

Article

Solving Environmental Problems Together? The Roles of Value Orientations and Trust in the State in Environmental Policy Support among Swedish Undergraduate Students

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Abstract: This paper explores whether value orientation (VO) and trust in the state (TIS) are linked to support for environmental intervention and steering among Swedish students in economics, law, and political science. Furthermore, we considered whether environmental personal norms mediate the link between VO and support for environmental policy instruments and finally, whether TIS moderates the link between environmental personal norms and support for environmental policy instruments, testing this on a sample of over 800 Swedish students. We found a positive link between both a self-transcendence VO and TIS on environmental policy support; however, we cannot confirm a moderating effect of TIS on the relation between environmental personal norms and policy support. Furthermore, left-wing students displayed stronger support for environmental intervention. We conclude that more knowledge on programme-specific characteristics regarding environmental values, beliefs, and attitudes among freshman students can enhance sustainability teaching intended to develop the students' critical and reflective capabilities.

Keywords: value orientation; environmental personal norms; trust; environmental policy instruments; sustainability; higher education

1. Introduction

In their seminal work “Mind the Gap: Why do people act environmentally and what are the barriers to pro-environmental behavior?”, Kollmuss and Agyeman [1] concluded that even though individuals understand problems of environmental degradation and value the environment, they are not always willing to engage in pro-environmental behaviour. The collective action dilemma of environmental protection [2,3], in which individuals are unwilling to shoulder the short-term individual costs of acting in a pro-environmental manner (e.g., reducing consumption levels) to achieve long-term collective benefits (e.g., a sustainable climate), increases the demand for government intervention to coordinate behaviour to reduce harmful environmental impacts [4]. Thereby, individuals' trust in the state (TIS) is of interest when investigating factors affecting their support for different environmental policy instruments (EPI). We define such support as positive attitudes to environmental taxes and/or regulations.

There has been a call in the field of environmental education research for scholars of environmental education (EE) and education for sustainable development (ESD) to move away from a focus on private-sphere environmentalism to a greater emphasis on understanding public-sphere environmentalism. It is claimed that there is a lack of insight into students' ideas of public environmental action and governmental environmental management, compared with private-sphere actions [5–7]. For example, Chawla and Cushing [5] argued that “environmental education, as well as measures of behaviour in environmental education research, typically emphasize private sphere environmentalism at the expense of preparing students for public action” [5] (p. 448). Furthermore, Levy and Zint [7] specifically addressed the need to bring the political dimension into focus in environmental education research, concluding, “It is now up to EE and ESD scholars to examine the extent to which findings from other contexts hold for environmental political participation as well as to identify and study other factors that may be relevant” [7] (pp. 567–568). Support for government intervention is one form of public-sphere environmentalism. As we understand it, support for such intervention is based on at least two things: first, whether people support the policy objectives (e.g., a healthier environment) and, second, whether they trust or perceive that the government can achieve the objectives of the policy or intervention. This study takes a particular interest in exploring the impact of two factors, i.e., pro-environmental value orientation (VO) and trust in the state (TIS), on environmental policy support among Swedish college students in economics, law, and political science. Many of these students will hold potential power professions in the future. From an educational perspective, we thus find it relevant to explore characteristics among the students' environmental beliefs when they begin their training.

Our study draws on environmental psychology and political science research into the roles of values and trust in support for environmental policy instruments and government involvement in general in solving problems of environmental degradation. Using data from 813 Swedish college students, we also investigate the interaction between these variables. We find that both values and TIS are strong predictors of support for pro-environmental government policy. Furthermore, personal environmental norms partially mediate the effect of biospheric values on environmental policy support. However, TIS does not substantially moderate the relation between personal environmental norms and policy support. Based on these results, we encourage more research into college students' perceptions of public-sphere environmentalism.

2. Theoretical Framework

This study mainly builds on three concepts and strands of literature: human VO, TIS, and attitudes towards state environmental intervention in terms of policy support.

2.1. Environmental Policy Support

Public opinion is a key determinant of climate policy change [8,9], so understanding public support for environmental policies is crucial. When seeking to understand why people behave sustainably (e.g., why they recycle or choose public transportation), shifting attention from the private sphere to the public sphere is important for scholars of environmental behaviour in general and for EE and ESD scholars in particular. Engaging in public-sphere environmentalism can of course mean many things, such as participating in demonstrations or joining a political party. In this article, we concentrate on public support for government intervention to protect the environment.

