Symposium

The role of values in environmental behaviour

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Introduction

This symposium will concentrate on the significant role of values in explaining environmental beliefs and behaviour. Research has found that four types of values seem to be related to environmental beliefs and behaviour, which is going to be discussed in this symposium. We will also focus on the importance of the right instrument to measure these values to allow a comparison of research results from for example different countries or stages in age.

Values are desirable and transsituational goals, which vary in importance and which serve as guiding principles in a person's live (Schwartz, 1992). Values influence beliefs, norms, attitudes and behaviours. Furthermore, they direct the knowledge which is accessible at a specific moment as well as how a situation is going to be evaluated or what is going to be noticed by a person. Through this influence values can affect actual behaviour. In this symposium we will focus on environmental beliefs and behaviour and according to previous research are egoistic, hedonic, altruistic and biospheric values in this case particularly important.

In order to measure the strength of values appropriately it is necessary to use a reliable scale. The first presentation will discuss the importance of using similar numerical rating scales for the distribution of environmentally relevant values. The results show that measuring values with different scales can lead to different results. The second presentation focuses on the measurement of values in different age groups. The development of egoistic, altruistic and biospheric values in children will be discussed.

The third and fourth presentations will focus on the distinction of these three value clusters, augmented with a fourth (hedonic), and the ways in which they are related to environmental beliefs and behaviour. Both studies investigate if a distinction between these four value clusters can be made for different countries. The presentations will also concentrate on how the different values are related to environmental beliefs and behaviour. Whereas, the third presentation discusses a Mexican sample the fourth presentation will represent results of a Russian sample. Finally, the last presentation will focus on a practical application of the findings of the earlier discussed presentations. It will concentrate on the role of altruistic and biospheric values in the explanation of energy saving behaviour in an organizational context.

References

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Presentation 1: The effect of the numerical rating scale on the distribution and structure of environmentally relevant values

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Numerical rating scales are frequently used in the social and behavioural sciences

without consideration of how the number of response categories influences various features of elicited environmentally relevant values (termed human values). We tested the hypothesis that the type of numerical rating scale will have statistically significant effects on the distribution and structure of human values.

We examined differences in landholders' responses to a survey of human values across either a 9-point or 6-point scale. Randomly selected rural landholders in the Adelaide and Mount Lofty Ranges, South Australia, were asked to respond to a survey containing 13 human value items presented in the same order and response format, differentiated as either the 9-point (N = 200) or 6-point (N = 200) rating scale. The overall rate of valid responses was 77.8 %. Multiple statistical tests including Mann-Whitney U, exploratory and confirmatory factor analyses, and Procrustes rotation were used to compare various features of human values across the two rating scales. Mann-Whitney U test indicates that the 9-point scale produces scores lower in the egoistic value orientation. Biospheric and altruistic value orientations do not differ significantly across the two rating scales. Exploratory and confirmatory factor analyses suggest that the transformed 6-point scale corresponds more closely to the theorised, three-dimensional structure of human values. The same statistical tests applied to random sub-samples indicate the differences are unlikely the result of random effects. A Procrustes analysis indicates that the factor loadings computed from responses to the 9-point and 6-point samples are incongruent. One plausible reason for this incongruence is that intervals in the 9-point scale were smaller between the *important* (3) and *very important* (6) points than the lower end of the scale (-1 to 1), leading to the underestimation of value items assigned low scores, principally those related to egoistic values.

The results suggest the rating scale length introduces an unaccounted, confounding variable that influences the distribution and structure of human values. Observed variance in values cannot therefore be unambiguously assigned to scale item responses. Researchers need to pay careful attention to differences in the rating scale when comparing estimates of human values across sub-samples, to ensure the validity and reliability of comparisons.

Presentation 2: Developing an Instrument to Measure Egoistic, Altruistic and Biospheric Values in Children

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Introduction

Although there is a lot of research dedicated to exploring and understanding values in adults, there is relatively little research on values in children. The aim of this study is to construct, develop and validate a value instrument for children. In particular, this instrument will focus on pro-environmental values, examining Stern, Dietz and Kalof's (1993) three value orientations that form the basis for environmental concern, namely egoistic, altruistic and biospheric value orientations. Derived from the validated value instrument from de Groot and Steg (2008) that measures egoistic, altruistic and biospheric values in adults, we consider whether and how these values could be measured in children. This research may help us to understand whether children distinct biospheric values from the more general altruistic values and if so, from what age this happens.

