Post-Materialism and Environmental Values in Developed vs. Semi-Developing Countries: Analysis of Argentina and United States using the World Values Survey

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ABSTRACT

The environment feeds our everyday needs, desires, and global growth. If we are to make our relationship with nature sustainable we need to know who values rebuilding the natural environment that is crumbling on a global scale. This research focuses on post-materialistic values and their connection to protecting the environment. Who believes that improving the environment is more important than economic growth and creating jobs? "Who" is defined in this study in two ways: first, focusing on developed countries versus semi-developing countries, and second, focusing on individuals' post-materialist values versus materialist values. Previous research shows that people in developing countries place less value on post-materialist issues like protecting the environment compared to those in developed countries. This article argues that there is disputable difference of post-materialistic values, specifically in environmental values, between developing countries and developed countries. Findings here show that semi-developing countries may actually care more for environmental protection than economic growth.

Keywords: Develop, Developing, Semi-developing, Post-Materialism, Environmental Values, Argentina, United States

As a citizen in the United States, I see a strong emphasis on protecting the sustainable use of our environment every day. Upon living in Argentina for several months as part of a study abroad experience, it appeared to me that environmentalism as I knew it was nonexistent. In Argentina one is not shunned for lacking personal environmental improvement efforts. From the outsider's perspective I felt that Argentinians do not value environmental protection in the slightest. This follows what one might predict about the "luxury" of worrying about the environment that can only be found in developed countries, like the U.S. Meanwhile, developing countries must worry about more immediate interests, like an economy that provides jobs to sustain people's basic livelihoods. However, since one person's experience is very limited compared to a systematic, large scale analysis, I chose to investigate whether my impression of environmental values in Argentina and the U.S. is the actual pattern.

According to the World Bank, a nation's Gross National Income

(GNI) per capita, per year, classifies the nation's economic developmental standing. The World Bank utilizes four standings for classification: low income ($1,035 or less), lower middle income ($1,036 to $4,085), upper middle income ($4,086 to $12,615), and high income ($12,616 or more) (The World Bank, 2013). For the convenience of this study, low income and lower middle income are referred to as developing countries. Nations that are developing can be considered dependent on other countries for capital and are less industrialized and urbanized. Nations classified as upper middle income are considered semi-developing countries, encompassing both first world and third world characteristics. High income countries are considered developed nations, characterized by high levels of industrialization and urbanization.

It is a common assumption in research that in a developing country the main focus of the representing government is to further economic development within the country (Braithwaite, Makkai, and Pittelkow, 1996). As these developing nations are focused on fostering various economic developments, there is perhaps little thought of the ecological consequences the economic developments may cause. "Projects such as dams, industrial facilities, and transnational highways [have been] planned and built," while giving little to no attention to the "potential impacts on the ecosystem or the pollution they might generate" (Leonard and Morell, 1981, p. 281).

While developing nations are focused on economic development, the developed nations can focus on issues beyond their economic stability, such as considering environmental protection (Braithwaite, Makkai, and Pittelkow, 1996). In the final two decades of the last century, carbon dioxide (CO_2) emissions of all developed countries combined increased 21 percent and forest areas slightly increased by one percent. In contrast, in all developing countries combined, CO_2 emissions more than doubled, the forest areas declined by over six percent, and a significant increase in industrial water pollution occurred (Jorgenson, Dick, & Shandra, 2011, p. 57).

In previous literature, many have utilized Ronald Inglehart's theory of post-materialism, based off Maslow's hierarchy of needs, to explain the relationship of environmental values within developed and developing nations. Inglehart coined the terms materialist and post-materialist values. Materialist values are the concern of individuals that are experiencing physical or economic insecurity. Materialists' basic needs for stability and security have not been met, leading materialists to focus on order, stability, and economic strength. Those who encompass post-materialistic values are described as having greater security. Therefore, they can afford to pursue other needs higher on Maslow's hierarchy, such as self-esteem or self-actualization. Consequently, "post-materialists are likely to place higher value on ideas, equality of opportunity, greater citizen involvement in decision making at government and community levels, and environmental protection" (Braithwaite, Makkai, and Pittelkow, 1996, p.1536-37).

