computed to a sum score, leading to a scale for environmental concern from 0 to 12. The higher the score on this scale, the higher the environmental concern of the respondent.

3.2.2 Independent variable

The variable internet use of the young adult is measured through the item 'how much time do you spend using the internet on a typical day, whether for work or personal use'. It gives an absolute time in minutes. To carry out preliminary analyses of the relationship between time

spent on the internet and environmental concern and to examine whether the association is positive or negative, the variable will be recoded into categories. The further process of this variable is discussed in section 4.2.1.

3.2.3 Moderator

The level of education of the parent will be used according to the variables measuring the fathers' highest level of education and the mothers' highest level of education. The variable parental education is measured as the educational attainment of the best educated parent, thus either the mother or the father. The same categoric values are used for both the highest level of education of the mother and the father. The educational levels in the ESS have been adjusted to the terminologies of both the Netherlands and Poland.

In the survey for the Netherlands 18 categories were given for education, and 16 were given for Poland. Therefore, the variables must be brought together. Comparable education for both countries has been combined in this study into a single variable, leaving nine new values. Appendix 1 displays this process and the levels of education per country in the language of the country of origin. Translated into English, the levels of education are expressed in the following categories: (1) primary school not completed; (2) only completed primary school; (3) diploma of secondary education; (4) secondary vocational education (completed); (5) obtained post-secondary school diploma, or first year of academic education; (6) higher professional education diploma; (7) university bachelor's degree, (pre-)master's higher vocational education; (8) university master's degree; (9) doctorate / doctoral degree. Parental education is measured as the educational attainment of the best educated parent (if there are two parents) in this study. The lowest level in this study is then at level 2: only completed primary school. This means that for every parent with level 1, their partner had a higher level of education.

3.2.4 Control variables

The control variable gender consists of the values 'man', 'woman', and 'other'. None of the respondents used the 'other' category, hence gender is recoded into man (0) and woman (1). The age of the respondent is a calculated variable, in years. The values of employment consist of being an employee, self-employed, and working for own family business. Respondents had the option 'not applicable', indicating that the respondent is not employed. The variable is then recoded into employed (1) and not-employed (0).

Household income is measured by the ESS (2016) as national categories based on deciles of the actual household income range in the given country, here Poland and the Netherlands.

In Appendix 2, a full description of the values in the ten deciles of household income of both countries are shown.

This study includes whether or not the respondent still lives at home as a control variable as well. The ESS asked respondents about their relationship with the second person in the household. This question can be used to determine whether the respondent still lives at home (with their parents or another guardian) or not. Respondents could choose different answer options: husband/wife/partner; son/daughter/step/adopted/foster; parent/parent-in-law; brother /sister/step/adopted/foster; other relative; other non-relative. Since most of the respondents between the ages 15 and 17 indicated that they live with their parents or with another relative, it can be assumed that living with 'another relative' means that these young adults still live at home. The options 'parent/parent-in-law' and 'other relative' are therefore recoded to 'still living at home' (1). The other respondents are coded as (0): not living at home. The respondents who indicated that the answer was 'not applicable' to them, or who entered 'refusal' or 'don't know', are not included in the variable because it cannot be assumed whether or not these respondents live at home. The variable, then, loses respondents.

3.3 Method and Analysis Strategy

During the interpretation of the data and results, both descriptive and testing statistics will be used. Before testing the hypotheses, several ANOVA analyses were made including Tukey post hoc tests. This is done to examine whether the association between internet use and environmental concern is positive or negative, and to check whether the categories of internet use can be combined, resulting in fewer categories. If it turns out that one category significantly differs from the rest, a decision can be made to include the variable internet use as a dichotomous variable in the analyses for the study. Section 4.2.1. discusses the results of the Tukey post hoc tests.

