A mediation Study: The effect of self-enhancement values on the relationship between egoism and pro environmental behaviour

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Abstract

Background: In order to combat climate change, it is important that people change their pro environmental behaviour. It has shown that personality disposition as well as different values people hold can predict their pro environmental behaviour. Specifically, egoistic tendencies and self-enhancement values (Power, Achievement, Hedonsim, Stimulation) are predictors for pro environmental behaviour. Since personality has an influence on the values an individual has this study examines whether egoistic tendencies can predict self-enhancement values and whether self-enhancement values have a mediating effect on the relationship between egoism and pro environmental behaviour.

Methods: A cross sectional study with 116 participants was conducted. To test for their egoism tendencies, importance of self-enhancement values and pro environmental behaviour the Egoism scale by Weigel (1999), the Short Schwartz's value survey (2005) and the pro environmental behaviour scale by Markle (2013) were used. Most of the participants were female (69%), in their twenties and German. The mediation analyses were conducted with the PROCESS tool and to test for significance the bootstrapping technique was used.

Results: It was found that Egoism can positively predict the value Power. However, there were no other significant correlations between egoism, values and pro environmental behaviour. Also, the mediation analyses showed no significant relationship between values as a mediator of the influence of egoism on pro environmental behaviour.

Conclusion: In this study the self-enhancement values did not act as mediators for the relationship between egoism and pro environmental behaviour. Contrary to the previously done research most values, except power, could not be predicted by power and neither egoism nor the values could predict pro environmental behaviour. For future research it is recommended to test if environmental factors can predict pro environmental behaviour.

Keywords: Egoism, Values, Pro environmental behaviour, Mediation analysis

Environmental issues like climate change, air pollution and depletion of resources can all be attributed to human environmental behaviour. Consequently, to protect the earth it is important to change people's environmental behaviour (Steg & Vleg, 2009; Knez, 2016 ; Yusliza et al., 2020; de Groot & Steg, 2007). Environmental behaviour can be defined as every behaviour that has an impact on the environment no matter if good or bad like wasting ressources, driving a car or having a diet rich in meat (Krajhanzl, 2010; Steg & Vleg, 2009). To counteract climate change a focus needs to be set on enhancing pro environmental behaviours. This includes any behaviour that has a positive impact on the environment such as recycling, going by bike and being vegetarian (Krajhanzl, 2010; Dono, Webb & Richardson, 2010; Steg & Vleg, 2009; Yusliza et al., 2020).

A crucial thing influencing if people behave pro environmentally is their attitude towards pro environmental behaviour (Gatersleben, Murtagh & Abrahamse, 2012; Yusliza et al., 2020). This attitude is impacted by distal factors like knowledge, values and personality (Gatersleben, Murtagh & Abrahamse, 2012). Whereas knowledge can be obtained by everybody, values and personality are something more individual.

Values are principals everyone individually inherits in their inner selves to guide their behaviour and to have a guideline they can judge their behaviour on. The importance a value has for an individual has an effect on the likelihood that this individual acts upon that value (Buchanan & Bardi, 2014; Bardi & Schwartz, 2003). Schwartz (1992) states ten main values that people hold namely, Power, Achievement, Hedonism, Stimulation, Self-Direction, Universalism, Benevolence, Tradition, Conformity, and Security. These values can be displayed in a scheme with two opposing dimensions: self-enhancement and self-transcendence, and openness to change and conservatism. Power and Achievement are grouped as self enhancement values but also Hedonism and Stimulation were found to be tending towards this dimension (Lindemann & Verkasalo, 2005). The remaining values are associated with self-transcendence, except for self-direction which does not tend to either dimension (Lindemann & Verkasalo, 2005).

Since values have a direct effect on attitude, they also influence behaviours and have shown to be predictors for pro environmental behaviour (Yusliza et al., 2020; Clark, Kotchen, Moore, 2003; de Groot & Steg, 2007). Specifically, studies revealed that people who score high on self-enhancement values show less pro environmental behaviour than people who score high on self-transcendence values (Karp, 1996; Schultz, Gouveia, Cameron, Tankha, Schumck & Franěk, 2005).