According to a study by Cotgrove and Duff (1980), "using a modified form of Inglehart's scale, measuring 'material' and 'post-material' values, [they] found a marked polarization between environmentalists and the public, the former scoring higher on items indicating support for post-material values, and much lower on material items" (p. 77) This suggests that specific relations to core economic institutions of society and class position help determine the values of the environmentalist and the industrialist. Following with previous research, the environmentalist scoring higher on items indicating support of post-materialistic values suggests the individual is part of a developed country, having enough security to focus their post-materialistic values on the environment. The industrialist scoring higher on items indicating materialistic values suggests the individual is part of a developing country, where security of livelihood has not been met, giving no focus to environmental values. Expanding upon this concept, Dunlap and York (2008) argue that it is commonly assumed that poorer individuals "will naturally have a greater incentive to give priority to more goods and services than the environment" and "it would be foolish to make heavy sacrifices of economic progress in interests even of their own environment, let alone that of the world in general" (p.529).

But recent research questions the above implications of environmentalism in relation to post-materialistic values. Environmentalism as a globalized thought and interest is a recently new phenomenon in literature. Nawrotzki and Pampel (2013) allude to a new concept involving the relation between environmental values and post-materialistic values. They theorize that the idea of environmentalism has become a phenomenon that is fostered globally by the rich and poor alike. Individuals of low- socioeconomic status are likely to be environmentally concerned because they depend on the environment more than the rich for their livelihoods. Therefore, those of low-socioeconomic status benefit more from public efforts in protecting the environment. Developing nations are directly exposed to the environmental destruction and pollution, whereas developed nations can pay to protect themselves against such exposures (Nawrotzki & Pampel 2013, p.5).

Previous research offers insight into the environmental values of developed nations versus developing nations. However, research that surrounds post-materialistic and materialistic values in relation to the environment as a concern of semi-developing nations, defined in this study as a nation that has both first and third world characteristics is non-existent. This article attempts to offer a better understanding of the recent ways in which semi-developing nations versus developed nation's value environmentalism in correlation with the materialist and post-materialist values.

METHODS

This research analysis utilizes survey data collected by the World Values Survey Association (WVSA), a non-profit organization that surveys the globe by exploring peoples' "values and beliefs, their stability or change over time, and their impact on social and political development of the societies in different countries of the world" (World Values Survey, 2014). The World Values Survey (WVS) has six waves of surveys from 1981 to 2014. This research specifically utilizes the survey data collected during the fifth wave from 2005 to 2009. This wave has been chosen because it is the most recent wave that encompasses data surveyed from both Argentina and the United States, and it provided important environmental variables for this study. Each country was surveyed in the middle months of 2006. The WVSA administered the survey face to face to 1,002 participants in Argentina, taken from a national, probabilistic multistage sample. The WVSA conducted the survey through personal interviews with 1,710 participants 18 years and older in the United States.

The United States was chosen to represent the developed countries and Argentina was chosen to represent the semi-developing countries. The U.S. is an example of a developed country, with a GNI of $47,340 in 2006. The nation has well exceeded the minimum of the high income classification, a GNI of $12,616 or more (The World Bank, 2006). Argentina has been chosen as the semi-developing country, with a GNI of $6,290 in 2006. The nation's GNI settles in the middle of the upper middle income classification, a GNI of $4,086 to $12,615 (The World Bank, 2006). As this survey was administered in the middle months of 2006, both the United States and Argentina were relatively close to entering into a recession. United States entered the great recession at the end of 2007. Argentina entered into their recession in the early months of 2008.