To test whether internet use is positively or negatively related to more environmental concern of the young adults (H1a, H1b), a one-way ANOVA analysis will be performed. The second hypotheses (H2a, H2b) contain the educational attainment of the best educated parent as a moderator on the relationship between internet use and environmental concern of the young adult. This will be tested by a two-way ANOVA analysis, to find out whether categories of education levels differ in the relationship between time spent on the internet by young adults and their environmental concern. The variable 'country' will be included and a two-way ANOVA analysis will be performed to find out the difference between the Poland and the Netherlands in the effect of parental education on the relationship between the amount of

internet use and environmental concern of the young adult (H3). This way, a three-way interaction can be tested between internet use, highest attained level of education of the parent, and country.

4. Results

4.1 Descriptive Findings

The following analyses are performed with a dichotomous variable as the independent variable internet use. Before testing the hypotheses, the descriptive statistics for the variables environmental concern, internet use, and parental education are presented, along with the control variables gender, age, employment, household income, and whether or not the respondent still lives at home. The descriptive statistics for Poland and the Netherlands are presented separately in Table 1 below. The next paragraph shows the Tukey post hoc tests prior to making the decision of making internet use a dichotomous variable.

Table 1.

Basic descriptive statistics for the used variables in this research

Poland	*N*	*Mean*	SD	Minimum	Maximum
Environmental concern	248	7.85	2.034	0	12
Internet use (1 = more than 2 hours)	249	.80	.398	0	1
Highest parental education	249	5.08	1.769	2	9
Controls					
Gender (1 = female)	249	.50	.501	0	1
Age	249	20.21	3.223	15	25
Employment (1 = yes)	247	.55	.498	0	1
Household income	156	5.99	2.507	1	10
Still living at home (1 = yes)	240	.90	.301	0	1
Netherlands	*N*	*Mean*	SD	Minimum	Maximum
Environmental concern	180	8.02	2.240	0	12
Internet use (1 = more than 2 hours)	180	.85	.358	0	1
Highest parental education	178	5.25	1.834	2	9
Controls					
Gender (1 = female)	180	.58	.494	0	1
Age	180	20.36	2.959	15	25
Employment (1 = yes)	179	.85	.353	0	1
Household income	109	5.58	2.945	1	10
Still living at home (1 = yes)	158	.79	.408	0	1

The total of respondents who answered the question about household income is 265. This could indicate that respondents of this age do not know the income of their parents, and therefore answered the question with 'do not know' or 'refusal'. For this reason, the variable 'household income' is not incorporated in further analyses.

4.2 ANOVA Analysis

4.2.1 Tukey post hoc tests

As introduced in section 3.2.2., the variable internet use is recoded into categories to examine whether the association between internet use and environmental concern is positive or negative. This new categorical variable of internet use will have the following categories: less than 2 hours; 2-3 hours; 3-4 hours; 4-5 hours; 5-6 hours; 6-7 hours; more than 7 hours. With this categorical variable, the first Tukey post hoc test is performed. The results are shown in Table 2 below.

Table 2.

Descriptive findings and multiple comparisons first Tukey post hoc test including seven categories of internet use.

	N	Mean	Std. Deviation	Std. Error
Less than 2 hours	76	6.8158	2.54930	.29243
2-3 hours	70	8.2571	1.69984	.20317
3-4 hours	85	7.8706	1.93211	.20957
4-5 hours	55	8.3273	1.81613	.24489
5-6 hours	46	7.9130	2.15846	.31825
6-7 hours	37	8.3514	1.94674	.32004
More than 7 hours	59	8.3898	2.14971	.27987
Total	428	7.9229	2.12185	.10256

ANOVA		F	Sig.	df
		5.083	.000	6
Tukey post hoc		Mean	Sig.	SD
Less than 2 hours	2-3 hours	-1.44135	.001	.34184
	3-4 hours	-1.05480	.022	.32576
	4-5 hours	-1.51148	.001	.36530
	5-6 hours	-1.09725	.069	.38547
	6-7 hours	-1.53556	.004	.41365
	>7 hours	-1.57404	.000	.35804

The results show a linear slope of the averages of internet use categories on environmental concern. However, it also shows that the groups of respondents who spend less than two hours per day on the internet statistically differ positively from all other groups on their environmental concern, except for the group that spends 5-6 hours on the internet per day. To find out how to best construct the independent variable internet use, deviations from linearity are examined. The categories of internet use are reduced to four categories, to examine whether the groups that spends less than two hours on the internet per day is different from all other groups. The remaining four categories are: less than 2 hours; 2-4 hours; 4-6 hours; more than 6 hours. A second ANOVA analysis is then conducted, with a Tukey post hoc test. The results of this second test is shown in Table 3 below.