Personality dispositions or tendencies influence the values an individual has (Bilsky & Schwartz, 1994). For example, a person that has a more egoistic personality tendency holds more self-interested values (Weigel, Hessing & Elffers, 1999). Some people have values that lean more towards their own self-interest and their self enhancement while other people have values that lean more towards being concerned with the well-being of others (Clark, Kotchen, Moore, 2003). These two opposing values can be seen as two different tendencies in people's personalities, namely egoism and altruism (Evans, Maio, Corner, Hodgetts, Ahmed & Hahn, 2012). Altruistic people tend to be more concerned with the well-being of others and act out of kindness and compassionate motives (Clavien & Chapuisat, 2013). They have a general desire to help others and increase another person's well-being (Batson & Powell, 2003). Egoistic people on the other hand tend to act more out of self-interest (Weigel, Hessing & Elffers, 1999). People who are more egoistic see their own well-being as more important than the well-being of others in the community (Weigel, Hessing & Elffers, 1999). Further, they do not care as much about what this community thinks of them and are not concerned about the consequences in the community their behaviour could have (Weigel, Hessing & Elffers, 1999 & de Vries, de Vries, de Hoogh & Feij, 2009).

Pro environmental acts of behaviour can be linked to inconveniences such as time, cost and effort (Yusliza et al., 2020). Since egoistic people have more self-enhancement values, they need to see immediate or long-term gains of pro environmental behaviour to sacrifice their time, money or labour. Also, as egoistic people have a higher self-interest, they have a lower commitment to the community and the environment (Weigel, Hessing & Elffers, 1999; Knez, 2016). Therefore, egoistic people feel less responsible to engage in pro environmental behaviour (de Groot & Steg, 2007). Altruistic people feel morally responsible to behave pro environmentally because they are more concerned about consequences that go beyond consequences for themselves (de Groot & Steg, 2007). Thus, higher awareness of which consequences environmental behaviour has for others ultimately leads to a higher engagement to pro environmental behaviour (Gatersleben, Murtagh & Abrahamse, 2012; Steg & Vleg, 2009).

Hence, this study examines the relationship between egoism, values and pro environmental behaviours. The present literature suggests that egoistic people hold more self-transcendent values (Weigel, Hessing & Elffers, 1999) which are identified by Schwartz (1992) as Power, Achievement, Hedonism and Stimulation. Further Schultz et al (2005) state that self-transcendence negatively predicts pro environmental behaviour. In addition to that de Groot & Steg (2007) state that more egoistic people engage less in pro environmental

behaviour than altruistic people. Therefore, this study aims to determine whether pro environmental behaviour can be predicted by egoism and whether this relationship is influenced by the self-enhancement values and individual has. Consequently, the following hypotheses are investigated:

H1: Egoism is negatively associated with pro environmental behaviour, and this is meditated by the self enhancement value Power.

H2: Egoism is negatively associated with pro environmental behaviour, and this is meditated by the self enhancement value Achievement.

H3: Egoism is negatively associated with pro environmental behaviour, and this is meditated by the self enhancement value Hedonism.

H4: Egoism is negatively associated with pro environmental behaviour, and this is meditated by the self enhancement value Stimulation.

Method

Participants

The study had 116 participants of which 36 were male (31%) and 80 were female (69%). The age of the participants ranged from 18 to 84 (M= 23,14; SD= 8,38). The participants nationalities were Dutch (11%), German (82%) and other (7%). As the highest obtained degree 81 participants indicated a Highschool Degree (70%), 14 participants a bachelor's degree (12%), five participants a vocational training (4%) and the remaining 16 participants indicated having a master's degree (11%), a PhD (2%) or other (1%).

Materials

Three questionnaires were used to assess the participants egoism scores, importance of self-enhancement values and pro environmental behaviour scores. The full version of the questionnaires can be found in the Appendix.

It must be noted that there was an error when publishing the questionnaires to the participants. Some of the participants did not receive the full Egoism and Pro environmental behaviour questionnaire. To be sure that the analysis can nevertheless be done with the whole sample it was tested if the scores of the participants with the partial questionnaire differed from the participants who received the full questionnaire.

Egoism

Egoism was tested as the independent variable. To measure egoism the Egoism scale by Weigel was used (Weigel, Hessing & Elffers, 1999). The scale consists of 20 items (e.g., "Generally speaking people won't work hard unless they're forced to do so"). The items are scored on a 7-point Likert scale, whereas one stands for "strongly disagree" and seven stands for "strongly agree". Hereby, a high overall score indicates a higher egoistic tendency of the participant. The scale displays a satisfactory internal consistency (α= .84) and the test-retest correlation of a nine-month interval is .73 (Weigel et al., 1999). The Cronbach's alpha of the current study is α= .76, indicating good reliability.

