EXAMINING THE SOCIODEMOGRAPHIC BASES OF ENVIRONMENTAL CONCERN: AN ANALYSIS OF THE 2016 GENERAL SOCIAL SURVEY

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Rebecca A. Richards

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ABSTRACT

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The goal of this study has been to evaluate data from the 2016 General Social Survey (GSS) in order to examine the association between sociodemographic variables, political orientation, and level of environmental concern. Recent research has indicated a shift in the sociodemographic bases of environmental concern, which illustrates the need for continued research in this area. The current study is guided by questions regarding which sociodemographic groups are most concerned with the environment and whether or not religion and political orientation are correlated with environmental concern.

In order to answer these questions, ordinal logistic regression models were built for each dependent variable to determine which independent variables have a statistically significant effect on each dependent variable. The expectation was that the 2016 GSS data would remain consistent with past research indicating that younger, female, well-educated, non-white, lower income, and politically liberal respondents are more likely to be concerned about environmental issues. It was found that individuals with a moderate to liberal political orientation were more likely to have higher levels of environmental concern, consistent with past research. However, the results for other sociodemographic groups varied considerably across each of the nine ordinal logistic regression models.

KEY WORDS: Attitudes towards the environment, Environmental attitudes, Environmental concern, Social bases, Social perception, Sociodemographic factors

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INTRODUCTION

This study investigates the relationship between sociodemographic variables, environmental concern, and awareness of consequences. Environmental issues have political, economic, and social implications. Therefore, it is imperative that researchers continuously monitor individuals' stated levels of environmental concern and any/all changes that may occur over time.

Extant research indicates that United States citizens' levels of environmental concern can be linked to three factors: (1) sociodemographic variables, (2) political orientations, and (3) personal beliefs and worldviews about human-nature relations (Cruz 2017; Czech and Borkhataria 2001; Dietz, Kalof, and Stern 2002; Liu, Vedlitz, and Shi 2014). The findings of such research drive the framework of the current study. However, due to a lack of adequate data regarding personal beliefs and worldviews about human-nature relations in the GSS, this study focuses specifically on sociodemographic variables, as well as religion and political orientations.

Recent research also indicates that the social bases of environmental concern have shifted over time. For example, in the 1980s and 1990s, studies found that young people were more concerned with environmental issues than older individuals (Dietz, Stern, and Guagnano 1998; Jones and Dunlap 1992; Kanagy, Humphrey, and Firebaugh 1994; Liu et al. 2014; Van Liere and Dunlap 1980). However, recent research has shown that the Millennial generation is less interested in the environment than Baby Boomers and Generation Xers (Twenge, Campbell, and Freeman 2012). A central component of this study is to analyze whether or not data from the 2016 GSS remains consistent with past

research indicating a higher level of environmental concern among individuals who are female, younger, more educated, non-white, and more liberal in their political orientation.

The independent variables included in this study are age, gender, race, education, income, religion and political orientation. The first dependent variable was environmental concern. The study compares each independent variable to this dependent variable to determine if particular demographic groups are more or less likely to claim an interest in environmental issues.

The second dependent variable was awareness of environmental consequences. This variable was measured with a set of questions regarding what Newman and Fernandes (2016:160) have termed "awareness of consequences" of environmental problems. This study analyzed specific environmental topics included in the 2016 GSS: nuclear power, air pollution, water pollution, pesticides, global warming, and genetically modified crops. The study was designed to determine whether any sociodemographic group is more or less likely to perceive any (or all) of these issues as dangerous to the environment.

RESEARCH QUESTIONS

The goal of the current study is to compare the level of interest and concern towards environmental issues among sociodemographic, religious, and political groups in the United States and to determine whether or not current trends are consistent with past research. This research has been guided by the following three questions:

1. Which sociodemographic groups (if any) are most likely to be concerned with the environment?
2. Which sociodemographic groups (if any) are most likely to perceive certain environmental issues as dangerous to the environment?
3. Are the current data consistent with past research indicating a higher level of environmental concern among individuals who are female, younger, more educated, non-white, and more liberal in their political orientation?

LITERATURE REVIEW

A number of studies have been conducted over the last few decades that have examined the relationship between various sociodemographic characteristics and environmental concern (Cruz 2017; DeNicola and Subramaniam 2014; Dietz et al. 2002; Liu et al. 2014; Lo 2014; Macias 2016; Newman and Fernandes 2016; Stern, Dietz, and Kalof 1993; Van Liere and Dunlap 1980; Xiao and McCright 2007; Zia and Todd 2010). The results of these studies have often varied regarding the relationships between the variables. As such, there is a continuing need for new research to analyze current data to shed light on recent trends in environmental concern.

Independent Variables

The independent variables included in the present study are age, gender, race, education, income, religion, and political orientation. Over time and across different surveys and samples, age, education, and political ideology have been consistently associated with environmental concern (Jones and Dunlap 1992; Macias 2016; Newman and Fernandes 2016; Van Liere and Dunlap 1980; Xiao and McCright 2007). As noted in the introduction, the general conclusion of these, and similar, studies have been that "the younger, well-educated, and politically liberal are more likely to demonstrate concern for the environment" (Newman and Fernandes 2016:154).

In recent years, however, research has begun to find changes in the relationship between demographic variables and environmental concern. For example, many studies in the 1980s and 1990s found that young people were more concerned with environmental issues than older generations (Liu et al. 2014). In contrast, recent studies

have shown that the Millennial generation is less interested in the environment than Baby Boomers and Generation Xers (Twenge et al. 2012).

In addition to age, the relationship between other demographic variables and environmental concern may also be changing. Interestingly, while higher educational attainment has been linked to a higher perception of environmental risk, Macias (2016) argued that this relationship is significantly moderated by respondents' political views. Specifically, he found that among those with liberal political views, higher levels of educational attainment were positively associated with perceived environmental risks, but that the inverse tended to be true among those with extremely conservative views.

Furthermore, while it is now the prevailing theory that liberal political orientation is associated with environmental concern, earlier studies had implied only a weak association (if any) between political orientation and environmental concern (Van Liere and Dunlap 1980). Thus, it was previously concluded that political orientation is not crucial in explaining environmental concern (Buttel and Flinn 1976; Cruz 2017; Dunlap and McCright 2008; Van Liere and Dunlap 1980).

More recently, the literature regarding political orientation and environmental concern has shifted, and various studies have shown that these variables are significantly associated (Cruz 2017; Czech and Borkhataria 2001; DeNicola and Subramaniam 2014; Dunlap, McCright, and Yarosh 2016; Marquart-Pyatt, McCright, Dietz, and Dunlap 2014; Zia and Todd 2010). Clements, McCright, and Xiao (2014) found political ideology to be the strongest predictor of environmental concern across all of their models.

Further, Marquart-Pyatt et al. (2014) found that political orientation had the most important effect on the American public’s perception regarding the seriousness of climate

change, while objective changes in climatic conditions had very little effect on public perception of climate change. Specifically, they found that liberals and Democrats are more likely than conservatives and Republicans to believe that the effects of global warming have begun, and that the seriousness of global warming is underestimated.

Similarly, multiple studies report an escalation of partisan polarization in the United States with regard to issues of environmental protection and climate change (DeNicola and Subramaniam 2014; Dunlap et al. 2016; Zia and Todd 2010). Specifically, Dunlap et al. (2016) state that environmental protection historically had a fair amount of bipartisan support. However, they assert that as the Republican Party has moved towards conservativism, particularly in opposition to governmental regulations, environmental protection measures have increasingly been opposed by Republicans. Further, Zia and Todd (2010) tested the hypothesis that as citizens' political ideology shifts from liberal to conservative, their concern for global warming decreases and their regression models confirmed this hypothesis.

Unlike age, education, and political orientation, the variables of gender and income have not been shown to be consistently related to environmental concern (Van Liere and Dunlap 1980; Xiao and McCright 2007). Due to inconsistent findings regarding the relationship between gender and environmental concern, it was historically concluded that gender is not significantly associated with environmental concern (Van Liere and Dunlap 1980). Recent studies, however, have shown women to be modestly more pro-environmental than men (Dietz et al. 2002; McCright 2010). In addition, a study conducted by Xiao and McCright (2007) concluded that inconsistent results found in

studies of gender, income, and environmental concern may be caused in part by model specification errors, rather than a lack of relationship among the variables.

The reason for inconsistent results regarding the relationship between income and environmental concern may also be due to differences in the way that environmental concern has been measured. According to the social class hypothesis, individuals with higher socioeconomic status are found to have a greater concern for the environment (Conroy and Emerson 2014). However, the measures of environmental concern used in these studies have often included respondents' willingness to pay or engagement in or donations to environmental groups (Conroy and Emerson 2014). Thus, these results may be a greater reflection of respondents' socioeconomic status and personal *ability* to pay for environmental quality, rather than an accurate reflection of the individual's environmental concern (Conroy and Emerson 2014).