Method

The instrument would take the format of a picture instrument, with each item as a picture sticker to place onto a Q-Sort response sheet. Before validation of the final instrument, there will be rounds of focus groups, pilot administrations, and training tests with children from local schools, in order to ensure that the instrument is accessible and understandable to the participants. The final sample includes 1000 children from three primary schools in the

local area. The instrument will be administered during class time in the school environment. The distinction between egoistic, altruistic and biospheric values will be validated from the ages of 4 to 11 years old.

The instrument will be based on a short version of de Groot and Steg's (2008) value instrument. They selected 11 values from Schwartz's scale and included two additional biospheric values. In line with Döring et al (2010), children will be asked to rank the importance of these 13 values 'as a guiding principle in their lives'. Following Döring et al (2010), all values were accompanied with titled drawings as stimuli.

Results

We will use confirmatory factor analysis (CFA) to verify whether the data supports the groupings of values into an egoistic, altruistic and biospheric component. First, we will present CFA for the overall sample. Second, we will report the CFAs for the different ages.

Discussion

By developing and validating an instrument that examines egoistic, altruistic and biospheric values in children, it becomes possible to investigate when environmental values develop in children and how they are structured.

References

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Presentation 3: Mexico City: Environmental problems caused by values and beliefs?

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Research showed that four types of values are particularly relevant to understand beliefs, norms, and behaviour in the environmental domain: hedonic, egoistic, altruistic and biospheric values. These studies however took place in the Western world. The question remains if we can generalize the use of these values in the environmental domain to other parts of the world: to countries, in which not only living standards are lower but where also severe environmental problems exist. We designed a (survey) study in Mexico to address this question.

The first aim of the current study is to test whether these four types of values can also be distinguished in non-European countries characterized by lower standards of living. Inglehart (1990) proposed that environmental concern is a typical phenomenon of post-materialistic societies, in which individuals have fulfilled their basic needs for subsistence. This proposition suggests that biospheric values will only emerge as a separate value cluster in affluent societies. This leads us to the hypothesis that affluent people evaluate biospheric values as more important than less affluent people. However, others proposed that environmental concern is a more complex construct that emerges from many diverse factors. One of these factors might be the actual existence of environmental problems someone has to face. This implies that biospheric values can be endorsed by any individual, hence, independent of its socioeconomic status. The second aim of the study is to examine the relationship between the four types of values and environmental beliefs and behaviour. According to previous research (Perlaviciute, 2009) environmental beliefs and behaviour

have a negative relationship with egoistic and hedonic values but a positive relationship with altruistic and biospheric values.

We collected data on values among rich (N = 89) as well as poor (N = 71) populations in Mexico. As expected, the four types of values could indeed be distinguished in our Mexican sample by applying a Multiple Group Method analysis. Interestingly, biospheric values were evaluated as more important by the poorer as compared to the richer respondents. This leads us to conclude that the emergence of biospheric values is less dependent on the level of affluence as was suggested. Regression analyses showed that the relationships between the four types of values and environmental beliefs as well as behaviour are in line with the expected pattern. Specifically, egoistic and hedonic values were negatively related to environmental beliefs and behaviour, whereas altruistic and in particular biospheric values showed an opposite pattern, hence, were positively related to environmental beliefs and behaviour.

Our findings indicate that the relationship between the four types of values and environmental beliefs and behaviour is not only of significance in European countries but also in non-European countries like Mexico. Furthermore, this study implies the importance of strengthening altruistic and biospheric values in order to induce pro-environmental behaviour.

References

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Presentation 4: Values, environmental beliefs, and behaviour in Russia

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Values are desirable goals that serve as guiding principles in people's life. As such, values can influence multiple beliefs, attitudes, norms, and behaviours simultaneously. Values determine what people attend to, what knowledge becomes cognitively most accessible, how people evaluate various aspects of the situation, and what alternatives are being considered, which in turn affects actual behaviour.

