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Cover Page Footnote

Dr. Stone would like to thank his two graduate assistants, Percy Williams and Brittany Hamilton in their effort to learn about conducting a marketing research project.

An Exploratory Investigation of Media Influence on Panelist Opinion about Man-Made Global Warming as Moderated by both Individual Ecological Orientation and Personal Experience with a Major Storm

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Abstract – The purpose of the study was to assess the opinions of two equal groups of QUALTRICS panelists, one having lived through a CAT 5 storm and the other not, on their respective beliefs about the effect man-made global warming has had on increasing the intensity of major weather events. The authors identified individuals in each group based on individual eco-orientation. The author then tested for opinion differences based on three factors related to eco-orientation as well as the role played by the media on influencing opinions related to man's impact on increasing storm intensity

Keywords – Eco-orientation, Media influence, Storm intensity, Category 4 Storm

Relevance to Marketing Educators, Researchers and/or Practitioners- The study findings indicate that one's preexisting ecological orientation exerts a powerful influence on individual belief regarding man's impact on global climate change and storm intensity. Having personal experience with a major CAT 5 storm appeared to increase belief among high-eco-oriented but did not, however, appear to increase belief that man is responsible for increasing storm intensity among self-identified low-eco-orientation individuals. The findings also indicate the media has no impact on perceptions that storm intensity is increasing.

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Introduction

While the debate over changing global weather patterns and the true impact mankind plays in altering the earth's climate continues to rage, there appears to be little to no real movement in the views of entrenched participants on either side of the argument. Indeed, a growing gap exists between the importance placed on the issue by a large percentage of the world's climate scientists on the one hand, and the general apathy and growing skepticism that currently exists for the same issue among members of the public at large (Whitmarsh 2011; Bedford 2010). Regardless, the media has devoted rather intense coverage to environmental issues (e.g., man-made global warming, melting polar ice-caps, and various global climate treaties, etc.) for the past twenty years, perhaps in the effort to frame the debate and educate the general public as to the consequence of inaction (Holt and Barkemeyer 2012; Bedford 2010; Ryghaug 2010). While global warming advocates claim that the debate is now "settled science" and that a consensus of climatologists exists that more or less indicts human activity as the primary cause of changing global climate patterns (Cook, et.al. 2013), an equally compelling argument has been made rebutting that claim (Legates, D., Soon, W. and Briggs, W. 2013). Those who don't agree with anthropogenic global warming argue that naturally occurring phenomenon (e.g., such as volcanic activity, ocean currents, El Nino, and solar cycles, etc.) explain substantially more of the variance in earth's current weather patterns than the relatively small impact man exerts on the climate, even accounting for all of man's agricultural and manufacturing processes combined (Mccright and Dunlap 2000).

Although a quick perusal of environmentalist oriented websites is likely to suggest that a majority of Americans believe the issue is important and poses a threat to the earth and their own future safety (see attached Bibliography website citations) a Washington Post/ABC news poll conducted in January 2013 indicated that slightly under 34% of Americans believed global warming posed a true threat to mankind's survival *in their lifetime*. The same poll indicates manmade global warming (henceforth referred to as MGW) ranked last among a list of urgent issues, and, that a majority *had lost trust in the predictions of climate scientists*. Not incidentally, poll results tended to be split along political party lines, suggesting that the issue is heavily influenced by one's political worldview (Montgomery and Stone 2009)

Media Influence

Hurricane Katrina, the first major hurricane of the new millennium, received massive global coverage by the media. Proponents of MGW were able to capitalize on the catastrophic aftermath of the storm, and, to some extent, freely disseminate a pro-global warming ideology without significant pushback from those with a different perspective. One of the implications from the reporting appeared to be that