Macias (2016) found that a higher household income is associated with significantly lower odds of perceived environmental risk of air pollution, water pollution, agricultural chemicals, climate change, and nuclear power. A cross-national survey of 36 countries also found that income has a negative effect on the perception of long-term environmental risks, including those related to climate change, genetic modification of crops, and the use of nuclear power (Lo 2014).

Additionally, race and ethnicity were not historically found to be consistently related to environmental concern (Van Liere and Dunlap 1980; Xiao and McCright 2007). However, recent studies have found that race and ethnic categories are, in fact, reliable predictors of perceived environmental threats, even when controlling for socioeconomic status (Jones and Rainey 2006; Macias 2016). Yang, Jimenez and Kang

(2015), for example, found that ethnicity significantly predicted environmental attitudes, which they measured with a series of statements regarding the extent to which humans are severely abusing the environment and whether or not we are facing an ecological crisis. They found that Latinos/Hispanics were more likely than whites/Caucasians to state that humans severely abuse the environment and that we are facing an ecological crisis. In the United States, there is also evidence of a white male effect which refers to a lower perception of risk within this group. With regard to the environment, the white male effect refers specifically to a lower level of environmental concern and lower perception of environmental risks among white men (McCright and Dunlap 2011, 2013).

As for the relationship between religion and environmental concern, there is evidence that nonreligious individuals are more concerned with the environment than members of Judeo-Christian traditions (Arbuckle and Konisky 2015; Clements et al. 2014). However, Konisky, Milyo, and Richardson (2008) found that religious commitment, as demonstrated by church attendance and prayer frequency, was unrelated to environmental preferences. Arbuckle and Konisky (2015) concluded that current data are inconclusive, largely due to insufficient sample sizes. Therefore, it is important for new studies to analyze religion and environmental concern and specifically examine the relationship between religious commitment and environmental concern.

Dependent Variables

It is important to note that environmental concern has not been consistently conceptualized within the literature, which makes it difficult to compare the results of existing studies. Thus, some discrepancy in the results can be attributed to how the idea of environmental concern has been operationalized within each study. Most often,

environmental concern has been used to refer to attitudes about certain environmental issues and the perception of such issues as important or not (Cruz 2017). Schultz (2001) has also defined environmental concern as attitudes regarding the consequences of environmental damage for oneself, other people, and the biosphere. In addition, there is a substantial body of work dedicated to analyzing environmentally-friendly behaviors, such as recycling and buying environmentally-friendly products (Cruz 2017).

Van Liere and Dunlap (1980) highlight the importance of specifying environmental issues and policies within research, rather than using a generalized concept of environmental concern. They also stress the importance of studying issues independently from each other, because it is possible that a person may be strongly concerned about one issue and not as concerned with others. Grouping all topics into one category does not allow for such variances. For this reason, this study uses Newman and Fernandes (2016) conceptualization of environmental concern and awareness of environmental consequences. Specifically, it individually examines nuclear power, air pollution, water pollution, pesticides, global warming, and genetically modified crops.

Summary

While age, education, and political orientation have recently been shown to be associated with environmental concern, it is interesting to note how the relationships between these variables and environmental concern appear to have changed over time (Arbuckle and Konisky 2015; Jones and Dunlap 1992; Macias 2016; Newman and Fernandes 2016; Van Liere and Dunlap 1980; Xiao and McCright 2007). Specifically, past studies found younger individuals to be more concerned with environmental issues than older individuals, while in recent studies, older individuals have demonstrated

greater environmental concern than younger individuals (Liu et al. 2014; Twenge et al. 2012). Further, while it was previously thought that political orientation does not significantly explain environmental concern, new research has concluded that these variables are significantly associated. (Buttel and Flinn 1976; Cruz 2017; Czech and Borkhataria 2001; DeNicola and Subramaniam 2014; Dunlap and McCright 2008; Dunlap et al. 2016; Marquart-Pyatt et al. 2014; Van Liere and Dunlap 1980; Zia and Todd 2010).

Studies of gender, income, race, and religion in relation to environmental concern have had inconsistent results (Arbuckle and Konisky 2015; Van Liere and Dunlap 1980; Xiao and McCright 2007). This may be caused by differences in the way that studies have conceptualized environmental concern. These inconsistencies may also be caused by model specification errors, as determined by Xiao and McCright (2007). Further, Arbuckle and Konisky (2015) cite insufficient sample sizes as a reason for inconclusive results. Therefore, it is important for this, and future studies, to include the variables of gender, income, race, and religion in research on environmental concern as it has been suggested that inconsistencies and inconclusive results are not necessarily due to a lack of relationship among the variables.

The way that environmental concern is defined can also impact results. This study builds on the work of Van Liere and Dunlap (1980) and Newman and Fernandes (2016) by individually examining nuclear power, air pollution, water pollution, pesticides, global warming, and genetically modified crops. This allows for deeper insight into possible varying responses to each topic.

CONTRIBUTION TO THE LITERATURE

Analysis of the 2016 GSS data contributes significantly to the literature on environmental concern as it is one of the most current data sets available. Given inconsistencies in the findings of earlier research, it is important for new research to use up-to-date data to clarify the social bases of environmental concern.

The importance of this study, however, goes beyond its analytical contributions to the field of sociology. Society is intrinsically connected to the environment. Attitudes and beliefs regarding environmental issues ultimately shape the way that society interacts with and influences nature in concrete ways. Specifically, environmental issues have political, economic, and social implications. The formulation and adoption of policies regarding environmental issues, such as the six topics considered in this study, relies on citizens' understanding and concern regarding such issues (Zia and Todd 2010).

Through studies such as this, we can gain insight into the direction of society's concern for the environment. This information can be used as a guide to improve the relationship between society and nature by ensuring that citizens are well-informed of environmental issues and support the implementation of policies and regulations which better protect the environment.

CONCEPTUAL FRAMEWORK

As stated, the goal of this research is to evaluate the most recent data available to determine whether or not sociodemographic variables and political orientation are correlated with environmental concern. The expectation is that data from the 2016 GSS will remain consistent with past research indicating that younger, female, well-educated, non-white, lower income, and politically liberal respondents are more likely to be concerned about environmental issues.

With this in mind, the following seven hypotheses have been developed:

[H_1] Younger individuals will express higher levels of environmental concern than older individuals.

[H_2] Female individuals will express higher levels of environmental concern than male individuals.

[H_3] Individuals with a higher level of education will express higher levels of environmental concern than individuals with a lower level of education.

[H_4] Black individuals will express higher levels of environmental concern than white individuals.

[H_5] Individuals with a lower income will express higher levels of environmental concern than individuals with a higher income.

[H_6] Non-religious individuals will express higher levels of environmental concern than religious individuals.

[H_7] Individuals with a liberal political orientation will express higher levels of environmental concern than individuals with a conservative political orientation.

METHODS

Description of the Data

The GSS data used in this study are available for download from the National Opinion Research Center (NORC) website. The GSS consists of survey data acquired from a sample of the United States population. An area-probability sample was conducted utilizing the NORC National Sampling Frame to obtain an equal-probability multi-stage cluster sample of housing units for the entire United States (Smith, Davern, Freese, and Hout 2016). This means that each household in the United States had an equal probability of being included in the sample. Additionally, each individual in the household had an equal probability of being interviewed.

Responses were collected through Computer Assisted Personal Interviewing (CAPI). To ensure accuracy, interviewers were trained in the use of CAPI and data collection procedures, such as how to define terms so that respondents fully understood the questions (Smith et al. 2016).

The GSS was chosen for this study as it is the second most frequently analyzed source of social science information in the United States and thus has been established as a respected and influential source (NORC at the University of Chicago 2018). Further, this study requires a large sample size taken from across the United States, which the GSS provides. Specifically, GSS data consist of a sample size of 2,867 respondents, and due to the use of equal-probability sampling, NORC reports that the GSS samples are very close to population distributions reported in the Census and other authoritative sources (Smith et al. 2016). This suggests that the sample data are representative of the U.S. population.