Table 3.

Descriptive findings and multiple comparisons for the second Tukey post hoc test including four categories of internet use.

	N	Mean	Std. Deviation	Std. Error
Less than 2 hours	76	6.8158	2.54930	.29243
2-4 hours	155	8.0452	1.83523	.14741
4-6 hours	101	8.1386	1.98005	.19702
More than 6 hours	96	8.3750	2.06347	.21060
Total	428	7.9229	2.12185	.10256

ANOVA	F	Sig.	df
	9.392	.000	3

Tukey post hoc		Mean	Sig.	SD
Less than 2 hours	2-4 hours	-1.22937	.000	.28874
	4-6 hours	-1.32282	.000	.31311
	More than 6 hours	-1.55921	.000	.31659

The Tukey post hoc test shows, again, significant differences between less than two hours spent on the internet and all other groups ($p < .000$). Several Tukey post hoc tests thus revealed that the group of respondents spending less than two hours per day on the internet statistically differed positively from all other groups on their environmental concern. This means that the environmental concern of the young adult is statistically significantly higher after spending more than two hours on the internet per day. Therefore, it is suited to recode the variable internet use, and continue analysis with this dichotomous variable, with less than two hours (0) and more than two hours (1).

4.2.2 Internet use and environmental concern

An analysis is conducted with internet use as a dichotomous variable to further explore the positive relationship found between time spent on the internet and environmental concern. This is done by a one-way ANOVA analysis to check how averages of environmental concern change according to two categories of amounts of internet use. These two categories are spending less than two hours per day on the internet and spending more than two hours per day on the internet. The results are presented in Table 4 below.

Table 4.

ANOVA descriptive findings for amount of internet use on environmental concern

	N	Mean	Std. Deviation	Std. Error
Less than 2 hours	76	6.82	2.549	.292
More than 2 hours	352	8.16	1.941	.103
Total	428	7.92	2.122	.103

ANOVA	F	Sig.	Df
	26.670	.000	1

Dependent variable: environmental concern

As shown in Table 4, significant differences were found between different times spent on the internet (p = .000). Concluding that there is a statistically significant difference in the amount of environmental concern for the young adult between the group spending less than two hours on the internet and the group spending more than two hours on the internet per day. Taken together, these results suggest that the extra time spent on the internet by young adults really does have an effect on their environmental concern. Specifically, the results suggest that when young adults spend more than two hours per day on the internet, they have higher environmental concern than young adults who spend less than two hours on the internet.

4.2.3 Parental education

A two-way ANOVA is conducted to investigate whether the relationship between the time spent on the internet by young adults and their environmental concern is influenced by the level of education of their parents. First, the two-way ANOVA analysis is performed without controlling for gender, age, employment, and whether or not the respondent still lives at home.

The model is significant with an Adjusted R^2 of 6.3 percent. Internet use is a significant predictor (p = .005) and parental education is not (p = .304). The interaction is also not significant. After incorporating the control variables, no crucial differences are shown. The results of the analysis that included the control variables are shown in Table 5 below.

Table 5.

ANOVA analysis for environmental concern of young adults (N = 393)

	df	SS	MS	F	Sig.
Corrected Model	17	191.289	11.252	2.696	.000
Intercept	1	176.128	176.128	42.197	.000
Internet use (1 = more than 2 hours)	1	33.730	33.730	8.081	.005
Parental education (1 – 9)	7	32.383	4.626	1.108	.357
Internet use*parental education	5	34.465	6.893	1.651	.146

Dependent variable: environmental concern
R Squared = .109 (Adjusted R Squared = .069)
Controlled for: Gender, Age, Employment, Respondent still living at home

The results of the ANOVA test indicate that the main effect of parental education on environmental concern is non-significant. The main effect of internet use on environmental concern is significant. Findings show a non-significant interaction between internet use and parental education. The non-significance of this interaction then means that there is no effect of parental education on the relationship between internet use and environmental concern of the young adult. In sum, these results suggest that the relationship between internet use and environmental concern of the young adult does not become stronger or weaker on the basis of the highest attained educational level of their parents.