The participants who filled out the partial Egoism questionnaire (N= 74, *M*= 3.44, *SD*= .93) compared to the participants who filled out the whole questionnaire (N= 42, *M*=3.23, *SD*= .61) showed no significant difference in their scores (t(114)= 1.29, p= .20). Since there is no statistically significant difference between the two groups it is safe to include the participants in the further analysis who only filled out the partial Egoism questionnaire.

Values

Values were tested as the mediating variable. In order to measure the respondent's Values, the Short Schwartz's Values survey (Lindemann & Verkasalo, 2005) was conducted. The scale consists of ten items, measuring Power, Achievement, Hedonism, Stimulation, Self-Direction, Universalism, Benevolence, Tradition, Conformity, and Security. The participants were asked to self-report the importance these values have to them by rating them on an 8-point Likert scale ranging from one "opposed to my principles" to eight "of supreme importance". There is no overall score obtained, as every item has its own score. Lindemann and Verkasalo (2005) calculated good reliability and validity for each item on the scale. The Cronbach's alpha of the current study is α= .68, indicating acceptable reliability

Pro environmental behaviour

Pro environmental behaviour was tested as the dependent variable. To measure pro environmental behaviour the Pro Environmental Behaviour Scale (PEBS) (Markle, 2013) was applied. The scale consists of 19 items and measures four dimensions namely, Conservation, Environmental citizenship, Food and Transportation. These dimensions are measured with 5-

point Likert scales with different values. A higher score on each dimension expresses a higher level of pro environmental behaviour. Subsequently a higher overall score implies a higher level of pro environmental behaviour. Markle (2013) showed a good reliability for the overall scale (α= .76) as well as for the four subscales (α= .62 - .74). Markle (2013) also demonstrated that the PEBS scale has good construct validity. The Cronbach's alpha of the current study is α= .66, indicating acceptable reliability.

The participants who filled out the partial Pro environmental behaviour questionnaire (N= 41, *M*= 3.42, *SD*= .52) showed higher scores than the participants who filled out the whole questionnaire (N= 75, *M*= 2.80, *SD*= .27). The difference between the two groups is statistically significant (t(114)= 8.31, p= .00). Analyses will be run with both samples.

Procedure

This online study was part of a larger study examining the relationship of different concepts with pro environmental behaviour. The study was approved by the BMS Ethics department. To gather participants the study was uploaded on the portal SONA, the test subject pool of the University of Twente. There participants could sign up for the study to get an invitation link. In addition to that the invitation link to the study was spread through social media like WhatsApp. The participants who signed up for the study via SONA got SONA credits as an incentive for participating, the participants who did not sign up via SONA got no incentive. When the participants followed the invitation link, they got on the Qualtrics website with the survey. First the participants had to sign the consent form (see Appendix) that was informing them about the aim of the study, confidentiality and that they could withdraw from the study anytime. Then they proceeded with the questionnaire starting with the demographics where the participants gave information about their gender, age, nationality, and occupation. They then proceeded with the surveys about egoism, values and pro environmental behaviour. At the end, the participants got the contact data from the researchers to have the possibility ask questions and give remarks. The study was accessible from 7th of April till 3rd of May.

Analysis Plan

In order to investigate the data and to test the hypotheses the program IBM statistics 26.0 was used. First, the data set got cleared up by removing the participants who did not fill out the whole study. Then, the labels of the variables were adapted and the overall scores of

the scales were computed. Next, to get a better overview of the data, the frequencies and descriptive statistics for the participants, Egoism, Values and pro environmental behaviour were conducted. Also, Pearson's correlations between pro-environmental behaviour, Egoism, Power, Achievement, Hedonism and Stimulation were run. Lastly, to check for *H1, H2, H3* and *H4* mediation analyses were run with the PROCESS macro tool developed by Hayes (2013). The mediation analysis was run of the values (Power, Achievement, Hedonism, Stimulation) as the mediator between egoism and pro environmental behaviour. In order to examine the significance of a mediating effect unstandardized indirect effects were calculated using 95% CIs of 5000 bootstrapped samples.