Independent Variables

The independent variables included in the present study are age, gender, race, education, income, religion, and political orientation. Due to a limited number of minority responses in the 2016 GSS data, the race variable used in this study has been condensed to include only responses from white and black individuals. Income was measured with the GSS variable "conrinc" which consists of respondents' yearly income. For this study, income was condensed into three categories: $25,000 or less, $25,001 to $75,000, and $75,001 or more. These categories were chosen to reflect lower, middle, and upper income ranges as based on the 2016 median individual income of $31,099 (U.S. Bureau of the Census 2017). Religion was measured with the GSS variable "relpersn" which consists of a 4-point response scale ranging from "very religious" to "not religious." For this study, the response scale was condensed into two categories: religious and non-religious. Political orientation was measured with the GSS variable "polviews" which consists of a 7-point response scale ranging from "extremely liberal" to "extremely conservative." For use in this study, the response scale was condensed into three categories: liberal, moderate, and conservative.[1]

Dependent Variables

Environmental concern was measured with three GSS variables. The first variable "intenvir" asked respondents whether they are "very interested," "moderately interested," or "not at all interested" in the environment. The second variable "natenviy" asked

[1] Please see Appendix A for descriptive statistics and a detailed description of how each independent variable was coded within SPSS for use in this study.

respondents whether they think that the U.S. government is spending “too much,” “too little,” or “just the right amount” on the environment. The third variable “natenvir” asked respondents whether they think that the U.S. government is spending “too much,” “too little,” or “just the right amount” on improving and protecting the environment.

The limitation of using these questions to measure environmental concern is that the responses to “natenviy” and “natenvir” regarding government spending could potentially be highly correlated with political orientation. However, of the data available from the 2016 GSS, these three questions most closely represent respondents' level of environmental concern.

Building on the work of Van Liere and Dunlap (1980), this study also analyzes respondents' awareness of consequences of environmental issues by independently examining the following six GSS variables: (1) nukegen (2) indusgen (3) chemgen (4) watergen (5) tempgen and (6) genegen. The questions were as follows:

1. In general, do you think that nuclear power stations are…
2. In general, do you think that air pollution caused by industry is…
3. In general, do you think that pesticides and chemicals used in farming are…
4. In general, do you think that pollution of America's rivers, lakes, and streams is…
5. In general, do you think that a rise in the world's temperature caused by the ‘greenhouse effect' is…
6. Do you think that modifying the genes of certain crops is...

For each of the preceding questions, respondents chose one of the following responses: "extremely dangerous," "very dangerous," "somewhat dangerous," "not very dangerous," or "not dangerous at all."[2]

Statistical Procedure

This study utilized both PLUM and GENLIN procedures in SPSS to create ordinal logistic regression models and test for multicollinearity and the assumption of proportional odds. An ordinal regression model was built for each dependent variable to determine which independent variables have a statistically significant effect on each dependent variable. For reference, the models were as follows: (1) intenvir: interest in environmental issues (2) natenviy: government spending on the environment (3) natenvir: government spending on improving and protecting the environment (4) nukegen: nuclear power (5) indusgen: industrial air pollution (6) chemgen: pesticides (7) watergen: water pollution (8) tempgen: global warming and (9) genegen: genetically modified crops.

First, the PLUM procedure produces model fitting information to determine whether or not the model is a good fit for the data. Second, the parameter estimates table within the GENLIN procedure defines the relationships between the independent and dependent variables and further determines which independent variables are statistically significant.

[2] Please see Appendix B for descriptive statistics and a detailed description of how each dependent variable was coded within SPSS for use in this study.

RESULTS

Model 1

The first model analyzed the GSS variable "intenvir" which measures interest in environmental issues. This variable consisted of a 3-point scale containing the responses "very interested," "moderately interested," and "not at all interested" in the environment. Table 1 describes the overall model effects, while Table 2 specifies the effect of each independent variable on the dependent variable.

The variables race and income were not found to be statistically significant. The odds of male individuals having less interest in environmental issues was .778 (95% CI, .617 to .980) times that for female individuals, $c^2(1) = 4.541$, $p = .033$. The odds of religious individuals having less interest in environmental issues was 1.529 (95% CI, 1.147 to 2.038) times that for non-religious individuals, $c^2(1) = 8.399$, $p = .004$. An increase in age (expressed in years) was associated with a decrease in the odds of having less interest in environmental issues, with an odds ratio of .986 (95% CI, .980 to .993), $c^2(1) = 17.591$, $p = .000$. Similarly, an increase in education (expressed in years of school completed) was associated with a decrease in the odds of having less interest in environmental issues, with an odds ratio of .946 (95% CI, .906 to .988), $c^2(1) = 6.374$, $p = .012$ (see Table 2).

Political orientation has a statistically significant effect on the prediction of whether one has interest in environmental issues, Wald $c^2(2) = 41.987$, $p = .000$ (see Table 1). The odds of liberal individuals having less interest in environmental issues was .370 (95% CI, .273 to .499) times that for conservative individuals, $c^2(1) = 41.967$, $p = .000$. The odds of moderate individuals having less interest in environmental issues was

.651 (95% CI, .500 to .847) times that for conservative individuals, $c^2(1) = 10.227$, $p = .001$ (see Table 2).

Table 1. Model 1 Tests of Model Effects

	Wald Chi-Square	df	P-Value
Respondent's race	.445	1	.505
Respondent's sex	4.541	1	.033
Think of self as religious	8.399	1	.004
Think of self as liberal or conservative	41.987	2	.000
Respondent's Income	5.010	2	.082
Age of respondent	17.591	1	.000
Highest year of school completed	6.374	1	.012

Dependent Variable: Interested in environmental issues

Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

Table 2. Model 1 Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
				Lower	Upper	Wald Chi-Square	df	P-Value		Lower	Upper
Threshold	[Interested in environmental issues=1]	-1.951	.388	-2.712	-1.190	25.260	1	.000	.142	.066	.304
	[Interested in environmental issues=2]	.585	.386	-.171	1.341	2.302	1	.129	1.795	.843	3.824
[Respondent's race =0]		-.101	.151	-.398	.196	.445	1	.505	.904	.672	1.216
[Respondent's race =1]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's sex =1]		-.251	.118	-.482	-.020	4.541	1	.033	.778	.617	.980
[Respondent's sex =2]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as religious =0]		.425	.147	.137	.712	8.399	1	.004	1.529	1.147	2.038
[Think of self as religious =1]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as liberal or conservative =1]		-.996	.154	-1.297	-.694	41.967	1	.000	.370	.273	.499
[Think of self as liberal or conservative =2]		-.430	.134	-.693	-.166	10.227	1	.001	.651	.500	.847
[Think of self as liberal or conservative =3]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's Income =1.00]		.461	.288	-.102	1.025	2.574	1	.109	1.586	.903	2.787
[Respondent's Income =2.00]		.257	.141	-.018	.533	3.360	1	.067	1.294	.982	1.704
[Respondent's Income =3.00]		0[a]	.	.	.	.	.	.	1	.	.
Age of respondent		-.014	.003	-.021	-.008	17.591	1	.000	.986	.980	.993
Highest year of school completed		-.056	.022	-.099	-.012	6.374	1	.012	.946	.906	.988
(Scale)		1[b]									

Dependent Variable: Interested in environmental issues
Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

a. Set to zero because this parameter is redundant.
b. Fixed at the displayed value.

Model 2

The second model analyzed the GSS variable "natenviy," which asked respondents whether they think that the U.S. government is spending too much, too little, or just the right amount on the environment. Table 3 describes the overall model effects, while Table 4 specifies the effect of each independent variable on the dependent variable.

The variables race, sex, and income were not found to be statistically significant. The odds of religious individuals stating that the government spends too much on the environment was 1.429 (95% CI, 1.002 to 2.039) times that for non-religious individuals, $c^2(1) = 3.882$, $p = .049$. An increase in age (expressed in years) was associated with an increase in the odds of stating that the government spends too much on the environment, with an odds ratio of 1.020 (95% CI, 1.013 to 1.028), $c^2(1) = 27.033$, $p = .000$. An increase in education (expressed in years of school completed) was associated with a decrease in the odds of stating that the government spends too much on the environment, with an odds ratio of .932 (95% CI, .889 to .977), $c^2(1) = 8.710$, $p = .003$ (see Table 4).

Political orientation has a statistically significant effect on the prediction of stating that the government spends too much on the environment, Wald $c^2(2) = 89.026$, $p = .000$ (see Table 3). The odds of liberal individuals stating that the government spends too much on the environment was .232 (95% CI, .164 to .329) times that for conservative individuals, $c^2(1) = 67.787$, $p = .000$. The odds of moderate individuals stating that the government spends too much on the environment was .340 (95% CI, .255 to .454) times that for conservative individuals, $c^2(1) = 53.341$, $p = .000$ (see Table 4).