much of the destruction (i.e., flooding) was caused by rising sea levels—which, according to the storyline advanced by members of the media, was ultimately the result of the manmade production of CO2 warming the earth and melting the polar ice caps (Ungar 2005). The underlying argument among partisans of global warming appears to be that global warming has had a negative impact on the environment and that the current warming trend is being caused by an unprecedented release of CO2 directly attributable to man caused activity (Urban 2015). Authors such as Aslak, Moore, and Jevrajeva (2013), for example, go as far as to say that due to the rise in global surface temperature caused by increased levels of CO2, low lying coastal areas should expect to receive Katrina like hurricanes on a routine basis. While this type statement may appear alarming to those unfamiliar with the science, it also appears to be a sentiment shared by many in the mainstream media. Despite the widespread coverage (from a pro global warming media), MGW advocates not only decry what they consider a lack of coverage, but complain about media attempts to present an opposing viewpoint. Advocates in the pro MGW camp indicate that if anything, media coverage has, like the problem itself, become overly politicized (Mccright and Dunlap 2011; Whitmarsh 2011). Regardless, media attention devoted to climate change has experienced an upsurge in coverage, particularly since the release of Al Gore's documentary (An Inconvenient Truth) in 2006, and from the emergence of noted "climate celebrities" such as Leo DiCaprio and others (Boykoff and Goodman 2009).

Giudici (2008), who intensely studied both the lives of those impacted by Hurricane Katrina and of the media's coverage of the storm, has a different perspective, indicating that the drowning of New Orleans was a man-made disaster. One of the questions he asked is "If the flooding and devastation to New Orleans can be attributed to mismanagement of resources and faulty design of the levees by the Army Corp of Engineers, and not the natural forces generated by Hurricane Katrina, how did the media come to promote and publicly denounce Hurricane Katrina as the culprit for the devastation to New Orleans?" Others in disagreement with the media coverage of the storm note that while Karina did indeed reached Category 5 storm proportions while at sea, the storm entered landfall as a Category 3 hurricane. Individuals who hold this view would thus agree that most of the actual destruction was due to inadequate infrastructure and poor planning rather than traditional hurricane forces such as excessive wind speed. And what of the media's dire warnings in 2005 about the expected frequency of similar storm activity? Recent assessments suggest that not only are we seeing fewer storms than post Katrina models predicted, but most have been far less intense than previously anticipated (see attached Bibliography website). Recent discrepancies in how measurements (of surface temperature) are taken suggest that the earth's temperature has not increased in seventeen years---and, that the earth may actually be entering a cooling stage resulting from less intense solar activity (Freedman 2011)---a fact that is seldom reported by the major news media.

As a result of the vast number of constantly changing variables that should be considered when designing climate models, predicting the weather is tricky business. Despite the inconsistency of the model predictions and the fact that very few people are actually qualified in the area of climate science to cogently discuss the matter---most people, however, do have an opinion. And these opinions, once formed, appear as firmly entrenched as they are divided. Somewhat surprisingly, even after years of being bombarded with media reports about man's impact on the climate, recent polls indicate that global warming skepticism in the U.S. appears to be growing, suggesting that traditional media's role in shaping cultural opinion is on the wane.

Purpose

The purpose of the current research is not to debate whether global warming is real and/or whether mankind is a major culprit, but rather to assess the state of belief about what people think about the climate and environmental issues in general. In other words, do people believe that action needs to be taken to alleviate whatever damage mankind is inflicting on the earth, or, do people believe that other, more pressing issues should take priority over future climatic considerations? Secondly, is one's belief impacted by actually having experienced living through a major storm such as a Category 5 hurricane? Finally, the author hoped to assess the media's impact and influence on individual beliefs about weather conditions. Anecdotally, traditional mainstream media personalities appear to be highly supportive of government action to control man-made global warming. The research effort thus tackles the question of the impact the media has in influencing the direction of public sentiment.

Method

Sample

The sample was drawn from 200 randomly selected respondents provided by QUALTRICS. Approximately 100 of the respondents were drawn from areas of the United States that had been subject to extremely destructive weather events occurring within the past decade (which included large hurricanes, tornados, or wildfires). A list of the desired geographical regions was provided to QUALTRICS personnel who then randomly selected participant panelists who met the sample requirements. The remaining 100 respondents were randomly selected from individuals living outside effected areas. The survey instrument was developed using items known to adequately capture ecological responsibility (Stone, Coley, and Leak 2013). Additional item statements related to one's concern for the environment and one's position on the man versus nature debate were added to the items previously assessed.