A comprehensive research review [10] summarized a range of factors, such as socio-economic variables, ideology, and various contextual factors, deemed particularly relevant to policy preferences, based on the understanding that support for pro-environmental government intervention has two fundamental bases: first, whether people support the objectives of the policy (e.g., a healthier environment) and, second, whether they trust or perceive that the government can achieve the objectives of the policy or intervention. A Swedish longitudinal study [11] found that improved subject knowledge could only partially explain more positive attitudes towards environmental policy

instruments among economics students. Changed attitudes may also be framed by powerful values and TIS. We have therefore chosen to pay particular attention to values and institutional trust, which we develop below.

2.2. Value Orientation

Following Schwartz's value scale [12], we assume that values function as guiding principles and influence individual attitudes and decisions by directing attention and perception in value-congruent directions. Several attempts have been made to categorize human values. Environmental psychology commonly distinguishes between egoistic, altruistic, and biospheric VOs as three motivators of individual environmental concern. These motivators were identified based on Schwartz's value scale [13] and have been developed by many other scholars [14–17]. Equality, affiliation, and social justice are examples of *altruistic* values, while *biospheric* values are respect for nature, environmental protection, and care for beings other than humans. *Egoistic* values refer to power, domination, status, and affluence. While egoistic values are considered self-enhancing, both altruistic and biospheric values are considered self-transcending.

The propensity to act in an environmentally friendly way is thus associated with the relative value an individual attaches to the three value objects *the self*, *other people*, and *nature*, and to the anticipated consequences for the highest ranked value object. Researchers have found that individuals with a self-transcendence VO are particularly concerned about threats to other people's health and welfare, as well as about threats to animals and nature [18–20]. The concern of people with a strong self-enhancing VO is limited to consequences for the self [14,21]. From the premise that environmental problems are bigger-than-self problems [22], it follows that people with strong self-transcendence values are more concerned about environmental problems than people with a strong self-enhancing VO [23]. Research in this field is not unambiguous, however. Levy, Leshem, and Orion [24] suggested that the failure of most environmental campaigns is partly related to their altruistic approach, identifying a need to acknowledge egoistic motives for environmental concern and thus to develop differentiated strategies to engage students with different VOs. Self-transcendence values constitute a central category. Because climate change is an example of a collective action dilemma, or a bigger-than-self problem [25], key values may transcend the focus on the self and instead emphasize the welfare of other people, the broader community, and nature.

Our interest is in investigating whether these effects on communal, pro-social, and pro-nature tendencies also include stronger support for governmental interventions, such as taxes and restrictions, intended to reduce emissions and thereby protect the environment. Based on the research reviewed, we expect self-transcendence VOs to have an impact on the level of support for environmental policy instruments intended to address bigger-than-self problems. Environmental psychology scholars regard the effect of self-transcendence VOs on environmental behaviour as mediated through environmental beliefs and norms [17,20].

Our first hypothesis (H1) is accordingly: (a) Stronger self-transcendent values (i.e., altruistic and biospheric VO) are linked to higher support for environmental policies through stronger personal environmental norms, and (b) stronger self-enhancing values (i.e., egoistic VO) are linked to lower support for environmental policies.

2.3. Trust in the State in Relation to Environmental Issues

Trust is a fundamental aspect of all social relationships, including both deeply interpersonal and globally transnational relations [26]. In a general sense, trust is essential for cooperation, collaboration, and decision making at all levels in society [27,28]. However, like other political concepts, trust cannot be finally and unambiguously defined. In this article, we are interested in *vertical* trust, that is, individuals' trust in the institutions implementing public policies. Such trust in the state (TIS) includes a belief that the state, when implementing environmental policy instruments, will do what is best for the environment.