4.2.4 Poland and the Netherlands

The third hypothesis includes a comparison between the Netherlands and Poland. It contains the education of the parent as a moderator on the relationship between amount of internet use and environmental concern of the young adult. This third hypothesis is, too, tested by a two-way ANOVA analysis to see the difference between the two countries in one model. The variable 'country' is included and a two-way ANOVA analysis is performed. First, the analysis is carried out without controlling for gender, age, employment, and whether or not the respondent still lives at home. The model is significant with an Adjusted R^2 of 7.7 percent. Internet use and parental education are not significant predictors. The interactions are also not significant. However, the three-way interaction *is* significant (p = .010). After incorporating

the control variables, no crucial differences are shown. The results of the analysis that included the control variables can be seen in Table 6 below.

Table 6.

ANOVA analysis for environmental concern of young adults including country (N = 393)

	df	SS	MS	F	Sig.
Corrected Model	27	264.230	9.786	2.394	.000
Intercept	1	160.000	160.000	39.134	.000
Internet use (1 = more than 2 hours)	1	5.454	5.454	1.334	.249
Parental education (1 – 9)	7	41.884	5.983	1.463	.179
Country (1 = the Netherlands)	1	6.119	6.119	1.497	.222
Internet use*parental education	5	24.163	4.833	1.182	.317
Internet use*country	1	6.263	6.263	1.532	.217
Parental education*country	7	44.140	6.306	1.542	.152
Internet use*parental education*country	1	28.968	28.968	7.085	.008

Dependent variable: environmental concern
R Square = .150 (Adjusted R Squared = .088)
Controlled for Gender, Age, Employment, Respondent living at home

The results of the ANOVA test indicate that main effects of internet use, parental education and country on environmental concern were non-significant. This indicates that different amounts of internet use, different levels of education of the parent, and living in different countries, are not associated with different levels of environmental concern. A significant three-way interaction was found between internet use, parental education and country. They significantly interacted to affect environmental concern. This means that the interaction between time spent on the internet by the young adult and the highest attained level of education of their parents in Poland differs significantly from the Netherlands.

After splitting the file by country, another two-way ANOVA is performed. This way it can help to make sense of the three-way interaction between internet use, parental education and country. The results are shown in Table 7 on the next page.

Table 7.

ANOVA analysis for environmental concern of young adults in Poland versus the Netherlands (N = 393)

Poland					
	df	SS	MS	F	Sig.
Corrected Model	14	104.301	7.450	1.895	.028
Intercept	1	117.670	117.670	29.929	.000
Internet use (1 = more than 2 hours)	1	.344	.344	.088	.768
Parental education (1 – 9)	7	33.548	4.793	1.219	.293
Internet use*parental education	2	5.469	2.734	.695	.500
The Netherlands					
	df	SS	MS	F	Sig.
Corrected Model	16	165.479	10.342	2.357	.004
Intercept	1	38.083	38.083	8.680	.004
Internet use (1 = more than 2 hours)	1	8.268	8.268	1.884	.172
Parental education (1 – 9)	7	59.316	8.474	1.931	.069
Internet use*parental education	4	60.852	15.213	3.467	.010

Dependent variable: environmental concern
Poland: R Squared = .107 (Adjusted R Squared = .050)
The Netherlands: R Squared = .213 (Adjusted R Squared = .123)
Controlled for Gender, Age, Employment, Respondent living at home

The interaction between internet use and parental education is significant for the Dutch respondents, and non-significant for respondents from Poland. This means, then, that in the Netherlands, the strong relationship between time spent on the internet by young adults and their environmental concern, becomes stronger when the level of education of their parents is higher. This is not the case for the Polish respondents.