Other statement items were developed to capture the media influence factor, as well as research specific statements related to both changing weather conditions and storm related intensity. Once the survey was completed and initially tested on a small sample, the survey was transferred to a QUALTRICS format. Respondents were selected based on their geographic location in relation to known major storm activity. QUALTRICS personnel then provided the online respondent data in an exportable file format conducive to analysis using SPSS. The entire collection stage was completed within a two week period. The respondent's city and state was included as part of demographic data but is not reported. Sample statistics are as follows:

Sample Statistics

Gender: Male (108) 48.3% Female (114) 51.4%
Age: Mean = 45.59 (Range 18-83)
Race: White (157) 70.7%; Black (37) 16.7%; Hispanic (9) 3.3%; Asian (12) 4.3%; Other (7) 2.5%
Education: High School (63) 28.4%; College (2 Year- 51) 23.0%; College (108) 48.7% (33 of 108 had graduate level education).
Mean score on **Eco Level** (n=214; mean =5.13); relates to individual assessment of one's own ecological position (1=pro-growth/not an environmentalist at all, to 10=100% environmental activist)
Hi Eco Level (score of 8-10): 30.6% n=60
Medium Eco Level (4-7); 48.3% n=107
Low Eco level (1-3) 21.3% n=47
121 or **43.8%** (of 263 reporting) of the sample of individuals responded that they ***had lived*** through a storm that caused major destruction.
142 or **51.4%** (of 263 reporting) of the sample of individuals responded that they ***had not lived*** through a storm that caused major destruction.
13 or 4.7% (of a total of 277 reporting) failed to indicate whether they had lived through a storm that caused major destruction.

Hypotheses Section

Factor Analysis was run on the first (Eco-Attitudes) section of items contained in the survey (OP1-OP27). These items were constructed to reflect environmental attitudes. Items 2, 4, 6, 8, 10, 12, 14 and 17 were reversed coded. Three factors emerged from the factor analysis, Individual item loadings are noted in Table 2.

Using the factors that emerged from the factor analysis described above, the following hypotheses are submitted;

Table 1 Factor Analysis

				Total Variance Explained		
		Initial Eigenvalues			**Extraction Sums of Squared Loadings**	
Component	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	9.465	35.055	35.055	9.465	35.055	35.055
2	2.801	10.375	45.430	2.801	10.375	45.430
3	1.761	6.524	51.954	1.761	6.524	51.954
4	1.204	4.460	56.414	1.204	4.460	56.414

Table 2 (Item-Factor Loadings)

Factor 1: Proactive Ecological Orientation (Pro-Active)

Factor Analysis was run on the first section of items in the survey (OP1-OP27). These items were constructed to reflect environmental attitudes. Items **2, 4, 6, 8, 10, 12, 14 and 17** were reversed coded.

OP3; OP7; OP15; OP16; OP18-OP27 are noted below.

OP3: Human interference into nature (hydro-electric dams, manufacturing based carbon emissions, etc.) results in very negative consequences for the natural environment.

OP7: Plants and animals have as much right as humans to exist.

OP15: If things continue on their present course, we will eventually experience a major ecological catastrophe that will threaten our survival.

OP16: People like me will eventually have to make major lifestyle changes in order to solve today's growing environmental problems.

OP18: Stricter environmental laws and regulations are a necessity, even if they negatively impact U.S. prospects for economic growth and prosperity

OP19: We must use less energy even if it will make life more difficult for millions of Americans.

OP20: In order to improve air quality and reduce vehicle tailpipe emissions all of us should drive less and use alternative forms of localized public transportation.

OP21: The best way to reduce tailpipe emissions would be for the government to require automakers to produce cleaner, more fuel efficient cars.

OP22: Using alternative forms of transportation (e.g., commercial aircraft, trains and buses) instead of privately owned vehicles for long-distance travel is a practical approach to reducing global emissions.

