

Who Intends to Spread Their Environmental Behavior?

Comparing Environmental Attitudes and Moral Beliefs

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### Abstract

In order to effectively address many pressing environmental problems (e.g., climate change, water scarcity), large groups of individuals will need to engage in a range of behaviors good for the environment (e.g., recycling and conservation behaviors) to produce an effective result. However, researchers currently know little about which predictors are linked to intentions to spread one's behavior to related behaviors or spread one's own behavior to other individuals. In this study, two measures were assessed relating to environmental behaviors. Moral exporting, or the willingness to attempt to persuade others to adopt one's values, was expected to be a better predictor of an individual's intention to spread their environmental behaviors to others. An individual's amount of pro-environmental attitudes was expected to be a better predictor of intention to engage in a range of pro-environmental behaviors. As expected, when considered simultaneously, moral exporting was a stronger predictor of intentions to spread one's pro-environmental behavior to others as compared to environmental attitudes. Contrary to our hypothesis, moral exporting was also a stronger predictor of intentions to engage in a range of pro-environmental behaviors than environmental attitudes. Whereas past research has focused on methods of altering attitudes towards the environment, the present research suggests that considering an individual's desire to advocate for their values might also be worth consideration.

## Who Intends to Spread Their Environmental Behavior? Comparing Environmental Attitudes and Moral Beliefs

From social marketing to the creation of green products, increased efforts have been developed to encourage large volumes of people to recycle or conserve in order to preserve the current state of the environment (Marcell, 2004). While these efforts have coincided with an increase in recycling rates (National Post-Consumer Plastics Bottle Recycling Report), the rates of all pro-environmental behaviors will have to continue increasing in order to maintain the environment's current state (Source). Little research has explored how behavior spreads both between individuals and from behavior to behavior. In order to increase pro-environmental behavior rates, researchers have attempted to determine why an individual chooses to engage in pro-environmental behavior. Past research indicates humans intend to engage in prosocial behavior, including environmental behaviors, due to moral values and environmental attitudes.

### **Prosocial Factor of Moral Beliefs and Environmental Attitudes**

One aspect of environmental behaviors is why an individual would choose to engage in a behavior which returns no direct benefits. While recycling and conservation behaviors have been lauded as important aspects of everyday life, individuals often receive little or no benefit from engaging in such behaviors. As a result, researchers propose individuals act *prosocially*, or engage in proenvironmental behaviors without seeking reward. Current research suggests prosocial behaviors are motivated by moral beliefs, environmental attitudes, and other factors.

A meta-analysis conducted by Bamberg suggests pro-environmental behavior is an amalgamation of both pro-social motives and self-interest. Bamberg and colleagues reviewed environmental psychology studies from the years 1986-2006. The meta-analysis suggests

individuals consider multiple aspects when contemplating whether to engage in an environmental behavior including the amount of potential reward for themselves, the difficulty of the behavior, and whether the behavior elicited a moral response (Bamberg, 2007). The results of this study indicate the choice to engage in proenvironmental behavior is a both a moral response and a result of proenvironmental attitudes. When analyzing the act of not recycling, for example, an individual must first view recycling as a proenvironmental act in concordance with their proenvironmental attitudes. Furthermore, the individual must then determine that by not recycling, the individual is committing an offense. As a result, an individual would need to both have proenvironmental attitudes and strong moral beliefs to recycle.

Morals are also integral in determining why an individual chooses to spread their behavior. One key factor in the development of pro-environmental attitudes is how responsible an individual feels for the protection of the environment. DeGroot proposed an individual must first acknowledge the consequences of an action before the individual will accept responsibility for their action. DeGroot studied seventy college students and found individuals who were aware of environmental consequences and took responsibility for those actions were more likely to have a sense of moral obligation (DeGroot, 2010). This sense of moral obligation led participants to behave more pro-socially when tested.

While most current research points to the existence of moral beliefs and environmental attitudes as the reason behind prosocial behavior, studies by Griskevicius and Mazar suggests otherwise (Griskevicius, 2010, Kruger, 2004). Griskevicius investigated how changing the location of a situation affected the resulting behavior. Participants were presented with the option of buying a nongreen backpack, a luxurious item water resistant item with many pockets, and a green backpack made of 100% organic materials with no special features. Researchers asked the

participants to imagine which one they would purchase in two conditions: whether they were shopping in public or online at home. Researchers predicted participants would be more likely to choose the green product when imagining shopping in public and the nongreen product when imagining shopping alone in their homes. The researchers' hypothesis was correct. Individuals change their intentions to buy green products based on whether the participant imagined other individuals judging their choices. This research suggests individuals do not act based off of altruism, but rather the status associated with purchasing green products. However, just because individuals change their behaviors based on whether others are judging their actions does not dismiss the value in analyzing why an individual would choose to engage in a pro-environmental behavior. Griskevicius's study suggests priming individuals to consider others' perceptions of themselves could help increase the rates of pro-environmental behaviors. Employing status as a motivator for individuals could increase their participation in environmental behaviors.