5. Conclusion and Discussion

5.1 Conclusion

The aim of this study was to study the relationship between the amount of internet use and the environmental concern of young adults in Poland and the Netherlands, and the role of parental education in influencing this relationship. This was expressed in the research question: *How is the amount of internet use related to the environmental concern of young adults and how is this relationship influenced by the level of education of the parent, comparing Poland and the Netherlands?*

The results of this study prove that internet use of the young adult has a significant positive impact on their environmental concern. This study revealed that the group of respondents who spends less than two hours per day on the internet differed from all other groups. This manifests

that the environmental concern of the young adults is higher after spending more time on the internet. Support has therefore been found for the first hypothesis (H1a) *more internet use of the young adult is positively related to the environmental concern of the young adult,* and not for H1b *more internet use of the young adult is negatively related to the environmental concern of the young adult.*

Overall, there is no significant influence of parental education level on the relationship between time spent on the internet by young adults and their environmental concern. Therefor no support was found for both hypothesis H2a *the positive relationship between internet use and environmental concern of the young adult will be stronger when the level of education of the parent is high,* and hypothesis H2b *the negative relationship between internet use and environmental concern will be weaker when the level of education of the parent is high.*

However, when looking at both the Netherlands and Poland separately, a difference can still be observed. The three-way interaction between internet use, parental education and country is significant. This means that the interaction between time spent on the internet by the young adult and the highest attained level of education of their parents is different across Poland and the Netherlands. In the Netherlands, the strong positive relationship between time spent on the internet by young adults and their environmental concern, becomes stronger when the level of education of their parents is higher. This is not the case for the Polish respondents. This is contrary to previous expectations, as there was no support found for the third hypothesis *the effect of parental education on the relationship between internet use and environmental concern is weaker in the Netherlands than in Poland.*

This quantitative study showed that there is a strong relationship between time spent on the internet and the environmental concern of young adults, and that this becomes stronger for young adults living in the Netherlands when the educational level of their parents becomes higher.

5.2 Discussion

For this study, data from the ESS 2016 was used to test the influence of internet use by young adults on their environmental concern. Based on this, it can be stated that if this study is repeated, the results would be the same and that the results of this study would therefore be reliable.

This study reveals that in the Netherlands, the strong relationship between time spent on the internet by young adults and their environmental concern, becomes stronger when the level of education of their parents is higher. This is not the case for the Polish respondents, no

moderating effect for parental education in Poland is found. This is contrary to the previous expectation that the effect of parental education would be stronger in Poland because of the strong family ties and the collectivist orientation in childrearing. This means that the strong positive effect between time spent on the internet by young adults and their environmental concern does not change according to the education level of the parent, instead of becoming stronger as was expected.

A possible explanation for this result might be found in the study by Jennings and Niemi (1968), that concludes that parents that are less involved leave room for other socialisation agents in influencing their children, such as friends and school. In addition, this author indicates that peers and environmental education could influence the environmental concern of young adults. Other authors also suggested that school socialisation is important for a young adults' formation of environmental concern (Boeve-de Pauw, 2011; Casaló & Escario, 2016). The result of this study that stated that there is no influence of parental education in Poland may therefore be related to the fact that in 1999, the Polish government changed the methods of teaching environmental education in the school system. Since 2004, it is implemented in the standard teaching courses and incorporated within all subjects (Grodzinska-Jurczak, 2004). In the past years, however, topics like global warming and CO^2-emissions are part of world-orientation courses in primary school in the Netherlands. Beforehand, environmental education only existed as extra-curricular courses on secondary (higher) education. Respondents in this study are of the ages 15 to 25 and therefore may not have had that specific environmental education in primary school.

In addition, according to Bosschaart (in Kragtwijk, 2020), many teenagers do not care about the environment. How important young people find climate change in the Netherlands depends very much on the type of school. The awareness about how we deal with the earth is mainly with students at pre-university education. These are the sustainable young people of the Netherlands (Kragtwijk, 2020).