Table 3: Model 2 Tests of Model Effects

	Wald Chi-Square	df	P-Value
Respondent's race	.163	1	.686
Respondent's sex	.632	1	.427
Think of self as religious	3.882	1	.049
Think of self as liberal or conservative	89.026	2	.000
Respondent's Income	.732	2	.693
Age of respondent	27.033	1	.000
Highest year of school completed	8.710	1	.003

Dependent Variable: Government spending on the environment

Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

Table 4: Model 2 Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper	Hypothesis Test Wald Chi-Square	Hypothesis Test df	Hypothesis Test P-Value	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	95% Wald Confidence Interval for Exp(B) Upper
Threshold	[The environment=1]	.386	.451	-.497	1.270	.735	1	.391	1.472	.608	3.561
	[The environment=2]	2.109	.457	1.214	3.003	21.335	1	.000	8.237	3.367	20.154
[Respondent's race =0]		.069	.170	-.265	.403	.163	1	.686	1.071	.767	1.496
[Respondent's race =1]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's sex =1]		.104	.131	-.152	.360	.632	1	.427	1.109	.859	1.433
[Respondent's sex =2]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as religious =0]		.357	.181	.002	.712	3.882	1	.049	1.429	1.002	2.039
[Think of self as religious =1]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as liberal or conservative =1]		-1.459	.177	-1.806	-1.112	67.787	1	.000	.232	.164	.329
[Think of self as liberal or conservative =2]		-1.079	.148	-1.368	-.789	53.341	1	.000	.340	.255	.454
[Think of self as liberal or conservative =3]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's Income =1.00]		.222	.340	-.441	.886	.431	1	.511	1.249	.643	2.426
[Respondent's Income =2.00]		-.065	.151	-.361	.230	.188	1	.665	.937	.697	1.259
[Respondent's Income =3.00]		0[a]	.	.	.	.	.	.	1	.	.
Age of respondent		.020	.004	.013	.028	27.033	1	.000	1.020	1.013	1.028
Highest year of school completed		-.071	.024	-.118	-.024	8.710	1	.003	.932	.889	.977
(Scale)		1[b]									

Dependent Variable: Government spending on the environment
Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

a. Set to zero because this parameter is redundant.
b. Fixed at the displayed value.

Model 3

The third model analyzed the GSS variable “natenvir,” which asked respondents whether they think that the U.S. government is spending "too much," "too little," or "just the right amount" on improving and protecting the environment. Table 5 describes the overall model effects, while Table 6 specifies the effect of each independent variable on the dependent variable.

The variables race and income were not found to be statistically significant. The odds of male individuals stating that the government spends too much on improving and protecting the environment was 1.476 (95% CI, 1.148 to 1.898) times that for female individuals, $c^2(1) = 9.218$, $p = .002$. The odds of religious individuals stating that the government spends too much on improving and protecting the environment was 1.593 (95% CI, 1.162 to 2.183) times that for non-religious individuals, $c^2(1) = 8.362$, $p = .004$. An increase in age (expressed in years) was associated with an increase in the odds of stating that the government spends too much on improving and protecting the environment, with an odds ratio of 1.014 (95% CI, 1.007 to 1.021), $c^2(1) = 14.521$, $p = .000$. An increase in education (expressed in years of school completed) was associated with a decrease in the odds of stating that the government spends too much on improving and protecting the environment, with an odds ratio of .944 (95% CI, .903 to .987), $c^2(1) = 6.310$, $p = .012$ (see Table 6).

Political orientation has a statistically significant effect on the prediction of stating that the government spends too much on improving and protecting the environment, Wald $c^2(2) = 67.666$, $p = .000$ (see Table 5). The odds of liberal individuals stating that the government spends too much on improving and protecting the

environment was .284 (95% CI, .205 to .394) times that for conservative individuals, $c^2(1) = 56.816$, $p = .000$. The odds of moderate individuals stating that the government spends too much on improving and protecting the environment was .424 (95% CI, .322 to .557) times that for conservative individuals, $c^2(1) = 37.811$, $p = .000$ (see Table 6).

Table 5: Model 3 Tests of Model Effects

	Wald Chi-Square	df	P-Value
Respondent's race	2.072	1	.150
Respondent's sex	9.218	1	.002
Think of self as religious	8.362	1	.004
Think of self as liberal or conservative	67.666	2	.000
Respondent's Income	5.327	2	.070
Age of respondent	14.521	1	.000
Highest year of school completed	6.310	1	.012

Dependent Variable: Government spending on improving & protecting the environment

Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

Table 6: Model 3 Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper	Hypothesis Test Wald Chi-Square	Hypothesis Test df	Hypothesis Test P-Value	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	95% Wald Confidence Interval for Exp(B) Upper
Threshold	[Improve & protect envir. =1]	.272	.400	-.512	1.055	.462	1	.497	1.312	.599	2.872
	[Improve & protect envir. =2]	2.335	.408	1.535	3.135	32.740	1	.000	10.333	4.643	22.994
[Respondent's race =0]		-.239	.166	-.563	.086	2.072	1	.150	.788	.569	1.090
[Respondent's race =1]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's sex =1]		.389	.128	.138	.641	9.218	1	.002	1.476	1.148	1.898
[Respondent's sex =2]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as religious =0]		.465	.161	.150	.781	8.362	1	.004	1.593	1.162	2.183
[Think of self as religious =1]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as liberal or conservative =1]		-1.257	.167	-1.584	-.930	56.816	1	.000	.284	.205	.394
[Think of self as liberal or conservative =2]		-.858	.140	-1.132	-.585	37.811	1	.000	.424	.322	.557
Think of self as liberal or conservative =3]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's Income =1.00]		.068	.315	-.549	.686	.047	1	.828	1.071	.578	1.986
[Respondent's Income =2.00]		.348	.152	.051	.646	5.260	1	.022	1.417	1.052	1.908
[Respondent's Income =3.00]		0[a]	.	.	.	.	.	.	1	.	.
Age of respondent		.014	.004	.007	.021	14.521	1	.000	1.014	1.007	1.021
Highest year of school completed		-.058	.023	-.102	-.013	6.310	1	.012	.944	.903	.987
(Scale)		1[b]									

Dependent Variable: Government spending on improving & protecting the environment
Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

a. Set to zero because this parameter is redundant.
b. Fixed at the displayed value.

Model 4

The fourth model analyzed the GSS variable "nukegen," which asked respondents whether they think that nuclear power stations are extremely dangerous, very dangerous, somewhat dangerous, not very dangerous, or not dangerous at all. Table 7 describes the overall model effects, while Table 8 specifies the effect of each independent variable on the dependent variable.

The variables race, religion, and income were not found to be statistically significant. The odds of male individuals not considering nuclear power dangerous to the environment was 2.321 (95% CI, 1.771 to 3.043) times that for female individuals, $c^2(1) = 37.164$, $p = .000$. An increase in age (expressed in years) was associated with an increase in the odds of not considering nuclear power dangerous to the environment, with an odds ratio of 1.016 (95% CI, 1.008 to 1.023), $c^2(1) = 15.348$, $p = .000$. An increase in education (expressed in years of school completed) was associated with an increase in the odds of not considering nuclear power dangerous to the environment, with an odds ratio of 1.083 (95% CI, 1.030 to 1.139), $c^2(1) = 9.822$, $p = .002$ (see Table 8).

Political orientation has a statistically significant effect on the prediction of considering nuclear power dangerous to the environment, Wald $c^2(2) = 20.469$, $p = .000$ (see Table 7). The odds of liberal individuals not considering nuclear power dangerous to the environment was .448 (95% CI, .316 to .635) times that for conservative individuals, $c^2(1) = 20.311$, $p = .000$. The odds of moderate individuals not considering nuclear power dangerous to the environment was .755 (95% CI, .554 to 1.029) times that for conservative individuals, $c^2(1) = 3.155$, $p = .076$ (see Table 8).

Table 7: Model 4 Tests of Model Effects

	Wald Chi-Square	df	P-Value
Respondent's race	3.016	1	.082
Respondent's sex	37.164	1	.000
Think of self as religious	1.587	1	.208
Think of self as liberal or conservative	20.469	2	.000
Respondent's Income	.710	2	.701
Age of respondent	15.348	1	.000
Highest year of school completed	9.822	1	.002

Dependent Variable: Nuclear power danger to environment

Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

Table 8: Model 4 Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper	Hypothesis Test Wald Chi-Square	df	P-Value	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	95% Wald Confidence Interval for Exp(B) Upper
Threshold	[Nuclear power =1]	.632	.456	-.262	1.526	1.918	1	.166	1.881	.769	4.602
	[Nuclear power =2]	1.832	.460	.930	2.734	15.841	1	.000	6.247	2.534	15.400
	[Nuclear power =3]	3.762	.476	2.829	4.694	62.517	1	.000	43.025	16.933	109.318
	[Nuclear power =4]	6.202	.550	5.107	7.297	123.282	1	.000	493.729	165.208	1475.527
[Respondent's race =0]		-.312	.180	-.664	.040	3.016	1	.082	.732	.515	1.041
[Respondent's race =1]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's sex =1]		.842	.138	.571	1.113	37.164	1	.000	2.321	1.771	3.043
[Respondent's sex =2]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as religious =0]		-.217	.172	-.555	.121	1.587	1	.208	.805	.574	1.128
[Think of self as religious =1]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as liberal or conservative =1]		-.803	.178	-1.153	-.454	20.311	1	.000	.448	.316	.635
[Think of self as liberal or conservative =2]		-.280	.158	-.590	.029	3.155	1	.076	.755	.554	1.029
[Think of self as liberal or conservative =3]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's Income =1.00]		.267	.320	-.361	.894	.693	1	.405	1.305	.697	2.445
[Respondent's Income =2.00]		.043	.158	-.267	.353	.075	1	.785	1.044	.766	1.424
[Respondent's Income =3.00]		0[a]	.	.	.	.	.	.	1	.	.
Age of respondent		.015	.004	.008	.023	15.348	1	.000	1.016	1.008	1.023
Highest year of school completed		.080	.026	.030	.130	9.822	1	.002	1.083	1.030	1.139
(Scale)		1[b]									

Dependent Variable: Nuclear power danger to environment

Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

a. Set to zero because this parameter is redundant.

b. Fixed at the displayed value.