One compelling study analyzed how exposure to green products affected participants' prosocial behavior (Mazar, 2010). Participants were placed in small stores set up by the investigators and told to mark out items they liked. Participants were either placed into a store containing green products or more general products. After participants left the store, they were told that they had been paired with another participant who they would not meet. The investigators told the participant that they had been randomly assigned to the role of "dictator". As a result, the participant would be given \$6 and could decide how much of the money would be given to the other individual who they would not meet. Researchers found that participants who had been exposed to the green store were significantly more likely to give more money to the other participant than participants exposed to the normal store with no green products. Researchers concluded the mere-exposure to green products significantly increased the altruism

in the participant. This suggests priming could be an important aspect in determining how pro-environmental behavior spreads to other behaviors and from person to person reducing the impact of moral beliefs and environmental behaviors.

### **Increasing Range of Environmental Behaviors**

Another way experts suggest increasing the rates of environmental behaviors is attempting to increase the range of proenvironmental behaviors individuals engage in. A study on environmental attitudes and consumer behavior demonstrated the correlation between intention to engage in a pro-environmental behavior and an individual's environmental attitudes. Thorgerson analyzed the purchases of over 300 people and found that if an individual with strong pro-environmental attitudes purchased one environmentally-friendly product, the individual was more likely to purchase another environmentally-friendly product. Also as predicted, an individual who does not have pro-environmental attitudes is less likely to buy or continue buying an environmentally-friendly product.

### **Spread of Environmental Behaviors to Other Individuals**

Multiple studies have described the expansive aspects of an individual's behavior in relation to their close friends or family. A research study was performed on a sample of over 12,000 smokers from the year 1973 to 2003. Researchers found when one member of a married couple quit smoking, their partner was 67% more likely to quit smoking as well (Christakis, 2008). Research from the same study also demonstrated individuals with a friend or sibling who was obese had their odds of being obese increased by 57% and 40% respectively (Christakis, 2007). From these research studies, one can conclude that the behavior of those around us greatly

influences our own behavior. This conclusion poses the question, why and how do our behaviors spread to others?

One answer to how and why our behaviors spread is the concept of *moral exporting*. Moral exporting is a measure of an individual's willingness to attempt to persuade others to adopt one's values (Peterson, 2009). Peterson proposed the measure in order to determine if and how individual's attempt to transfer their moral to others in particular reference to political stances. The moral exporting scale used in our study was an adapted version of Peterson's scale altered to study moral exporting from a pro-environmental view. If a person is high in moral exporting and possesses pro-environmental attitudes, according to Peterson's study, they should be more likely to try to convince others to engage in pro-environmental behaviors. Moral exporting could determine individuals who are integral to spreading pro-environmental behaviors to others.

### **Intention & Theory of Planned Behavior**

One current clash researchers are facing is the debate over the value and validity of intention. Ajzen first described the Theory of Planned Behavior which suggests the most vital determinant in whether an individual will engage in a behavior is whether the individual intends to engage in said behavior (Ajzen & Madden, 1986). This seminal theory has since been confirmed by many researchers, including Harland and colleagues who investigated whether the Theory of Planned Behavior demonstrated reference to pro-environmental intentions and behaviors. Based on a study of 445 participants, researchers were able to conclude that intention and personal norms were the two greatest factors in predicting whether an individual would engage in proenvironmental behaviors (Harland, 2006) Therefore, individuals who intend to engage in proenvironmental behaviors or spread their behavior to others are more likely to

actually follow through with the behavior. As a result, this study measured intention to engage in behavior as opposed to actual rates of proenvironmental behaviors.

### **Current Study**

The current study investigates if and how moral exporting and environmental attitudes affect the intention to engage in a range of environmental behaviors and the intention to spread the proenvironmental behaviors to others. We hypothesize environmental attitudes, as compared to moral exporting, will be a stronger predictor of intentions to engage in a range of proenvironmental behaviors, but moral exporting will be a stronger predictor of intentions to spread one's proenvironmental behavior to others.

## Methods

### *Participants*

Participants were 158 undergraduates (104 females, 54 males; mean age = 19.61,  $SD = 2.36$ ) at the University of Minnesota. Of the 158 participants who completed the first online survey, 131 participants also completed all of the second, in-person survey (17% attrition).