The results may also be due to the fact that it is unclear how much supervision parents have on their child's use of internet. The results of the study of Symons, Ponnet, Emmery, Walrave, and Heirman (2016) about the knowledge of parents about adolescents' online activities, showed that parents have very little of that knowledge. According to these authors, this can prevent parents to intervene when necessary. Besides, children with a lot of siblings may not feel the need to have close contact with their parents (Komter & Knijn, 2006). It should also be taken into consideration that young adults hitting puberty might hide their behaviour from

their parents, which results in their parents knowing less about what they do on the internet (Stattin & Kerr, 2000).

The current study complements the existing literature on environmental concern among young adults. Based on 2016 data from the ESS, this present paper expands the focus of research on the influence of the amount of time young adults spend on the internet has on their environmental concern. By adding the highest educational attainment of the parent as a socio-economic factor, this study provided a more profound and complete analysis. On the basis of this study, organisations should in the future mainly focus on different policies for lower-educated parents and their children on the one hand, and higher-educated parents and their children on the other.

In this paper, there are several limitations. First, it must be taken into account that due to data limitations, time spent on the internet is not specified for either work or personal use. This does, however, not necessarily have to be a problem, considering this study focuses on young adults aged 15-25. It cannot be assumed that young adults use internet for work because at this age most of them are leaving secondary school (Meeusen, 2014), and continue their studying elsewhere. Although the variable is employed to assess the amount spent on the internet, this study is still likely to find only a correlation between internet use and environmental concern rather than a causal link. A distinction made between internet use for personal purpose and for work will help that. Therefore, future research should use more instrumental variables to identify the causal relationships between those variables, because the goal of being on the internet is different for every individual. Second, this study focused on highest level of attained education of the parent and connected this to family ties in Poland and the Netherlands. Considering different families have different principles on childrearing, further research should also consider doing research on specific parenting styles that motivate pro-environmentalism.

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Appendices

Appendix 1: Education levels in the Netherlands and Poland

Highest level of education father/mother

Values	The Netherlands	Poland
1.	Basisschool niet afgemaakt	Nieukończona szkoła podstawowa
2.	Alleen basisschool afgemaakt	Świadectwo ukończenia szkoły podstawowej 6-klasowej (lub 4-klasowej przed wojną) Świadectwo ukończenia szkoły podstawowej 7 lub 8-klasowej
3.	LBO, VBO, LEAO, LTS ambachtsschool, huishoudschool, LHNO, VMBO (niveau 1-3; basisberoepsgericht, kaderberoepsgericht, g MULO, ULO, MAVO, VMBO (niveau 4; theoretische leerweg); HAVO jaar 3-4; VWO jaar 3-5 afgemaakt MBO niveau 1 afgemaakt (duur < 2 jaar) HAVO, MMS, MSVM afgemaakt VWO, HBS, atheneum, gymnasium afgemaakt	Świadectwo ukończenia gimnazjum
4.	KMBO, leerlingwezen, MEAO, MTS afgemaakt (duur 2-3 jaar) MBO niveau 2 en 3 afgemaakt (duur 2-3 jaar) MBO niveau 4 afgemaakt (duur 4 jaar) MBO-plus voor havisten	Świadectwo ukończenia szkoły zawodowej lub szkoły przysposobienia rolniczego (bez ukończenia szkoły podstawowej) Świadectwo ukończenia szkoły zasadniczej zawodowej lub szkoły przysposobienia rolniczego (po szkole podstawowej) Świadectwo ukończenia szkoły zasadniczej zawodowej (po gimnazjum) Świadectwo ukończenia liceum ogólnokształcącego bez matury Matura uzyskana po ukończeniu liceum ogólnokształcącego Świadectwo ukończenia średniej szkoły zawodowej (technikum, liceum zawodowe, liceum profilowane) lub dyplom technika bez matury Matura uzyskana po średniej szkole zawodowej (technikum, liceum zawodowe, liceum profilowane)
5.	Propedeuse WO, OU-certificaat	Dyplom technika lub świadectwo ukończenia szkoły pomaturalnej lub policealnej
6.	Korte HBO-opleiding einddiploma (2 of 3 jaar) Bachelor HBO, kweekschool, PABO, conservatorium, MO-akten afgemaakt	Dyplom ukończenia kolegium lub studium nauczycielskiego
7.	Bachelor universiteit afgemaakt HBO: master's degree, tweede fase opleidingen; post-HBO opleidingen, pre-master onderwijs voor HBO	Dyplom licencjacki lub dyplom inżynierski
8.	WO/universiteit: master's degree, tweede fase opleidingen; ingenieur, meester, doctorandus	Dyplom magistra lub dyplom lekarza
9.	Doctoraat/gepromoveerd	Stopień naukowy doktora, doktora habilitowanego, lub tytuł profesora