Results

Descriptive statistics and correlations

The descriptive statistics of Egoism show that the current sample has medium scores revealing a rather balanced sample that on average is neither extremely egoistic nor extremely altruistic bent. On the pro environmental behaviour scale by Markle the sample also has medium scores on average, implying that on average the participants have a neither highly engaging nor barely engaging in pro environmental behaviour. Further, the sample on average scored highest on the value Hedonism and lowest on the value Power, indicating that Hedonism is "important" to the sample and Power "somewhat unimportant" to the sample. The values Power is positively and significantly correlated with Egoism, implying that the level of egoism can predict the importance of the value power. Achievement, Hedonism and Stimulation do not statistical significantly correlate with Egoism or pro environmental behaviour. However, Achievement and Power as well as Achievement and Stimulation and Stimulation and Hedonism are positively and significantly correlated, indicating that they are belonging to the same dimension of values- here self-enhancement values. All descriptive statistics and correlations can be found in Table 1.

Table 1
Descriptive Statistics and Pearson's correlations for Egoism, pro environmental behvaiour (PEB) Power, Achievement, Hedonism and Stimulation

	Mean	SD	Egoism	PEB	Power	Achievement	Hedonism
Egoism	3.4	0.83					
PEB	3.02	0.48	.020				
Power	3.73	1.85	.188*	-.077			
Achievement	4.88	1.53	.090	-.119	.530**		

Hedonism	5.79	1.65	.071	.405	.063	.073	
Stimulation	5.51	1.5	.053	.076	.109	.213*	.374**

**. Correlation is significant at the .05 level (2-tailed).*

***. Correlation is significant at the .01 level (2-tailed).*

Mediation analysis[1]

In order to test the four hypotheses a mediation analysis is conducted. In the analysis Egoism is the independent variable and pro environmental is the dependent variable. The values Power, Achievement, Hedonism and Stimulation are the different mediators. It was found that egoism has a positive but not statistically significant effect on pro environmental behaviour (b= .02 t= .26 p= .80). For an example of the mediation model see figure 1.

The first hypothesis is that Power is mediating the relationship between Egoism and pro environmental behaviour. It was found that Egoism predicts Power (b= .18 t= 2.03 p= .04). However, Power is not predicting pro environmental behaviour and has no indirect effect on it (b= -.03, t= -.24 p= .81; b= -.01, 95% CI= [-.0498, .0367],). This means that Power is not mediating the relationship between Egoism and pro environmental behaviour. Therefore, the first hypotheses can be rejected.

The second hypotheses stating that Achievement acts as a mediator between Egoism and pro environmental behaviour also can be rejected. Egoism has a positive and statistically not significant effect on Achievement (b= .09 t= .93 p= .35). It was found that Achievement cannot predict pro environmental behaviour and has not indirect effect on it (b= -.13, t= -1.14 p= .26; b= -.01, 95% CI= [-.0548, .0172]). This finding indicates that Achievement does not act as a mediator on the relationship between Egoism and pro environmental behaviour.

The third hypothesis is that Hedonism has a mediating effect on the relationship between Egoism and pro environmental behaviour. Egoism has a positive, statistically not significant effect on Hedonism (b= .07 t= .81 p= .42). Also, Hedonism cannot predict pro environmental behaviour and has no indirect effect on it (b= -.15, t= -1.44 p= .15; b= -.01,

[1] When conducting the mediation analysis one time with the whole sample and one time only with the partial sample that filled out the whole pro environmental behaviour questionnaire there was just one difference found. Egoism and Power do only correlate when the analysis includes the whole sample. The rest of the outcomes do not differ- all mediators are statistically not significant. Since the results are the same with either sample the whole sample is used in further analysis.

95% CI= [-.0555, .0180]). This means that Hedonism is not mediating the relationship between Egoism and pro environmental behaviour. Consequently, the third hypothesis can be rejected.

The fourth hypothesis states that the effect of Egoism on pro environmental behaviour can be explained by Stimulation as a mediator. The effect of Egoism on Stimulation is positive and statistically not significant (b= .05 t= .49 p= .63). Further, Stimulation cannot predict pro environmental behaviour and has no indirect effect on it (b= .17, t= 1.68 p= .10; b= .01, 95% CI= [-.0286, .0554]). This means that the relationship between Egoism and pro environmental behaviour cannot be explained by a mediating effect of Stimulation. Accordingly, the fourth hypothesis can be rejected.