Drawing on Möllering's conclusion [29] (p. 72) that "institutions cannot be effective bases for trust if they are not trusted themselves", we note increasing interest in the impact of TIS on variables related to the efficiency of environmental policy measures. As environmental policies are implemented by governments, their implementation requires trust on the part of the citizenry [30]. Marcus [31] found that the efficacy of approaches to promoting pro-environmental behaviour is associated with the level of trust in the systems purporting to support these approaches. The example of CO₂ taxation of gasoline and diesel in Sweden and Norway also provides evidence suggesting that policy support requires TIS and trust in politicians [31–33]. As the state is the central actor in adopting and implementing environmental taxes, as well as restrictions, it is reasonable to assume that TIS is a precondition of support for environmental taxes and restrictions.

Our second hypothesis (H2) is accordingly: Individuals with high TIS are more supportive of environmental policy instruments than individuals with low TIS. Furthermore, we will test whether the role of trust varies between different VOs. It is plausible to assume that individuals who do not worry about the environment will be more prepared to accept environmental intervention if they believe the state to be functioning well. Consequently, trust in the state is a less important condition for supporting intervention among individuals with strong pro-environmental orientation, because they sympathize so strongly with the environmental policy goals.

Our third hypothesis (H3) is accordingly: TIS moderates the link between environmental personal norms and environmental policy support.

3. Materials and Methods

This study was part of a Swedish research project investigating VO, TIS, and attitudes towards different environmental policy instruments among undergraduate students in economics, law, and political science. The data were collected in May and June 2015 from a group of 813 students. The typical student was 21 years old. (38% male, 9% economics students, 69% law students, and 22% political science students) and had completed at least one year of studies in a Swedish university. One member of the research team visited each university and presented the questionnaire to students studying in the disciplines of economics, law, and political science. The students were previously informed of the research by their lecturers and completed the questionnaire (which took about 15 min) during a break or after a lecture. The students were informed that participation was voluntary. A cinema ticket was provided as an incentive to those who participated. Almost all students who attended the lectures in which the research was presented chose to complete the questionnaire. Even though the sample restricts the generalization possibilities, we find economics students, law students, and political science students as particularly interesting, as many of these students will hold important positions within both the private and the public sphere.

Measures

VO was measured using three nine-point subscales ranging from -1 (counter to my basic value) via 0 (the value is not important for me), 3 (the value is important to me), and 6 (the value is very important) to $+7$ (the most important value to me, and a maximum of two values could be graded with 7). The respondents were asked to rate how important different values were to them. Five items measured the importance of egoistic values (EVs), i.e., social influence, wealth, authority, impact, and ambition (Cronbach's alpha 0.76); four items measured the importance of altruistic values (AVs), i.e., equality, a world in peace, helpfulness, and social justice (Cronbach's alpha 0.74); and four items measured biospheric values (BVs), i.e., respect for nature, oneness with nature, protection of nature, and prevention of pollution (Cronbach's alpha 0.86). These environmental value orientation scales have been widely used and previously validated in environmental psychology research. A universal content and structure of values, clustered in altruistic, biospheric, and egoistic values, has proven to be of great explanatory value in studies regarding differences between individuals' environmental concerns [13,15]. In the models implemented by environmental psychologists, a substantial number

of the values relating to environmental behaviour are mediated through beliefs and norms. We operationalize such personal environmental norms by building an index of seven items to which the participants could respond on a five-point scale ranging from “strongly disagree” to “strongly agree”: “There is no point in doing what I can for the environment unless others do too”; “As long as all laws and regulations are adhered to, there is no reason for Swedish consumers to be concerned about possible environmental damage in other countries”; “My own lifestyle has contributed to current environmental problems”; “I am co-responsible for protecting the world’s environment”; “Ordinary citizens and not just authorities and decision makers bear a great deal of responsibility for the environment”; “I have no personal responsibility to protect the environment”; and “I could forgo holiday air travel to reduce emissions of greenhouse gases”.

TIS was measured using three items to which participants responded using a five-point scale ranging from “very little” to “very much”, rating how much they trusted the parliament, the government, and governmental institutions, respectively (Cronbach’s alpha 0.69). Environmental policy support was measured using four items, of which two measured attitudes towards environmental consumption taxes and towards environmental regulations *in general*, and two measured attitudes towards environmental taxes and regulations in terms of *efficiency* (Items measuring efficiency: ‘There are various ways to get ordinary people in Sweden to protect the environment. What do you think about the following suggestions?’ (a) ‘Impose consumption taxes on polluting consumption’ and (b) ‘Impose more regulations and prohibitions to prevent people from harming the environment’; 2 ‘How efficient do you consider the following measures?’ (a) ‘Impose consumption taxes on polluting consumption’ and (b) ‘Impose more regulations and prohibitions to prevent people from harming the environment’).