OP23: In order to increase funding for next-generation environmental education and funding for emerging green technology, new federal tax laws need to be imposed.

OP24: Implementing federal tax credits to be used by transportation manufacturers which design and utilize environmentally cleaner modes of transportation (e.g., cars, airplanes) is a viable option acceptable to the general public.

OP25: Emissions reduction schemes (e.g., cap-and-trade programs) are most effective and acceptable when developed at a global level rather than on a country-by-country or state-by-state level.

OP26: The general public would be willing to pay higher prices (either in the form of taxes on fuel or via increased airline ticket fees) if such revenue collected was put directly back into researching and implementing cleaner transportation options.

OP27: Businesses and individuals must use less energy even if doing so will be more costly (e.g., manufacture and sell more hybrid vehicles which may cost more than non-hybrid vehicles but use less energy).

Reliability: Cronbach's Alpha =.923

Factor 2: Man & Technology Oriented Worldview (Pro-Tech)

OP2; OP4; OP8; OP10; OP12: OP14

OP2: Humans have the right to modify the natural environment to suit their needs.

OP4: Human ingenuity (i.e., technological advances) will insure that human activity will not destroy the earth's ecological environment (i.e., make it unlivable).

OP8: Nature is resistant enough to survive the impact of modern industrial activities.

OP10: The so-called "ecological crisis" facing human kind has been greatly exaggerated.

OP12: Humans were meant to rule over the rest of nature.

OP14: Humans will eventually learn enough about how nature works to be able to control it.

Reliability: Cronbach's Alpha = .742

Factor 3: Manmade Ecological Destruction (Man-Caused)

OP1; OP5; OP11; OP13; OP15

OP1: We are approaching the limit of the number of people the earth can support.

OP5: Human activity is having a disastrous impact on the environment.

OP11: The earth is like a spaceship with very limited room and resources.

OP13: The balance of nature is very delicate and easily upset.

OP15: If things continue on their present course, we will eventually experience a major ecological catastrophe that will threaten our survival.

Reliability: Cronbach's Alpha = .837

Hypothesis 1

The first factor was labeled **Proactive Ecological Orientation** and appears to relate to an individual's overall proactive ecological positioning, particularly in terms of the lengths to which an individual would be willing to go in order to protect the environment. Items were scored using a Likert scale with 1=strongly disagree to 5=strongly agree, resulting in a 14 item factor with a high level of reliability of .923 (see table 2). The factor appears to embody opinions about man's culpability in destroying the environment (example: OP3: *Human interference into nature (hydro-electric dams, manufacturing based carbon emissions, etc.) results in very negative consequences for the natural environment*); specific proactive actions needed to preserve and protect the environment (example: OP18: *Stricter environmental laws and regulations are a necessity, even if they negatively impact U.S. prospects for economic growth and prosperity*); and, opinions about possible solutions (example: OP22: *Using alternative forms of transportation (e.g., commercial aircraft, trains and buses) instead of privately owned vehicles for long-distance travel is a practical approach to reducing global emissions*). Individuals who agree with these proactive steps would be considered ecologically proactive, while those who tend to disagree with these statements are more likely to be less concerned about ecological issues and more motivated by economic growth considerations.

Because of the significance of the storms used in the survey (i.e., the sample came from residents of areas hit by hurricanes Katrina and Rita (Alabama to East Texas) and Sandy (New Jersey and Southern New York) and CAT 5 tornadoes (Northern Alabama to areas of heavy destruction in Kansas, Oklahoma and Missouri), we propose that there will be a significant difference in the mean scores on this factor based on whether or not the individual lived in area hit by a catastrophic weather event. As noted above, 121 of the respondents (43.8%) reported having personally experienced living in a region that was hit by a destructive force of nature while 142 (51.4%) indicated that they had no personal experience with this type destructive natural phenomenon. Around 5% of the sample inexplicably failed to respond to the first item on the measurement instrument.