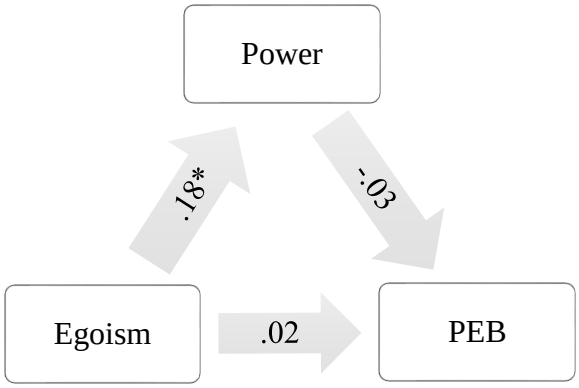

Figure 1 Mediation model with the effect of egoism on pro environmental behaviour and power as the mediator
*Significant at the .05 level

Discussion

This study examined the relationship between egoism, values and pro environmental behaviour. Specifically, the mediating effects of the values Power, Achievement, Hedonism and Stimulation on the relationship between egoism and pro environmental behaviour were tested.

None of the values mediated the relationship between egoism and pro environmental behaviour. Based on literature it was assumed that the self-enhancement values have a mediating effect on the relationship between egoism and pro environmental behaviour (Schultz et al., 2005; Weigel et al., 1999 & Schwartz, 1999). However, that was not the case in the current study. Since, only egoism and power correlated and neither the other values and egoism nor the values and pro environmental behaviour correlated in the analysis done before it was no surprise that also there was also no mediation effect.

It was found that egoism positively predicts Power, which is corresponding with the literature. However, egoism could not predict achievement, hedonism and stimulation in this study. This finding is contradicting with the previously done research stating that egoistic people hold more self-enhancement values (Weigel, Hessing & Elffers, 1999).

Also, the results did not show any relationship between the values and pro environmental behaviour. This finding is not in line with the literature explaining that individuals who hold self-enhancement values are less willing to perform pro environmental behaviours (Schultz et al., 2005) This difference could emerge because other studies that link self-enhancement (or egoistic) values with pro environmental behaviour use different conceptualizations of values (Knez, 2016). The current study measured values by asking the participants to rate the importance of clearly defined values like Power, Achievement, Hedonism and Stimulation. However, other studies like the study done by Knez (2016) conceptualized egoistic values by asking for the individual's opinion on contextual elements. Knez (2016) for example derives if the participants have egoistic values by asking them about their perception of personal freedom when thinking about environment protection laws. Comparing the current study with Knez's study (2016) it becomes apparent that the current study is asking the participants to indicate the importance they feel precise values have to them whereas Knez (2016) is asking the participants for their opinion on situations to determine a more general value orientation. Since Knez (2016) found significant associations between egoistic values and pro environmental behaviour and the current study did not it could be that it is more effective to use more contextual measurements to establish a link between self-enhancement (egoistic) values and pro environmental behaviour.

Further, asking the participants to indicate the importance of precise values may lead them to give more socially desirable responses instead of giving responses that show their true values (Grimm, 2010). Since people have the desire to appear altruistic rather than egoistic the participants in the current study may experienced the social desirability bias and selected values that are more altruistic (Chung & Monroe, 2003). This eventually leads to the incongruence found between egoism and the self-enhancement values.

Additionally, there was no significant relationship between egoism and pro environmental behaviour found. This finding is contradicting with the literature that states that more egoistic people tend to behave less pro environmental than more altruistic people (de Groot & Steg, 2007). However, pro environmental behaviour is a complex construct that is influenced by more determinants than just personality (Bakar, Osman & Hitam, 2020). For example, a study done by Latif and Omar (2017) found that people scoring higher on

collectivism express more positive recycling attitudes and negative materialism attitudes than people who are scoring lower on collectivism, suggesting that culture also is an important factor when looking for ways to predict pro environmental behaviour. Also, the theory of planned behaviour indicates that attitude, social norm and perceived behaviour control are determining whether an individual performs a behaviour or not. These determinants are influenced by personality but also by environmental factors such as for example education, gender or the media (Ajzen, 2011). This and the findings of the current study indicate that personality may not be the most important measure to predict pro environmental behaviour.