Studies in the environmental domain generally revealed that environmental beliefs, attitudes, norms, intentions, and actions are particularly related to self-enhancement and self-transcendent values: individuals who strongly endorse self-transcendent values are more likely to have stronger pro-environmental beliefs and norms and to act pro-environmentally, while the opposite is true for those who strongly endorse self-enhancement values. Our studies showed that two types of self-transcendence values can be distinguished: altruistic values, in which people particularly consider the interests of other human beings, and biospheric values, in which people particularly consider the interests of nature and the environment as such, without a clear link to the welfare of other human beings. Recent studies in the Netherlands, Japan and Mexico suggest that it is also relevant to make a distinction between hedonic and egoistic values as separate clusters of self-enhancement values. As expected, egoistic and particularly hedonic values generally appeared to be negatively related to environmental preferences, while environmental preferences are mostly positively related to biospheric, and to a lesser extent, altruistic values.

We aimed to examine whether the four types of values can also be distinguished in Russia. Russia is a former socialist state that faces a rapid transforming to a capitalistic culture. Hedonic consumption seems to be a common phenomenon in Russia, while environmental concern seems not to be a major issue. This may affect the extent to which the four types of values can be clearly distinguished in the Russian culture, and it may affect the significance of values for understanding environmental preferences and behaviour.

We conducted a study on values, environmental beliefs, norms, and behaviour in St. Petersburg, Russia. In total 122 respondents completed the questionnaire. First, we tested whether the distinction between the four types of values can be validated in Russia by conducting confirmatory factor analysis and reliability analyses. Second, we examined to what extent the four types of values are related to beliefs, norms, behaviour, and policy acceptability related to car use. Results revealed that the four types of values can be distinguished, although some interesting differences with previous studies were found. Furthermore, relationships between values and beliefs, norms, behaviour, and policy acceptability were largely in line with our expectations.

Presentation 5: Energy saving in organizational context: The role of environmental and altruistic values

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Energy consumption causes global warming, and the associated climate change is one of the major problems facing humanity today. Organizational context is one of the contexts that have greater environmental impact, so demand for tackling climate change is to a large extent by changes in organizational activity. This reduction often implies a change of individual behaviour, so it becomes important to try to understand such behaviour, in order to design effective interventions. The contribution of individual behaviour that impacts on the environment in this type of context has not been the focus of much research, with some exceptions. Researchers have been presenting several results that show an important predictor role of psychosocial determinants on individual pro-environmental behaviour, namely behaviours related with energy saving (Vlek & Steg, 2007). The way we live and how we consume resources largely depends on what we value. Values are therefore essential variables in the explanation of environmentally significant behaviour. Besides the effects of values and attitudes, an important group of studies have been demonstrating the significant role of moral norm in the explanation of different pro-environmental behaviours (De Groot, 2008).

The objective of this study was to examine how altruistic and environmental values explain energy saving behaviour in an organizational context, the mediating role of altruistic and environmental attitudes, and the moral norm in this process. The group of participants is a random sample of 398 workers from an organization with a strategic environmental orientation and internal pro-environmental interventions. Participants answered a questionnaire evaluating the different variables considered: environmental and altruistic values and attitudes, moral norm for energy saving behaviours in the organizational context, and energy saving behavioural intention, besides characterization questions.

The test of the proposed mediation model revealed a relation between environmental values, environmental attitudes and moral norm in the explanation of energy saving intention, and also a relation between altruistic values, moral norm and the energy saving intention. These results indicate that the conjunction of altruistic and environmental values provides an important contribution to explaining energy saving behaviour. The link between altruistic values and moral norm shows the relevance of the moral component of this type of pro-environmental behaviour. The results also

indicate that when the context is characterized by an environmental framework, people showed a high intention to saving energy at work, giving some clues for the promotion of this type of pro-environmental behaviour. Particularly, they suggest that an environmental framework may reinforce the relation between altruistic and environmental values and energy saving behaviours. This hypothesis could be addressed with a focus on the study of the social normative influences at the organizational context.

References

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