A total of six independent variables were selected, including: age, sex, social class, country association (binary variable: 0=United States, 1= Argentina), a post-materialistic index, and a computed interaction variable (country * post-materialistic index). The first analysis used linear regression to determine the way in which these six variables affect the dependent variable, originally worded as: looking after the environment is important to this person; to care for nature. For clarification this variable will be regarded throughout the rest of this article as, "looking after the environment is important." Utilizing linear regression analysis allows us to quantify the relationship between the explanatory variables and the dependent variables, while controlling for other factors. We can isolate the effect of any independent variable listed above, while holding the effects of the others constant. Controlling for specific variables allows us to understand how individual variables collectively affect the dependent variables. In addition to still utilizing the same six independent variables. A binary logistic regression analy-

sis was conducted with a second dependent variable: how important it is to the individual to focus on protecting the environment (= 0), versus economic growth and creating jobs (= 1). Binary logistic regression analysis helps predict probabilities of the six independent variables effect on the dichotomous dependent variable.

Results

The linear regression analysis focuses on the ways in which the chosen six independent variables affect the dependent variable: looking after the environment is important. Table 1 presents the slopes of the independent variables for each block of the linear regression.

TABLE 1

Table 1: Regression statistics for effects of age, sex, social class, country association, post-materialist index, and interaction variable of country association and post-materialist index on looking after the environment is important to this person, to care for nature.

	1	2	3
Age	(-)0.009	(-)0.009	(-)0.009***
[1]Sex	(-)0.161	(-)0.173	(-)0.170***
Social Class	0.025	0.018	0.016
[2]Country	(-)0.541	(-)0.57	(-)0.406
Post-Materialist Index		(-)0.218	(-)0.178***
Interaction			-0.087
R²	0.063**	0.076**	0.077
df	4	1	1
N	2055	2055	2055

[1]Reference groups: Male
[2]Reference groups: United States
*p<.05; **p<.01; ***p<.001
Source: World Values Survey: 2005 -2008

Focusing on block three, the independent variables age, sex, and post-materialism all yield statistically significant results regarding the dependent variable: looking after the environment is important. The results show that for males in the United States a one unit increase in post-materialism leads to being .178 units of lower value in looking after the environment. This is statistically significant at the .001 level, controlling for age, social class, and the interaction. The variables of social class and country did not present statistically significant results, but it is important we do not ignore them since this indicates these variables do not have a significant effect on the dependent variable. In other words, there is no significant variation between the United States and Argentina on valuing the environment. The computed interaction variable (country association * post-materialistic index)

is also not statistically significant, suggesting that in reality there is no difference in how post-materialism across the United States and Argentina affects how important it is to look after the environment.

Next, the binary logistic regression analysis, utilizing the same six independent variables, yielded interesting effects on the dependent variable: how important it is to the individual to focus on protecting the environment, versus economic growth and creating jobs. Table 2 presents the resulting Exp (B) coefficients (the change in the odds ratio associated with one unit of change of the predictor variable) for each variable.

TABLE 2

Table 2: Binary logistic regression statistics for effects of age, sex, social class, country association, post-materialist index, and interaction variable of country association and post-materialist index on how important it is to the individual to focus on protecting the environment, versus economic growth and creating jobs.

	Exp (B)
Age	0.999
[1]Sex	0.824*
Social Class	1.105
[2]Country	0.220***
Post-Materialist Index	0.780**
Interaction	1.249

[1]Reference groups: Male
[2]Reference groups: United States
*p<.05; **p<.01; ***p<.001
Source: World Values Survey: 2005 -2008

The statistics presented suggest sex, country, and post-materialism all have a significant impact upon the dependent variable: how important it is to the individual to focus on protecting the environment, versus economic growth and creating jobs. The results show that people in Argentina are 78% less likely than people in the United States to value economic growth and creating jobs over protecting the environment, controlling for all other variables in the model. This is statistically significant at the .001 level. The results also show a one unit increase in post-materialism, indicating one is 22% less likely to value economic growth and creating jobs over protecting the environment, controlling for other variables in the model, as hypothesized by the theory of post-materialism. This is significant at the .01 level. Both social class and age did not have a significant effect on the dependent variable. Also, the interaction variable (country association * post-materialistic index) was not significant. This implies there is no difference in how post-materialism across the United States and Argentina affects how important it is to the individual to focus on protecting the environment versus economic growth and creating jobs.