A five-point scale ranging from “very good” to “very bad” was used (Cronbach’s alpha 0.73). Before the analysis, the two subscales for trust and support for EPI were reversed. We also controlled for gender and subjective left-right ideological position using the following item: “It is sometimes said that political opinions can be placed on a left-right scale. Where would you place yourself on such a scale?”. We used a five-point Likert scale (from “Clearly to the left”, “Somewhat left”, “Neither left nor right”, “Somewhat right”, to “Clearly to the right”). To test our models, we subjected our data to ordinary least squares regression analysis.

4. Results

The results of our regression analyses are reported in Table 1.

Values are linked to policy support, as stronger self-transcendent values (i.e., altruistic and biospheric VO) are linked to higher support for environmental policies. However, stronger self-enhancing values (i.e., egoistic VO) are not linked to lower support for environmental policies. In model 2, we introduce personal environmental norms and note that these to some extent, but incompletely, mediate the effects of values. The coefficient of biospheric values is less strong. We find, according to our assumptions, that the farther right the students place themselves on an ideological scale, the less likely they are to show environmental policy support. No link between gender and environmental policy support was identified in this study.

The next step in our analysis is to investigate whether there is an interaction effect of TIS in combination with ascription of responsibility on environmental policy support. We find that the interaction term is significant (-0.09^*), indicating that the stronger the ascription of responsibility, the less important the effect of TIS.

Importantly, however, the change in explained variation when the interaction term is introduced is small, being less than 0.5%, so we judge it to be negligible.

Table 1. Values, trust in the state, personal environmental norms, and environmental policy support. Ordinary least squares. Unstandardized coefficients.

Values	Model 1	Model 2	Model 3
Egoistic	−0.02 [−0.06, 0.01]	−0.01 [−0.04, 0.03]	−0.00 [−0.04, 0.03]
Altruistic	0.08 ** [0.03, 0.13]	0.06 * [0.01, 0.11]	0.05 * [0.00, 0.11]
Biospheric	0.12 *** [0.08, 0.15]	0.09 *** [0.05, 0.12]	0.08 *** [0.05, 0.12]
Trust in the state	0.12 *** [0.06, 0.19]	0.10 ** [0.04, 0.17]	0.46 * [0.11, 0.81]
Gender	−0.02 [−0.13, 0.08]	−0.04 [−0.14, 0.06]	−0.04 [−0.14, 0.06]
Left–right ideological position	−0.10 *** [−0.14, −0.06]	−0.08 *** [−0.13, −0.04]	−0.09 *** [−0.13, −0.05]
Environmental personal norms		0.23 *** [0.13, 0.34]	0.52 *** [0.23, 0.81]
<i>Interaction</i>			
Trust in the stateX environmental personal norms			−0.09 * [−0.18, −0.00]
Constant	2.66 *** [2.27, 3.05]	1.98 *** [1.49, 2.47]	0.94 * [−0.17, 2.06]
<i>n</i>	799	799	799
Adjusted <i>R</i> ²	0.210	0.230	0.234

Comments: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

5. Analysis

Based on the regression models, we can confirm that stronger self-transcendent values (i.e., altruistic and biospheric VO) are linked to higher support for environmental policies. However, we do not find that stronger self-enhancing values (i.e., egoistic VO) are linked to lower support for environmental policies. We also find that trust is linked to environmental policy support, so we confirm our second hypothesis, i.e., individuals with high TIS are more positive towards EPI than individuals with low TIS. When it comes to our third hypothesis, however, i.e., TIS moderates the link between personal environmental norms and environmental policy support, our results do not offer consistently clear guidance. We find a significant interaction term, but the explanatory contribution to the full model is minuscule, so we cannot confirm hypothesis 3.