Strengths, Limitations and Future research

One strength of the current study is that it has found a positive significant correlation between Power and Egoism, thereby highlighting the association of these two, contrary to egoism and the other self-enhancement values. Therefore, Power might be the most important self-enhancement value when predicting Egoism. Also, this study has shown that neither Egoism nor the self-enhancement values have an effect on pro environmental behaviour. This indicates that personality and values might not be the most important predictors for pro environmental behaviour showing that environmental factors might be more important. Due to this finding society could be held more accountable for the pro environmental behaviour every individual is performing, since society is forming the environment the individual lives in.

The current study also has limitations that were influencing the findings. One limitation is the homogeneous sample. Most of the participants in the sample were in their early twenties. Therefore, the sample does not represent the general population. Also, all participants indicated to have a high school degree or higher education thus the current study does not include people with lower education. This is of interest since a study done by Teng et al (2011) has shown that people with higher education are more likely to perform pro environmental behaviour than people who are lower educated.

For future research it would be of interest to examine if the egoism levels and the importance of self-enhancement values differs for different age groups and educational levels. Since the current study did not find a significant relationship between the personality dimension egoism, personal values and pro environmental behaviour it would be of interest when I future research would search for other factors that could be influencing pro environmental behaviour. To be able to determine which factors are influencing pro

environmental behaviour future research should not only put personal aspects of behaviour into focus but also environmental aspects.

Conclusion

The current study investigated the relationships between egoism, self-enhancement values and pro environmental behaviour. The assumptions that self-enhancement values mediate the relationship between egoism and pro environmental behaviour have been rejected. The limitation eventually leading to these results may be the rather homogeneous sample size which could not represent the population. For future research it is recommended to take a deeper look into environmental factors determining pro environmental behaviour rather than focusing just on personal factors.

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Appendix

A) Consent form

Consent Form

You are being invited to participate in a research study titled **Pro-environmental Behaviour and Compassion.** This study is being done by students from the Faculty of Behavioural, Management and Social Sciences at the University of Twente.

The purpose of this research study is to investigate the effect of pro-environmental behaviour on compassion. The study consists of two parts. The first part is this survey, which will take you approximately **15-20** minutes to complete. The second part is a follow-up survey, which will be sent to you in two weeks. The collected data will be used for the students' bachelor theses.

Your participation in this study is entirely voluntary and you can withdraw at any time. You are free to omit any question.

We believe there are no known risks associated with this research study; however, as with any online related activity, the risk of a breach is always possible. To the best of our ability, your answers in this study will remain confidential. We will minimize any risks by storing data confidentially.

Collecting personal contact information (e-mail addresses) is essential for this study as it requires a follow-up study in two weeks.

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B) Egoism questionnaire

Q65 Select how much you agree with the statements

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
1. The best way to handle people is to tell them what they want to hear. (1)	○	○	○	○	○	○	○
2. A person should obey only those laws that seem reasonable. (2)	○	○	○	○	○	○	○
3. Nowadays a person has to live pretty much for today and let tomorrow take care of itself. (3)	○	○	○	○	○	○	○
4. It is hard to get ahead without cutting corners here and there. (4)	○	○	○	○	○	○	○
5. It is alright to bend the law if you not actually violate it. (5)	○	○	○	○	○	○	○
6. It's hardly fair to bring children into the world with the way things look for the future. (6)	○	○	○	○	○	○	○
7. Never tell anyone the real reason you did something unless it is useful to do so. (7)	○	○	○	○	○	○	○

8. A person should obey the law no matter how much it interferes with their ambition. (8)	○	○	○	○	○	○	○
9. These days a person doesn't really know whom he can count on. (9)	○	○	○	○	○	○	○
10. All in all, it is better to be humble and honest than important and dishonest. (10)	○	○	○	○	○	○	○
11. A person is justified in giving false testimony to protect a friend on trial. (11)	○	○	○	○	○	○	○
12. Most people dont care what happens to the next fellow. (12)	○	○	○	○	○	○	○
13. Generally speaking people won't work hard unless they're forced to do so. (13)	○	○	○	○	○	○	○
14. Laws are made for the benefit of	○	○	○	○	○	○	○

small selfish groups. (14)							
15. Next to health, money is the most important thing in life. (15)	○	○	○	○	○	○	○
16. The biggest difference between criminals and other people is that criminals are stupid enough to get caught. (16)	○	○	○	○	○	○	○
17. It is alright for a person to break the law if he doesn't get caught. (17)	○	○	○	○	○	○	○
18. You sometimes can't help wondering whether anything is worthwhile. (18)	○	○	○	○	○	○	○
19. General rules about lying are useless; whether a lie is moral or immoral depends on the situation. (19)	○	○	○	○	○	○	○
20. To make money there	○	○	○	○	○	○	○

are no right and wrong ways anymore - only easy and hard ways. (20)