DISCUSSION

Given these results we can make some compelling arguments regarding previous literature. The binary regression analysis suggests that the United States respondents are less likely to care about the environment compared to Argentina respondents. Also, the higher one scores on post-materialism the less they value the importance of looking after the environment. Inglehart's theory of post-materialism is not entirely supported with the results of this study, as he states that the more post-materialistic a country is the more likely it is to place more value on environmental protection. We should expect that U.S. respondents have higher environmental values than Argentina respondents, but we found the opposite in one of the models run here. Inglehart's theory suggests those who relate with post-materialism have greater economic stability, and are then able to focus on other values, such as looking after the environment. The binary logistic regression results show that with one unit increase in post-materialism one is 22% less likely to value economic growth and creating jobs over protecting the environment. This result defends Inglehart's theory, suggesting that as one relates more with post-materialistic values they are less likely to value economic growth and creating jobs over looking after the environment.

The variable of social class is closely related to post-materialism. As Inglehart's theory suggests, as one's social class increases they are more likely to relate with post-materialistic values, and in return they then pursue higher values in relation to the environment. However, both analyses suggest that social class has no significant impact on either the importance of looking after the environment or the importance of fostering economic growth and creating jobs. Social class here was operationalized as socio-economic status: as a scale of wealth based upon education, income, and occupation; separating the rich from the poor. This follows what Nawrotzki and Pampel (2013) suggests in their recent research which states that the rich and poor alike value the environment. The poor value the environment just as the rich, but the poor depend on the environment more than the rich for their livelihoods. This research suggests in reality there is no difference in social class in relation to caring for the environment, at least in Argentina and the United States.

There is a significant variation in valuing economic growth and environmental protection between Argentina and the United States. The United States is 78% less likely to support environmental protection and more likely to support economic growth compared to Argentina. Dunlap and York (2008) articulate that it is commonly assumed that developing countries would be foolish to make sacrifices in economic progress for the environment, both locally and globally. This research does not suggest that semi-developing countries are making economic "sacrifices" for the environment or vice versa. However, it shows that semi-developing countries do not solely

value goods and services over the environment. Previous research suggests that developing countries are focused on economic stability and economic growth over looking after the environment. However, this research indicates the opposite case is true, in relation with the semi-developing nation of Argentina. This study indicates semi-developing countries are not solely focused on economic growth. This could be due to the fact that there is more industry, or economic growth, being created around advancing environmental efforts. It could also be, as Nawrotzki and Pampel (2013) suggest, that those in developing countries are less separated from nature in their daily activities, as they are more focused on self-sustaining agriculture then developed nations.

  In both analyses the interaction variable regarding country association and the post-materialistic index did not yield statistically significant results. This indicates that there is no difference in how post-materialism across countries affects the values of looking after the environment, and the importance of protecting the environment versus economic growth and creating jobs. This suggests that post-materialistic values held in each country, the semi-developing and the developed, are acted upon no differently when considering the importance of looking after the environment and protecting the environment versus economic growth and creating jobs. Previous research by Cotgrove and Duff (1980) suggests that there is a great polarization between the post-materialist and the industrialist, as the post-materialist, or developed countries in this case, should score much higher on post-materialistic values than the industrialist or developing countries. This implies that developed countries embrace greater post-materialistic values than developing countries and in return will place higher value on looking after the environment. Nevertheless, this study counters such findings. Analyses presented in this paper offer new findings that are very seldom found in previous literature: the idea that semi-developing countries may care more for environmental protection than economic growth and creating jobs in comparison to developed countries. More research must be done in the context of semi-developing nations. It is important to expand upon research involving semi-developed nations to better understand their motives in relation to the environment and economic growth; the findings of this study suggest there is more complexity in these dynamics than found in previous studies.

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