Model 5

The fifth model analyzed the GSS variable "indusgen," which asked respondents whether they think that industrial air pollution is "extremely dangerous," "very dangerous," "somewhat dangerous," "not very dangerous," or "not dangerous at all." Table 9 describes the overall model effects, while Table 10 specifies the effect of each independent variable on the dependent variable.

The variables race, sex, religion, age, education, and income were not found to be statistically significant (see Table 10). Political orientation has a statistically significant effect on the prediction of considering industrial air pollution dangerous to the environment, Wald $c^2(2) = 26.218$, $p = .000$ (see Table 9). The odds of liberal individuals not considering industrial air pollution dangerous to the environment was .427 (95% CI, .300 to .609) times that for conservative individuals, $p = .000$. The odds of moderate individuals not considering industrial air pollution dangerous to the environment was .523 (95% CI, .382 to .717) times that for conservative individuals, $c^2(1) = 16.238$, $p = .000$ (see Table 10).

Table 9: Model 5 Tests of Model Effects

	Wald Chi-Square	df	P-Value
Respondent's race	1.665	1	.197
Respondent's sex	3.779	1	.052
Think of self as religious	1.144	1	.285
Think of self as liberal or conservative	26.218	2	.000
Respondent's Income	1.477	2	.478
Age of respondent	3.469	1	.063
Highest year of school completed	.335	1	.563

Dependent Variable: Industrial air pollution danger to environment

Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

Table 10: Model 5 Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper	Hypothesis Test Wald Chi-Square	df	P-Value	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	95% Wald Confidence Interval for Exp(B) Upper
Threshold	[Industrial air pollution =1]	-.786	.462	-1.691	.119	2.895	1	.089	.456	.184	1.127
	[Industrial air pollution =2]	.950	.462	.044	1.856	4.224	1	.040	2.585	1.045	6.395
	[Industrial air pollution =3]	3.625	.506	2.634	4.616	51.383	1	.000	37.527	13.928	101.112
	[Industrial air pollution =4]	5.604	.736	4.161	7.046	57.978	1	.000	271.493	64.165	1148.731
[Respondent's race =0]		-.234	.181	-.589	.121	1.665	1	.197	.791	.555	1.129
[Respondent's race =1]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's sex =1]		.268	.138	-.002	.539	3.779	1	.052	1.308	.998	1.714
[Respondent's sex =2]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as religious =0]		.189	.176	-.157	.534	1.144	1	.285	1.208	.855	1.707
[Think of self as religious =1]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as liberal or conservative =1]		-.851	.181	-1.205	-.496	22.127	1	.000	.427	.300	.609
[Think of self as liberal or conservative =2]		-.648	.161	-.963	-.333	16.238	1	.000	.523	.382	.717
[Think of self as liberal or conservative =3]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's Income =1.00]		-.213	.327	-.855	.428	.426	1	.514	.808	.425	1.534
[Respondent's Income =2.00]		.144	.161	-.171	.460	.802	1	.371	1.155	.843	1.583
[Respondent's Income =3.00]		0[a]	.	.	.	.	.	.	1	.	.
Age of respondent		.007	.004	.000	.015	3.469	1	.063	1.007	1.000	1.015
Highest year of school completed		-.015	.026	-.065	.035	.335	1	.563	.985	.937	1.036
(Scale)		1[b]									

Dependent Variable: Industrial air pollution danger to environment

Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

a. Set to zero because this parameter is redundant.

b. Fixed at the displayed value.

Model 6

The sixth model analyzed the GSS variable "chemgen," which asked respondents whether they think that pesticides are "extremely dangerous," "very dangerous," "somewhat dangerous," "not very dangerous," or "not dangerous at all." Table 11 describes the overall model effects, while Table 12 specifies the effect of each independent variable on the dependent variable.

The variables race, religion, age, education, and income were not found to be statistically significant. The odds of male individuals not considering pesticides dangerous to the environment was 1.807 (95% CI, 1.381 to 2.364) times that for female individuals, $c^2(1) = 18.610$, $p = .000$ (see Table 12). Political orientation has a statistically significant effect on the prediction of considering pesticides dangerous to the environment, Wald $c^2(2) = 7.805$, $p = .020$ (see Table 11). The odds of liberal individuals not considering pesticides dangerous to the environment was .624 (95% CI, .441 to .883) times that for conservative individuals, $c^2(1) = 7.100$, $p = .008$. The odds of moderate individuals not considering pesticides dangerous to the environment was .728 (95% CI, .534 to .993) times that for conservative individuals, $c^2(1) = 4.029$, $p = .045$ (see Table 12).

Table 11: Model 6 Tests of Model Effects

	Wald Chi-Square	df	P-Value
Respondent's race	.555	1	.456
Respondent's sex	18.610	1	.000
Think of self as religious	1.764	1	.184
Think of self as liberal or conservative	7.805	2	.020
Respondent's Income	2.981	2	.225
Age of respondent	2.811	1	.094
Highest year of school completed	.274	1	.601

Dependent Variable: Pesticides danger to environment

Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

Table 12: Model 6 Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper	Hypothesis Test Wald Chi-Square	Hypothesis Test df	Hypothesis Test P-Value	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	95% Wald Confidence Interval for Exp(B) Upper
Threshold	[Pesticides =1]	-.311	.455	-1.203	.580	.469	1	.494	.732	.300	1.786
	[Pesticides =2]	1.037	.456	.143	1.931	5.164	1	.023	2.820	1.153	6.897
	[Pesticides =3]	3.255	.475	2.324	4.186	46.990	1	.000	25.924	10.221	65.753
	[Pesticides =4]	5.035	.555	3.947	6.123	82.255	1	.000	153.683	51.771	456.215
[Respondent's race=0]		-.133	.180	-.483	.217	.555	1	.456	.875	.617	1.242
[Respondent's race=1]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's sex=1]		.592	.137	.323	.860	18.610	1	.000	1.807	1.381	2.364
[Respondent's sex=2]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as religious=0]		.231	.174	-.110	.572	1.764	1	.184	1.260	.896	1.773
[Think of self as religious=1]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as liberal or conservative=1]		-.471	.177	-.818	-.125	7.100	1	.008	.624	.441	.883
[Think of self as liberal or conservative=2]		-.317	.158	-.627	-.007	4.029	1	.045	.728	.534	.993
[Think of self as liberal or conservative=3]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's Income=1.00]		-.413	.321	-1.043	.216	1.654	1	.198	.662	.352	1.242
[Respondent's Income=2.00]		-.217	.160	-.529	.095	1.853	1	.173	.805	.589	1.100
[Respondent's Income=3.00]		0[a]	.	.	.	.	.	.	1	.	.
Age of respondent		.007	.004	-.001	.014	2.811	1	.094	1.007	.999	1.014
Highest year of school completed		.013	.025	-.036	.063	.274	1	.601	1.013	.964	1.065
(Scale)		1[b]									

Dependent Variable: Pesticides danger to environment
Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed
a. Set to zero because this parameter is redundant.
b. Fixed at the displayed value.

Model 7

The seventh model analyzed the GSS variable "watergen," which asked respondents whether they think that water pollution is "extremely dangerous," "very dangerous," "somewhat dangerous," "not very dangerous," or "not dangerous at all." Table 13 describes the overall model effects, while Table 14 specifies the effect of each independent variable on the dependent variable.

The variables race, sex, religion, age, and income were not found to be statistically significant. An increase in education (expressed in years of school completed) was associated with a decrease in the odds of not considering water pollution dangerous to the environment, with an odds ratio of .946 (95% CI, .899 to .996), $c^2(1) = 4.463$, $p = .035$ (see Table 14).

Political orientation has a statistically significant effect on the prediction of considering water pollution dangerous to the environment, Wald $c^2(2) = 17.241$, $p = .000$ (see Table 13). The odds of liberal individuals not considering water pollution dangerous to the environment was .505 (95% CI, .354 to .721) times that for conservative individuals, $c^2(1) = 14.155$, $p = .000$. The odds of moderate individuals not considering water pollution dangerous to the environment was .587 (95% CI, .428 to .805) times that of a conservative individual, $c^2(1) = 10.962$, $p = .001$ (see Table 14).