Appendix 2: Household income in the Netherlands and Poland

Household income

The Netherlands

Values	Monthly	Weekly	Annual
J – 1st decile	Less than €900	Less than €225	Less than €11.700
R – 2nd decile	€900 – €1.150	€225 – €290	€11.700 – €15.000
C – 3rd decile	€1.150 – €1.400	€290 – €350	€15.000 – €18.200
M – 4th decile	€1.400 – €1.650	€350 – €400	€18.200 – €21.500
F – 5th decile	€1.650 – €1.950	€400 – €490	€21.500 – €25.300
S – 6th decile	€1.950 – €2.250	€490 – €560	€25.300 – €29.500
K – 7th decile	€2.250 – €2.650	€560 – €660	€29.500 – €34.200
P – 8th decile	€2.650 – €.3.100	€660 – €780	€34.200 – €.40.200
D – 9th decile	€3.100 – €3.850	€780 – €960	€40.200 – €50.300
H – 10th decile	€3.850 or more	€960 or more	€50.300 or more

Source: European Social Survey (2016)

Household income

Poland

Values	Monthly	Annual
J – 1st decile	Less than €850	Less than €10.00
R – 2nd decile	€850 – €1.100	€10.000 – €13.000
C – 3rd decile	€1.100 – €1.400	€13.000 – €17.000
M – 4th decile	€1.400 – €1.700	€17.000 – €20.000
F – 5th decile	€1.700 – €2.000	€20.000 – €24.000
S – 6th decile	€2.000 – €2.300	€24.000 – €28.000
K – 7th decile	€2.300 – €2.700	€28.000 – €32.000
P – 8th decile	€2.700 – €.3.200	€32.000 – €.38.000
D – 9th decile	€3.200 – €4.200	€38.000 – €50.000
H – 10th decile	€4.200 or more	€50.000 or more

Source: European Social Survey (2016)

Appendix 3: Ethics & Privacy Checklist

ERASMUS UNIVERSITEIT ROTTERDAM

CHECKLIST ETHICAL AND PRIVACY ASPECTS OF RESEARCH

INSTRUCTION

This checklist should be completed for every research study that is conducted at the Department of Public Administration and Sociology (DPAS). This checklist should be completed *before* commencing with data collection or approaching participants. Students can complete this checklist with help of their supervisor.

This checklist is a mandatory part of the empirical master's thesis and has to be uploaded along with the research proposal.

The guideline for ethical aspects of research of the Dutch Sociological Association (NSV) can be found on their website (http://www.nsv-sociologie.nl/?page_id=17). If you have doubts about ethical or privacy aspects of your research study, discuss and resolve the matter with your EUR supervisor. If needed and if advised to do so by your supervisor, you can also consult Dr. Jennifer A. Holland, coordinator of the Sociology Master's Thesis program.

PART I: GENERAL INFORMATION

Project title:	*Environmental awareness of young adults*
Name, email of student:	*Lysanne Kruiswijk (537433lk@eur.nl)*
Name, email of supervisor:	*Pearl A. Dykstra (dykstra@essb.eur.nl)*
Start date and duration:	*February 2020 – July 2020*

Is the research study conducted within DPAS **YES**
If 'NO': at or for what institute or organization will the study be conducted?
(e.g. internship organization)

PART II: TYPE OF RESEARCH STUDY

Please indicate the type of research study by circling the appropriate answer:

1. Research involving human participants. **YES**

   If 'YES': does the study involve medical or physical research? **NO**

   Research that falls under the Medical Research Involving Human Subjects Act (WMO) must first be submitted to an accredited medical research ethics committee or the Central Committee on Research Involving Human Subjects (CCMO).