6. Discussion

In this paper, we address the influence of VO, in combination with TIS, on support for different kinds of government interventions intended to solve environmental problems. We studied undergraduate students in economics, law, and political science, as these students will work in professions that could give them transformative roles and capacities. Our study provides a theoretical and empirical basis for the similarities and differences between different groups of students in terms of VO, TIS, and environmental policy support. The present results can be seen as a reminder of the importance of applying differentiated strategies in order to better achieve the overriding goals of environmental education in different student groups. With this in mind, educators in different educational programmes and disciplines in the social sciences will be better equipped to meet the call of Howlett, Ferreira, and Blomfield [34] to build the capacities of students to be critical and reflective thinkers who can critically engage with the complexity of environmental problems and become more effective environmental actors in their future professions. Environmental decisions seem to be influenced both by individuals' VOs [18,35] and by situational factors, i.e., cues that remind us what is important in life and activate or deactivate different types of values [35]. From an educational point of view, we accordingly find it relevant to explore the characteristics of students' VOs and beliefs when they begin their training as potential powerful future professionals. But the central question relates to what conclusions we draw from such knowledge.

The role of education as a key factor in the transition to a sustainable future is often emphasized. UNESCO expresses the overall challenge facing the world's educators as one of "changing minds, not the climate" [36]. In the research field of EE/ESD, scholars have long debated values and education, and how to foster fundamental change in individuals' VOs is a common theme [22,37–39]. Our understanding of how values related to sustainability contradict or reinforce each other, however, is far from undisputed. Scholars are calling for more research into how specific combinations of values, attitudes, and actions are associated with different groups [40], and how specific environmental values may actually facilitate or hinder sustainability [41]. Research demonstrates that environmental concern can be grounded not only in an altruistic or biospheric VO, but also in an egoistic VO [24,41]. Thus, the challenge is to widen the environmental teaching approach to include students with values spanning the whole range of both self-enhancing and self-transcending values. In addition, this would rebut the claim that value-loaded education risks ending up as ideological indoctrination [42]. The assumptions that most people will care for the environment out of self-interest [43] and that people are limited by their own perceptions [44] support the conclusion that environmental awareness and a self-enhancing VO might not necessarily be in conflict.

Scholars such as Jickling and Wals [45] disagree with top-down ambitions to impose consensus about such ambiguous issues as how to achieve sustainability. This objection does not imply that discussion of values should be avoided in or even excluded from education; rather, this perspective emphasizes the need for pedagogies that enable learners to clarify their personal value systems [46]. In addition, this perspective encourages researchers to broaden their scope of enquiry, as we do here, to consider factors that may moderate the relationship between VOs and environmental attitudes. In this study, *trust in the state* was not found to be such a factor in this dataset, though we think it is too early to exclude it as a moderating factor. More research with a more nuanced operationalization of trust is needed before we can exclude this aspect.

Furthermore, we concur with scholars who note the problematic aspects of values and education, and instead emphasize the suggestion of Heimlich et al. that environmental and sustainability education potentially has a role in guiding individuals "to see how pro-environmental behaviours may align with beliefs" [47] (p. 269) (see also [48]). We also believe it is important that education should address the dependence of humans on nature and its services for their lives and livelihoods [49], to help students develop their understanding of individuals' and societies' dependent relationship with nature and its services, and to further reflect on their own relationship with nature.

People's relationships with nature are addressed in different ways in economics, law, and political science and are incorporated into scholarly thinking and education in these disciplines to various degrees. In economics, "nature" is often valued in monetary terms associated with exploitation and trade of natural resources. Consequently, a common conclusion is that "we must put a price on nature if we are going to save it" [50]. Multiple human laws affect the nature and "laws that are not ordinarily regarded as environmental laws often play a key role in shaping the environment" [51] (p. 9). From a political science perspective, "nature" can be considered as an arena of conflicting interests with policy strategies based on purpose and power, or a collective good highlighting the role of the state [4].

Naturally, this means that current students in the various branches of these disciplines will have different opportunities to encounter these views of nature and of the relationships between individuals/society and nature.

Finally, bringing a political dimension to EE/ESD, as suggested by Levy and Zint [7], emphasizes an important aspect of how we define, view, and understand environmental problems and their solutions. This could be thought of as giving students an opportunity to conceive of people as part of the solution when trying to address environmental problems in various ways, and in doing so, allowing them to consider various potential roles, for example, as professionals, consumers, citizens, and voters.

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