Table 13: Model 7 Tests of Model Effects

	Wald Chi-Square	df	P-Value
Respondent's race	.221	1	.638
Respondent's sex	1.212	1	.271
Think of self as religious	.064	1	.800
Think of self as liberal or conservative	17.241	2	.000
Respondent's Income	.298	2	.861
Age of respondent	2.425	1	.119
Highest year of school completed	4.463	1	.035

Dependent Variable: Water pollution danger to environment

Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

Table 14: Model 7 Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper	Hypothesis Test Wald Chi-Square	Hypothesis Test df	Hypothesis Test P-Value	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	95% Wald Confidence Interval for Exp(B) Upper
Threshold	[Water pollution =1]	-1.024	.467	-1.940	-.109	4.807	1	.028	.359	.144	.897
	[Water pollution =2]	.641	.466	-.273	1.555	1.892	1	.169	1.899	.761	4.735
	[Water pollution =3]	2.949	.507	1.956	3.942	33.863	1	.000	19.089	7.070	51.542
	[Water pollution =4]	4.227	.613	3.025	5.429	47.518	1	.000	68.519	20.599	227.918
[Respondent's race=0]		.085	.182	-.271	.441	.221	1	.638	1.089	.763	1.555
[Respondent's race=1]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's sex=1]		.153	.140	-.119	.425	1.212	1	.271	1.165	.888	1.529
[Respondent's sex=2]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as religious=0]		.045	.180	-.305	.395	.064	1	.800	1.046	.737	1.484
[Think of self as religious=1]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as liberal or conservative=1]		-.683	.181	-1.038	-.327	14.155	1	.000	.505	.354	.721
[Think of self as liberal or conservative=2]		-.533	.161	-.848	-.217	10.962	1	.001	.587	.428	.805
[Think of self as liberal or conservative=3]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's Income=1.00]		.149	.328	-.494	.791	.205	1	.650	1.160	.610	2.207
[Respondent's Income=2.00]		.062	.163	-.257	.380	.144	1	.704	1.064	.773	1.463
[Respondent's Income=3.00]		0[a]	.	.	.	.	.	.	1	.	.
Age of respondent		.006	.004	-.002	.014	2.425	1	.119	1.006	.998	1.014
Highest year of school completed		-.055	.026	-.106	-.004	4.463	1	.035	.946	.899	.996
(Scale)		1[b]									

Dependent Variable: Water pollution danger to environment
Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

a. Set to zero because this parameter is redundant.
b. Fixed at the displayed value.

Model 8

The eighth model analyzed the GSS variable "tempgen," which asked respondents whether they think that global warming is "extremely dangerous," "very dangerous," "somewhat dangerous," "not very dangerous," or "not dangerous at all." Table 15 describes the overall model effects, while Table 16 specifies the effect of each independent variable on the dependent variable.

The variables race, sex, and income were not found to be statistically significant. The odds of religious individuals not considering global warming dangerous to the environment was 1.436 (95% CI, 1.016 to 2.030) times that for non-religious individuals, $c^2(1) = 4.206$, $p = .040$. An increase in age (expressed in years) was associated with an increase in the odds of not considering global warming dangerous to the environment, with an odds ratio of 1.011(95% CI, 1.003 to 1.019), $c^2(1) = 7.417$, $p = .006$. An increase in education (expressed in years of school completed) was associated with a decrease in the odds of not considering global warming dangerous to the environment, with an odds ratio of .947 (95% CI, .900 to .996), $c^2(1) = 4.442$, $p = .035$ (see Table 16).

Political orientation has a statistically significant effect on the prediction of considering global warming dangerous to the environment, Wald $c^2(2) = 116.986$, $p = .000$ (see Table 15). The odds of liberal individuals not considering global warming dangerous to the environment was .138 (95% CI, .095 to .199) times that for conservative individuals, $c^2(1) = 109.212$, $p = .000$. The odds of moderate individuals not considering global warming dangerous to the environment was .283 (95% CI, .205 to .390) times that for conservative individuals, $c^2(1) = 59.146$, $p = .000$ (see Table 16).

Table 15: Model 8 Tests of Model Effects

	Wald Chi-Square	df	P-Value
Respondent's race	.270	1	.603
Respondent's sex	2.071	1	.150
Think of self as religious	4.206	1	.040
Think of self as liberal or conservative	116.986	2	.000
Respondent's Income	.104	2	.949
Age of respondent	7.417	1	.006
Highest year of school completed	4.442	1	.035

Dependent Variable: Global warming danger to environment

Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

Table 16: Model 8 Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
				Lower	Upper	Wald Chi-Square	df	P-Value		Lower	Upper
Threshold	[Global warming =1]	-1.896	.470	-2.818	-.975	16.265	1	.000	.150	.060	.377
	[Global warming =2]	-.587	.466	-1.500	.326	1.588	1	.208	.556	.223	1.385
	[Global warming =3]	1.006	.466	.092	1.921	4.658	1	.031	2.736	1.097	6.825
	[Global warming =4]	2.555	.487	1.601	3.510	27.515	1	.000	12.877	4.956	33.456
[Respondent's race=0]		.094	.181	-.261	.449	.270	1	.603	1.099	.771	1.566
[Respondent's race=1]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's sex=1]		.198	.138	-.072	.467	2.071	1	.150	1.219	.931	1.596
[Respondent's sex=2]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as religious=0]		.362	.177	.016	.708	4.206	1	.040	1.436	1.016	2.030
[Think of self as religious=1]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as liberal or conservative=1]		-1.984	.190	-2.356	-1.612	109.212	1	.000	.138	.095	.199
[Think of self as liberal or conservative=2]		-1.264	.164	-1.586	-.942	59.146	1	.000	.283	.205	.390
[Think of self as liberal or conservative=3]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's Income=1.00]		-.066	.325	-.704	.571	.042	1	.838	.936	.495	1.770
[Respondent's Income=2.00]		.034	.162	-.283	.350	.044	1	.834	1.034	.754	1.420
[Respondent's Income=3.00]		0[a]	.	.	.	.	.	.	1	.	.
Age of respondent		.011	.004	.003	.019	7.417	1	.006	1.011	1.003	1.019
Highest year of school completed		-.055	.026	-.105	-.004	4.442	1	.035	.947	.900	.996
(Scale)		1[b]									

Dependent Variable: Global warming danger to environment

Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

a. Set to zero because this parameter is redundant.

b. Fixed at the displayed value.

Model 9

The ninth model analyzed the GSS variable "genegen," which asked respondents whether they think that genetically modified crops are "extremely dangerous," "very dangerous," "somewhat dangerous," "not very dangerous," or "not dangerous at all." Table 17 describes the overall model effects, while Table 18 specifies the effect of each independent variable on the dependent variable.

The variables race, religion, political orientation, and income were not found to be statistically significant. The odds of male individuals not considering genetically modified crops dangerous to the environment was 2.309 (95% CI, 1.757 to 3.036) times that for female individuals, $c^2(1) = 35.975$, $p = .000$. An increase in age (expressed in years) was associated with an increase in the odds of not considering genetically modified crops dangerous to the environment, with an odds ratio of 1.013 (95% CI, 1.005 to 1.021), $c^2(1) = 10.003$, $p = .002$. An increase in education (expressed in years of school completed) was associated with an increase in the odds of not considering genetically modified crops dangerous to the environment, with an odds ratio of 1.082 (95% CI, 1.029 to 1.138), $c^2(1) = 9.551$, $p = .002$ (see Table 18).