2. Field observations without manipulations that will not involve identification of participants. **YES**

3. Research involving completely anonymous data files (secondary data that has been anonymized by someone else). **YES**

PART III: PARTICIPANTS

(Complete this section only if your study involves human participants)

Where will you collect your data?

N/A

Note: indicate for separate data sources.

What is the (anticipated) size of your sample?

N/A

Note: indicate for separate data sources.

What is the size of the population from which you will sample?

N/A

Note: indicate for separate data sources.

1. Will information about the nature of the study and about what participants can expect during the study be withheld from them? **NO**

2. Will any of the participants not be asked for verbal or written 'informed consent,' whereby they agree to participate in the study? **NO**

3. Will information about the possibility to discontinue the participation at any time be withheld from participants? **NO**

4. Will the study involve actively deceiving the participants? **NO**

Note: almost all research studies involve some kind of deception of participants. Try to think about what types of deception are ethical or non-ethical (e.g. purpose of the study is not told, coercion is exerted on participants, giving participants the feeling that they harm other people by making certain decisions, etc.).

5. Does the study involve the risk of causing psychological stress or negative emotions beyond those normally encountered by participants? **NO**

6. Will information be collected about special categories of data, as defined by the GDPR (e.g. racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, genetic data, biometric data for the purpose of uniquely identifying a person, data concerning mental or physical health, data concerning a person's sex life or sexual orientation)? **NO**

7. Will the study involve the participation of minors (<18 years old) or other groups that cannot give consent? **NO**

8. Is the health and/or safety of participants at risk during the study? **NO**

9. Can participants be identified by the study results or can the confidentiality of the participants' identity not be ensured? **NO**

10. Are there any other possible ethical issues with regard to this study? **NO**

If you have answered 'YES' to any of the previous questions, please indicate below why this issue is unavoidable in this study.

N/A

What safeguards are taken to relieve possible adverse consequences of these issues (e.g., informing participants about the study afterwards, extra safety regulations, etc.).

N/A

Are there any unintended circumstances in the study that can cause harm or have negative (emotional) consequences to the participants? Indicate what possible circumstances this could be.

N/A

Part IV: Data storage and backup

Where and when will you store your data in the short term, after acquisition?

Private laptop, securely stored

Note: indicate for separate data sources, for instance for paper-and pencil test data, and for digital data files.

Who is responsible for the immediate day-to-day management, storage and backup of the data arising from your research?

Lysanne Kruiswijk

How (frequently) will you back-up your research data for short-term data security?

Daily

In case of collecting personal data how will you anonymize the data?

N/A

Note: It is advisable to keep directly identifying personal details separated from the rest of the data. Personal details are then replaced by a key/ code. Only the code is part of the database with data and the list of respondents/research subjects is kept separate.

PART VI: SIGNATURE

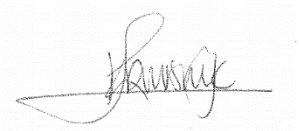
Please note that it is your responsibility to follow the ethical guidelines in the conduct of your study. This includes providing information to participants about the study and ensuring confidentiality in storage and use of personal data. Treat participants respectfully, be on time at appointments, call participants when they have signed up for your study and fulfil promises made to participants.

Furthermore, it is your responsibility that data are authentic, of high quality and properly stored. The principle is always that the supervisor (or strictly speaking the Erasmus University Rotterdam) remains owner of the data, and that the student should therefore hand over all data to the supervisor.

Hereby I declare that the study will be conducted in accordance with the ethical guidelines of the Department of Public Administration and Sociology at Erasmus University Rotterdam. I have answered the questions truthfully.

Name student: Lysanne Kruiswijk

Date: 22-03-2020



Name (EUR) supervisor: Prof. Dr. Pearl Dykstra

Date: 19/03/2020