C) Pro environmental behaviour questionnaire

Q66 Indicate how often you are performing the behaviours

	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)	Always (5)
How often do you cut off on heating or air conditioning to limit energy use? (1)	○	○	○	○	○
How often do you limit your time in the shower in order to conserve water? (2)	○	○	○	○	○
How often do you turn off the lights when you are leaving a room? (3)	○	○	○	○	○

Q67 Indicate how often you are performing the behaviours

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Constantly (5)
How often do you watch television programs, movies or internet videos about environmental issues? (1)	○	○	○	○	○
How often do you talk to others about their environmental behaviour? (2)	○	○	○	○	○

Q68 Indicate if your behaviour has changed

	No (1)	Yes (2)	I do not eat beef/pork/poultry (3)
During the past year have you decreased the amount of beef you consume? (1)	○	○	○
During the past year have you decreased the amount of pork you consume? (2)	○	○	○
During the past year have you decreased the amount of poultry you consume? (3)	○	○	○

Q69 Indicate how often you performed the behaviours

	Never (1)	(2)	Occasionally (3)	(4)	Frequently (5)
During the past year how often have you used public transportation? (1)	○	○	○	○	○
During the past year how often have you walked or cycled instead of driving? (2)	○	○	○	○	○
During the past year how often have you car-pooled? (3)	○	○	○	○	○

Q45 Indicate how often you are performing the behaviours

	Never (1)	Rarley (2)	Sometimes (3)	Usually (4)	Always (5)
How often do you switch off standby modes of appliances or electronic devices? (1)	○	○	○	○	○
How often do you turn off the TV when leaving a room? (2)	○	○	○	○	○
How often do you wait until you have a full load to use the washing machine or dishwasher? (3)	○	○	○	○	○

Q46 Please indicate

	Yes (1)	No (2)
Are you currently a member of any environmental, conservation, or wildlife protection group? (1)	○	○
During the past year have you contributed money to an environmental, conservation, or wildlife protection group? (2)	○	○
During the past year have you increased the amount of organically grown fruits and vegetables you consume? (3)	○	○

Q47 Please indicate

	Hot (1)	Warm (2)	Cold (3)
At which temperature do you wash most of your clothes? (1)	○	○	○

Q50 Please answer the folllowing question based on the vehicle you drive most often

	5.8 or less (1)	6.7-6 (2)	7.8-6.9 (3)	9.4-8.1 (4)	9.8 or more (5)
Approximately how many liters does your vehicle use per 100 kilometers? (1)	○	○	○	○	○

D) Value questionnaire

Q64 Please indicate how important these values are to you

	Opposed to my principles		Not important		Important		Of supreme importance
	0	1	2	3	4	5	6	7	8
1. POWER (social power, authority, wealth) ()									
2. ACHIEVEMENT (success, capability, ambition, influence on people and events) ()									
3. HEDONISM (gratification of desires, enjoyment in life, self-indulgence) ()									
4. STIMULATION (daring, a varied and challenging life, an exciting life) ()									
5. SELF-DIRECTION (creativity, freedom, curiosity, independence, choosing one's own goals) ()									
6. UNIVERSALISM (broad-mindnedness, beauty of nature and arts, social justice, a world at peace, equality, wisdom, unity with nature, environmental protection) ()									
7. BENEVOLENCE (helpfulness, honesty, forgiveness, loyalty, responsibility) ()									
8. TRADITION (respect for tradition, humbleness, accepting one's portion in life, devotion, modesty) ()									
9. CONFORMITY (obedience, honouring parents and elders, self-discipline, politeness) ()									
10. SECURITY (national security, family security, social order, cleanliness, reciprocation of favors) ()