### *Measures*

Participants were asked to rate on a scale of 1-7 (strongly disagree to strongly agree) their environmental attitudes and moral exporting beliefs. The moral exporting scale was adapted to describe environmental behaviors from Peterson's Moral Exporting Scale (Peterson, 2009). The measurement of environmental attitudes was based off of Milfont's Environmental Attitudes structure and inventory (Milfont, 2004, 2010). Examples questions from each scale are provided below:

#### **Moral Exporting item examples**

- "People from different cultures than my own should still take time to appreciate my views on environmental issues."
- "I would take time to teach someone how to live their life in a way that is more consistent with my own environmental views."
  - $M = 3.27$ ,  $SD = 1.09$ ,  $\alpha = .87$

#### **Environmental Attitudes item examples**

- "I would like to join and actively participate in an environmental group."
- "Humans are severely abusing the environment."
  - $M = 4.30$ ,  $SD = 0.59$ ,  $\alpha = .84$

We also measured participants' intention to engage in a range of pro-environmental behaviors which included recycling, purchasing organic foods, conserving water and energy, using public transportation, and using reuseable bags. Finally, we also measured efforts to

influence others to change their paper recycling behaviors through modeling, persuasion, and conversation efforts.

### *Procedures*

Participants completed the moral exporting and environmental attitudes measures during the first time point and completed the intention measures a few days later. The moral exporting and environmental attitudes measures were completed via an online survey for the participant to take at their leisure. For the second part of the study, the participant was brought into the laboratory and completed the survey on one of the lab computers.

## **Results**

Table 1

Predictors of Intentions to Engage in a Range of Pro-environmental Behaviors

<u>Type of Behavior</u>	<u>Moral Exporting</u>			<u>Environmental Attitudes</u>		
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>
Recycling	0.31	0.10	0.00*	0.16	0.18	0.39
Conserving Water	0.29	0.12	0.01*	0.18	0.21	0.40
Conserving Energy	0.42	0.10	0.00*	0.20	0.18	0.27
Public Transportation	0.45	0.20	0.03*	0.30	0.36	0.40
Buying Organic	0.26	0.18	0.16*	0.45	0.33	0.17
Reusable Bags	0.69	0.15	0.00*	0.38	0.27	0.12

Table 2

Predictors of Intentions to Spread One's Pro-Environmental Behaviors to Others

	<u>Moral Exporting</u>			<u>Environmental Attitudes</u>		
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>
Modeling	0.49	0.12	0.00*	-0.07	0.12	0.78
Persuasion	0.67	0.12	0.00*	0.08	0.22	0.70
Conversation	0.53	0.13	0.00*	0.12	0.24	0.61

Statistics were calculated using linear regression where each dependent variable was a separate regression model. Results indicate moral exporting was a significant predictor of intention to environmental behavior to others for all three methods of interaction which included Modeling ( $b = 0.49$ ,  $SE = 0.12$ ,  $p = 0.00$ ), Persuasion ( $b = 0.67$ ,  $SE = 0.12$ ,  $p = 0.00$ ), and Conversation ( $b = 0.53$ ,  $SE = 0.13$ , and  $p = 0.00$ ). Environmental attitudes were not a significant predictor of intention to spread environmental behavior. Moral exporting also significantly predicted intention to engage in a range of environmental behaviors for all behaviors measured which included Recycling ( $b = 0.31$ ,  $SE = 0.10$ , and  $p = 0.00$ ), Conserving Water ( $b = 0.29$ ,  $SE = 0.12$ , and  $p = 0.01$ ), Conserving Energy ( $b = 0.42$ ,  $SE = 0.10$ , and  $p = 0.00$ ), Public Transportation ( $b = 0.45$ ,  $SE = 0.20$ , and  $p = 0.03$ ), Buying Organic ( $b = 0.26$ ,  $SE = 0.18$ , and  $p = 0.16$ ), and Reuseable Bags ( $b = 0.69$ ,  $SE = 0.15$ , and  $p = 0.00$ ). Environmental attitudes did not significantly predict intention to engage in any environmental behaviors.

### **Discussion**

One of the key outcomes of this study is the use of the moral exporting as a predictor of intention to engage in pro-environmental behaviors. Moral exporting was a better predictor of both intention to engage in a range of behaviors and intention to spread behavior to others. While it was expected that moral exporting would predict intention to spread behaviors to others, it was surprising that moral exporting also predicted intention to engage in a range of pro-environmental behaviors. In concordance with other studies' results, environmental attitudes should have predicted intention to engage in pro-environmental behavior, yet results were insignificant. This finding suggests a disconnect between environmental attitudes and intention to engage in a pro-environmental behavior. Multiple factors could have contributed to this result.

One factor could have been *moral licensing*, or the idea that people build moral credits by, for example, recycling a bottle, but then use these moral credits to justify not engaging in a another pro-environmental behavior. As a result, an individual might still have pro-environmental beliefs, but not act in a way consistent with those beliefs. However, this explanation would still not resolve why moral exporting was a strong predictor.

Another possible explanation could be individuals who are high in moral exporting also have very strong pro-environmental attitudes. Moral exporting measures one's willingness to persuade others to adopt ones values, specifically environmental values in this case. Attempting change others' personal beliefs may be seen as drastic and fractious. A person high in moral exporting may be extremely fearful of the consequences of climate change and therefore reacting with strong convictions to both engage in environmental behaviors and convince others to do so as well.

### **Conclusion**

concluding results/discussion/future ideas/limitations



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