Table 17: Model 9 Tests of Model Effects

	Wald Chi-Square	df	P-Value
Respondent's race	.195	1	.659
Respondent's sex	35.975	1	.000
Think of self as religious	2.540	1	.111
Think of self as liberal or conservative	2.355	2	.308
Respondent's Income	4.018	2	.134
Age of respondent	10.003	1	.002
Highest year of school completed	9.551	1	.002

Dependent Variable: Genetically modified crops danger to environment

Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

Table 18: Model 9 Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper	Hypothesis Test Wald Chi-Square	df	P-Value	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	95% Wald Confidence Interval for Exp(B) Upper
Threshold	[Genetically modified crops =1]	.069	.459	-.831	.968	.023	1	.881	1.071	.436	2.633
	[Genetically modified crops =2]	1.303	.460	.402	2.204	8.033	1	.005	3.681	1.495	9.063
	[Genetically modified crops =3]	3.219	.473	2.292	4.147	46.320	1	.000	25.013	9.898	63.215
	[Genetically modified crops =4]	5.049	.505	4.060	6.038	100.171	1	.000	155.853	57.985	418.902
[Respondent's race=0]		-.079	.180	-.432	.273	.195	1	.659	.924	.649	1.314
[Respondent's race=1]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's sex=1]		.837	.140	.563	1.110	35.975	1	.000	2.309	1.757	3.036
[Respondent's sex=2]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as religious=0]		-.278	.174	-.619	.064	2.540	1	.111	.758	.538	1.066
[Think of self as religious=1]		0[a]	.	.	.	.	.	.	1	.	.
[Think of self as liberal or conservative=1]		-.268	.177	-.614	.078	2.305	1	.129	.765	.541	1.081
[Think of self as liberal or conservative=2]		-.083	.160	-.394	.228	.276	1	.599	.920	.674	1.256
[Think of self as liberal or conservative=3]		0[a]	.	.	.	.	.	.	1	.	.
[Respondent's Income=1.00]		.227	.321	-.402	.856	.501	1	.479	1.255	.669	2.354
[Respondent's Income=2.00]		-.274	.159	-.586	.038	2.968	1	.085	.760	.556	1.038
[Respondent's Income=3.00]		0[a]	.	.	.	.	.	.	1	.	.
Age of respondent		.013	.004	.005	.020	10.003	1	.002	1.013	1.005	1.021
Highest year of school completed		.079	.026	.029	.129	9.551	1	.002	1.082	1.029	1.138
(Scale)		1[b]									

Dependent Variable: Genetically modified crops danger to environment
Model: (Threshold), Respondent's race, Respondent's sex, Think of self as religious, Think of self as liberal or conservative, Respondent's Income, Age of respondent, Highest year of school completed

a. Set to zero because this parameter is redundant.
b. Fixed at the displayed value.

DISCUSSION

The first research question this study sought to answer was, "Which sociodemographic groups (if any) are most likely to be concerned with the environment?" Analysis of GSS data found that older, non-religious, male individuals with a higher education and moderate to liberal political orientation were more likely to express greater levels of interest in environmental issues than their counterparts. Younger, non-religious individuals with a higher education and moderate to liberal political orientation were less likely to state that the government spends too much on the environment and on improving and protecting the environment. Female individuals were also found to be less likely to state that the government spends too much on improving and protecting the environment.

The second research question asked, "Which sociodemographic groups (if any) are most likely to perceive certain environmental issues as dangerous to the environment?" It was consistently found that individuals with a moderate to liberal political orientation were more likely to consider nuclear power, industrial air pollution, pesticides, water pollution, and global warming to be dangerous to the environment. In cases where the variables sex and age were found to be significant, female individuals and younger individuals were more likely to consider certain environmental issues as dangerous to the environment. Education also produced mixed results across each environmental topic.

The third and final research question asked, "Are the current data consistent with past research indicating a higher level of environmental concern among individuals who are female, younger, more educated, non-white, and more liberal in their political orientation?" The statistical analysis produced mixed results for each dependent variable.

However, the results are somewhat consistent with past research indicating that younger, female, higher-educated, and politically liberal respondents are more likely to have higher levels of environmental concern and awareness of consequences. Of all the sociodemographic variables examined in this study, political orientation proved to be the most consistent predictor of awareness of consequences (significant for all but genetically modified crops).

In addition to the three research questions discussed above, this study proposed seven hypotheses regarding the independent variables and awareness of environmental consequences. The statistical analysis yielded mixed results regarding age [H_1], gender [H_2], education [H_3], religion [H_6], and political orientation [H_7]. These results illustrate that the relationships between sociodemographic groups and environmental issues are nuanced. As revealed by these data, it is not possible to simply state which sociodemographic groups are more likely to be concerned with the environment and which groups are not. As society is currently confronted with a wide variety of environmental issues, some groups are more aware of and concerned with certain matters than they are with others. Hence, it is important for such a distinction to be made.

Interestingly, the hypotheses pertaining to race [H_4] and income [H_5] were not supported by these data. Race and income were not found to be statistically associated with any of the environmental issues included in this study. There are a few possibilities as to why these variables were not found to be statistically significant in explaining awareness of consequences. First, whereas past studies linking race to environmental concern (Macias 2016; Yang et al. 2015) have included various non-white minorities in their analyses, this study focused solely on black and white individuals due to a lack of

data regarding other races. It is possible that including other minorities—notably Hispanic/Latino individuals—in the analysis would have a significant effect on the results.

With regard to income, Macias (2016) found that a higher household income is associated with significantly lower odds of perceived environmental risk of air pollution, water pollution, agricultural chemicals, global warming, and nuclear power. However, this study analyzed individual income as opposed to household income. This difference in measurement could have affected the results as household income may better reflect respondents' socioeconomic status and lifestyle, which could impact their environmental concern and awareness of consequences.

It was not surprising that the most consistent result from this study pertained to political orientation as outlined in [H_7]. This result was expected as past research has found political ideology to be the strongest predictor of environmental concern and climate change awareness (Clements et al. 2014; Marquart-Pyatt et al. 2014). Specifically, the results revealed that individuals with a moderate to liberal political orientation had higher levels of environmental concern and greater awareness of consequences than individuals with a conservative political orientation. This finding was expected as past research has indicated a high degree of partisan polarization in the U.S., with conservatives/Republicans in particular tending to oppose governmental regulations, including environmental protection measures (DeNicola and Subramaniam 2014; Dunlap et al. 2016; Zia and Todd 2010). These results indicate that it is difficult to separate one's political orientation from one's relationship to nature.

The fact that political orientation has the power to impact environmental attitudes has serious implications. Climate change, for example, will impact agriculture, biodiversity, infrastructure, water supplies, population growth, and human health (DeNicola and Subramaniam 2014; Panno, Carrus, Brizi, Maricchiolo, Giacomantonio, and Mannetti 2018). In order to address climate change and other environmental issues, it is important to have a society that is well-informed of environmental problems and motivated to solve them. Therefore, the current challenge is to better understand the factors that inform how people perceive the environment and their level of environmental concern. Studies such as this help to identify the factors associated with environmental concern and awareness of consequences so that we can take appropriate steps towards a more knowledgeable society (Newman and Fernandes 2016; Panno et al. 2018; Zia and Todd 2010).

LIMITATIONS

All nine of the ordinal logistic regression models built for this study met the assumption of multicollinearity, which means that none of the independent variables were highly correlated to each other. Further, PLUM analysis indicated that the final model for each of the nine models built statistically significantly predicted the dependent variable over and above the intercept-only model. The Deviance and Pearson statistics for each model also indicated that the model was a good fit to the observed data.

However, all nine models were found to have serious limitations. First, only seven out of nine models completely met the assumption of proportional odds as measured by the test of parallel lines or by analysis of separate binomial logistic regressions when the test of parallel lines was failed. Second, models 4 and 8 both failed the test of parallel lines and the analysis of separate binomial logistic regressions revealed that in Model 4, all independent variables failed except for age and education and in Model 8, all variables failed except for age, education, and political orientation. When the assumption of proportional odds is violated as described above, it indicates that the ordinal logistic regression model does not fit the data.

In addition, this study possesses some limitations due to the use of data from the GSS. The GSS covers a wide range of topics, and as such, it has a limited number of questions relating to each matter. While past research has linked sociodemographic variables, political orientation, and personal beliefs and worldviews to environmental concern, the GSS does not have questions which adequately address the topic of beliefs and worldviews concerning the environment. Therefore, due to a lack of suitable data, it

was only possible for this study to focus on sociodemographic variables, religion, and political orientation in relation to environmental concern.

Further, the 2016 GSS did not directly ask respondents if they are concerned about the environment. Two of the questions utilized in this study to measure environmental concern asked whether respondents think that the U.S. government is spending too much, too little, or just the right amount on the environment and on improving and protecting the environment. As previously noted, the limitation of using these questions to measure environmental concern is that the responses could potentially be correlated with political orientation. However, of the data available from the 2016 GSS, these two questions are considered to most closely represent respondents' general concern for the environment.

DIRECTIONS FOR FUTURE RESEARCH

In analyzing respondents' awareness of consequences of environmental issues, this study was limited to six questions regarding the extent to which respondents perceive nuclear power, air pollution, pesticides, water pollution, global warming, and genetically modified crops to be dangerous to the environment. In order to adequately address and solve environmental problems such as the six included in this study, it is necessary to have an informed public. However, the 2016 GSS did not collect information on respondents' actual knowledge of these issues.

So, due to the limited number of questions available from the GSS, it is recommended that further studies be conducted to examine environmental concern in more detail. It would be particularly useful to examine not only sociodemographic variables but also knowledge of environmental issues in relation to respondents' awareness of consequences. This type of information would provide insight as to where public understanding of environmental issues could be improved in order to increase support for environmental protection measures.

Additionally, it is recommended that future research analyze ascription of responsibility with regard to environmental attitudes and behaviors. Specifically, it would be useful to examine the extent to which individuals take personal responsibility for the environment by engaging in various environmentally-friendly behaviors. As mentioned in the literature review, there is already a substantial body of work dedicated to analyzing environmentally-friendly behaviors (Cruz 2017). Therefore, new studies should expand on existing research by measuring the extent to which individuals believe it is the

responsibility of government and/or corporations to take environmental protection measures and how this impacts their personal environmentally-friendly behaviors.

This study was consistent with recent research in identifying greater environmental concern and awareness of consequences among individuals with a moderate to liberal political orientation. Historically, however, environmental protection had a fair amount of bipartisan support in the United States (Dunlap et al. 2016), while recent studies report an escalation of partisan polarization with regard to issues of environmental protection and climate change (DeNicola and Subramaniam 2014; Dunlap et al. 2016; Zia and Todd 2010). Therefore, it is recommended that future studies examine why environmental concern and awareness of consequences among conservatives have decreased over time.

Future research should also focus on ways to reframe environmental issues to engage a greater number of people across the political spectrum. Past research has suggested that framing climate change in a way that highlights human health risks can stimulate exposure to climate change news (Feldman and Hart 2018). It is suggested that future research expand on Feldman and Hart's (2018) work to reframe not only climate change, but other environmental issues, such as those discussed in this study, to determine if this method effectively impacts public opinion and behavior with regard to environmental concern and awareness of consequences.

There is also is a continued need for research regarding the social bases of environmental concern, as well as environmental beliefs and worldviews. One reason for inconsistent results in past studies has been a difference in the way environmental concern, beliefs, and worldviews have been measured. It is therefore recommended that

new data be collected and that a consistent measurement tool is used, such as the New Ecological Paradigm (NEP) scale (Dunlap, Van Liere, Mertig, and Jones 2000) or the New Human Interdependence Paradigm Scale (Corral-Verdugo, Carrus, Bonnes, Moser, and Sinha 2008), so that the results of such studies can be more readily compared.

In addition, environmental concern has often been measured in terms of attitudes towards the environment rather than behaviors. It is recommended that future research incorporate behaviors as an additional measure of environmentalism.

Finally, Beiser-McGrath and Huber (2018) suggest that psychological and sociodemographic characteristics which explain individuals' attitudes towards the environment are not necessarily relevant for predicting individuals' desire for climate and environmental policy. It is recommended that future research expand on this work to determine if reliable models can be built to predict individuals' environmental attitudes and behavior, which could be valuable for increasing demand for climate and environmental policies.

CONCLUSION

This study investigates the relationship between sociodemographic variables, environmental concern and awareness of consequences. The results are somewhat consistent with past research indicating that younger, female, higher-educated, and politically liberal respondents are more likely to have higher levels of environmental concern and awareness of consequences. However, from the results of this study, it would appear that individuals' awareness of environmental consequences is impacted by their political orientation more so than by other sociodemographic variables.

Environmental issues, such as the six covered in this study, pose serious challenges to society and require extensive action to mitigate their effects. Specifically, significant improvements in policy and regulation are needed. Citizens can have substantial influence on policy implementation; therefore, it is crucial for research to clarify citizens' awareness of environmental issues and identify where improvements in public understanding are needed (Beiser-McGrath and Huber 2018; Zia and Todd 2010).

This study contributes to the literature by analyzing current data to clarify the social bases of environmental concern and identify areas for future research to gain deeper insight into attitudes and beliefs around environmental issues. Such research acts as a guide to improving society's understanding of nature in order to better protect the environment through effective environmental policy implementation.

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APPENDIX A

SPSS Coding and Descriptive Statistics for Independent Variables

Age

Age was coded on a continuous numerical scale, with a low value of 18 and a high value of 89, which included respondents 89 and older.

Age Valid Responses

	Valid	2857
	Missing	10
Mean		49.16
Std. Deviation		17.693

Education

Education was coded on a continuous numerical scale representing years of education completed, with a low value of 0 and a high value of 20.

Education Valid Responses

	Valid	2858
	Missing	9
Mean		13.74
Std. Deviation		2.964

Gender

1 = Male

2 = Female

Gender Frequencies

	Frequency	Percent
Male	1276	44.5
Female	1591	55.5
Total	2867	100.0

Gender Valid Responses

Valid	2867
Missing	0

Income

1 = $75,001 or more

2 = $25,001 to $75,000

3 = $25,000 or less

Income Frequencies

	Frequency	Percent
$75,001 or more	122	4.3
$25,001 - $75,000	691	24.1
$25,000 or less	2054	71.6
Total	2867	100.0

Income Valid Responses

Valid	1632
Missing	1235
Mean	34822.52
Std. Deviation	36259.531

Political Orientation

1 = Liberal

2 = Moderate

3 = Conservative

Political Orientation Frequencies

		Frequency	Percent
	Liberal	796	27.8
	Moderate	1032	36.0
	Conservative	928	32.4
	Total	2756	96.1

Political Orientation Valid Responses

Valid	2756
Missing	111

Race

0 = Black

1 = White

Race Frequencies

		Frequency	Percent
	Black	490	17.1
	White	2100	73.2
	Total	2590	90.3

Race Valid Responses

Valid	2590
Missing	277

Religion

0 = Religious

1 = Not religious

Religion Frequencies

		Frequency	Percent
	Religious	2202	76.8
	Not Religious	631	22.0
	Total	2833	98.8

Religion Valid Responses

	Valid	2833
	Missing	34

APPENDIX B

SPSS Coding and Descriptive Statistics for Dependent Variables

Intenvir

1 = Very interested

2 = Moderately interested

3 = Not at all interested

Intenvir Valid Responses

Valid	1386
Missing	1481

Intenvir Frequencies

	Frequency	Percent
Very interested	586	20.4
Moderately interested	651	22.7
Not at all interested	149	5.2
Total	1386	48.3

Natenviy and Natenvir

1 = Too little

2 = About right

3 = Too much

Natenviy Valid Responses

Valid	1393
Missing	1474

Natenviy Frequencies

		Frequency	Percent
	Too little	910	31.7
	About right	347	12.1
	Too much	136	4.7
	Total	1393	48.6

Natenvir Valid Responses

Valid	1401
Missing	1466

Natenvir Frequencies

		Frequency	Percent
	Too little	878	30.6
	About right	409	14.3
	Too much	114	4.0
	Total	1401	48.9

Nukegen, indusgen, chemgen, watergen, tempgen, and genegen

1 = Extremely dangerous

2 = Very dangerous

3 = Somewhat dangerous

4 = Not very dangerous

5 = Not dangerous

Nukegen Valid Responses

Valid	895
Missing	1972

Nukegen Frequencies

	Frequency	Percent
Extremely dangerous	246	8.6
Very dangerous	234	8.2
Somewhat dangerous	298	10.4
Not very dangerous	102	3.6
Not dangerous	15	.5
Total	895	31.2

Indusgen Valid Responses

Valid	895
Missing	1972

Indusgen Frequencies

	Frequency	Percent
Extremely dangerous	302	10.5
Very dangerous	356	12.4
Somewhat dangerous	214	7.5
Not very dangerous	20	.7
Not dangerous	3	.1
Total	895	31.2

Chemgen Valid Responses

Valid	895
Missing	1972

Chemgen Frequencies

	Frequency	Percent
Extremely dangerous	263	9.2
Very dangerous	288	10.0
Somewhat dangerous	283	9.9
Not very dangerous	49	1.7
Not dangerous	12	.4
Total	895	31.2

Watergen Valid Responses

Valid	897
Missing	1970

Watergen Frequencies

	Frequency	Percent
Extremely dangerous	382	13.3
Very dangerous	328	11.4
Somewhat dangerous	159	5.5
Not very dangerous	22	.8
Not dangerous	6	.2
Total	897	31.3

Tempgen Valid Responses

Valid	869
Missing	1998

Tempgen Frequencies

	Frequency	Percent
Extremely dangerous	246	8.6
Very dangerous	240	8.4
Somewhat dangerous	247	8.6
Not very dangerous	98	3.4
Not dangerous	38	1.3
Total	869	30.3

Genegen Valid Responses

Valid	876
Missing	1991

Genegen Frequencies

	Frequency	Percent
Extremely dangerous	157	5.5
Very dangerous	212	7.4
Somewhat dangerous	338	11.8
Not very dangerous	134	4.7
Not dangerous	35	1.2
Total	876	30.6

VITA

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MA Sam Houston State University, Sociology December 2018
Thesis: *Examining the Sociodemographic Bases of Environmental Concern: An Analysis of the 2016 General Social Survey*
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Graduate Thesis, Sam Houston State University, Texas 2018
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Undergraduate Thesis, Spring Arbor University, Michigan 2011
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- *Gender and Ethnic Differences: First-Time Freshman versus Graduating Seniors*

Research Assistant, Spring Arbor University, Michigan 2011
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