H_1: *Having lived through a major weather disaster will impact one's proactive ecological orientation, with those having lived through a category 5 weather event displaying higher* ***Proactive Ecological Orientation*** *scores than those who have not experienced a similar weather disaster.*

A t-test was used to test for differences between the mean scores on Factor 1 (Proactive) among residents who lived in an area hit by a major storm event (1=Yes) and among those who did not live in area hit by a major storm event (2=No). The results for all hypothesis tests are as follows:

Results for Hypothesis 1

Findings: The t-test for Equality of Means indicated *no significant difference* between the group variance (between Live and Not Live) on the Proactive factor (t= -1.306 Sig =.193). In other words, having lived through a destructive weather event had no effect on the attitude of Proactive respondents in relation to those who did not live through this type experience. Interestingly, respondent scores on this factor appear equally distributed as 57 of 112 individuals responding with a score of 4.0 or higher on the Proactive factor lived in an area *hit by a CAT 5 storm*, while 59 of 113 respondents of those responding 4.0 or higher lived in an area that was *not hit by a CAT 5 storm*. The hypothesis is thus rejected.

Hypothesis 2

The second factor tested was **Pro-tech attitude**, or basically a belief in man's ability to control his own destiny**.** Statement items for this factor related to man's role and influence on environmental issues. Items were scored using a Likert scale with 1=strongly disagree to 5=strongly agree, resulting in a 6 item factor with an adequate reliability of .742 (see table 3). Individuals who tended to agree with these statements are likely to be pro-economic growth/technology oriented rather than ecologically proactive. The statements themselves suggest that man has the ability to eventually overcome any adverse ecological issues through technological advances. The factor includes such items as: OP2: *Humans have the right to modify the natural environment to suit their needs*; OP4: *Human ingenuity (i.e., technological advances) will insure that human activity will not destroy the earth's ecological environment (i.e., make it unlivable)*; OP8: *Nature is resistant enough to survive the impact of modern industrial activities*; and, OP10: *The so-called "ecological crisis" facing human kind has been greatly exaggerated*. The high pro-tech individual is thus likely to sit on opposite sides in any ecological debate from those who scored high on the proactive factor. The authors, a-priori, theorized that living through a CAT 5 storm of any type (hurricane or tornado) would constitute a significant emotional event likely to persuade even the most entrenched believer in man's ability to control his own destiny, that man does not have the ability to control the environmental conditions around him. Hypothesis 2 is thus written as follows:

H_2: *Having lived through a major weather disaster will impact one's ecological attitude vis-à-vis man's ability to control his own destiny, with those having lived through a category 5 weather phenomenon displaying lower* ***Pro-tech*** *attitudinal scores than those who have not experienced a similar weather disaster.*

Results for Hypothesis 2

Findings: The t-test for Equality of Means indicated that there *was a significant difference* between the group variance (between Live and Not Live) on the Pro-tech factor (t= 2.066 Sig =.040). The experience of having lived through a destructive

weather event apparently did have an impact on Pro-tech attitudes, with those having lived through a CAT 5 storm displaying lower mean scores on this factor than people who had not lived through a CAT 5 storm. In other words, living through a major storm did appear to influence the respondent's attitude toward man's role (and by inference control) of the environment. The hypothesis is therefore accepted.

Hypothesis 3

The third and final factor tested was **Man Caused**, or basically the belief that man is responsible for much of the global change in climatic conditions. Items were scored using a Likert scale with 1=strongly disagree to 5=strongly agree, resulting in a 5 item factor with a relatively high reliability of .837 (see table 4). Statement items for this factor related to man's destructive influence on the environment. Individuals who tended to agree with these statements are likely to be pessimistic about the current state of the planet's eco-system and that a balance must be reached between man and nature, else, mankind will eventually destroy much of the world's eco-system. The factor includes such items as: OP1: *We are approaching the limit of the number of people the earth can support*; OP5: *Human activity is having a disastrous impact on the environment*; and, OP11: *The earth is like a spaceship with very limited room and resources*. To remain consistent in the belief that living through a CAT 5 weather event is likely to be a significant emotional event likely to change the way people perceive man's impact on climatic conditions, we thus posit results in the same direction as for the previous two factors. In other words, the authors believed that having lived through a catastrophic weather event would create an even more pessimistic attitude among those who hold man responsible for changing climatic conditions. Further, these individuals would have higher mean scores for this variable than those who have not lived through such an event. Hypothesis 3 is thus written as follows:

H_3: *Having lived through a major weather disaster will impact one's ecological attitude vis-à-vis the belief that man is responsible for ecological disasters, with those having lived through a category 5 weather phenomenon displaying higher* ***Man Caused*** *attitudinal scores than those who have not experienced a similar weather disaster.*

Results for Hypothesis 3

Findings: The t-test for Equality of Means indicated that there *was no significant difference* between the group variance (between Live and Not Live) on the Man Caused factor. (t= -1.427 Sig =.194). As with the first factor (Proactive), there is no significant difference in the attitudes on this factor (Man Caused) based on whether the individual experienced a significant weather event or not. Living through a major storm did not appear to influence the sample of respondent's attitude toward man's role in destructive weather events and thus hypothesis 3 is rejected.

Additional Findings: The Media's Role in Influencing Opinions about Storm Intensity

Advocates of man caused global climate change often argue that increased CO2 levels (resulting from man-made industrial processes and consumption activities, etc.) have not only increased the number of severe weather events, but that the events themselves are increasing in intensity and destructive force. The focus of the final analysis was therefore to determine the impact that an ecologically centered worldview, a mostly pro-global warming national media, and whether one lived through a major storm might have on influencing the belief that storm intensity is increasing.

Attempts to develop the media factor were disappointing, resulting in a three item factor with poor reliability (alpha=.556), potentially frustrating the influence of the media factor to offer input in the current model. The underlying weakness of the factor thus mitigates the findings of our model (at least in terms of the true influence of the media) and more work needs to be conducted to develop a better set of media items. Our intensity factor however loaded adequately at alpha=.883 and so the items used are considered theoretically and practically useful as a measure of individual attitudes toward the intensity of storms.

2nd Factor Analysis

Factor Analysis was run on the second section of survey items related to perceived storm intensity and subsequent causes, and, items related to awareness of weather events and the media's role in promoting awareness. Factors emerging from the analysis are noted in tables 3 and 4 below:

Table 3: Factor Analysis: The ST and MD Variables

Rotated Component Matrix[a]

	Component		
	1	2	3
ST2	.699		
ST3	.844		
ST4	.879		
ST5	.905		
ST6	.711		
ST7		.521	
ST8		.859	
MD2			.787
MD3			.632
MD4		-.699	
MD5			.722

Table 4: Item Loadings
Factor 1 (Intensity) = ST2, 3, 4, 5, 6

ST2: The damage caused by weather related incidents such as tsunamis, hurricanes, and tornadoes is worse now than it has ever been.

ST3: Global warming/Climate change has increased the level of intensity/destruction caused by recent hurricanes and tornados (i.e., such as the destruction associated with Hurricanes Katrina and Sandy, and tornados such as those that hit the Joplin and Tuscaloosa area).

ST4: If we reduce the level of man-made CO2 in the atmosphere, we could reduce the severity and destructive nature of the storms we are seeing now.

ST5: If we reduce the level of man-made CO2 in the atmosphere, we could reduce the number of severe storms and destructive weather events that we are seeing now.

ST6: What one nation does to impact their local environment impacts the weather for the rest of the planet.

Reliability: Cronbach's Alpha = .883
F2= ST 7, 8, MD4 (Reason)

ST7: Storms are not getting worse as a result of man-made causes.

ST8: Man will overcome any changes in global weather patterns through advancements in technology.

MD4: Weather events are not getting worse, people are just more aware of them because of increased media exposure.

***Reliability is too low to qualify as a factor.**

F3= MD 2, 3, 5 (Media)

MD2: Mass media (i.e., television, social media, newspapers, et. al.) is highly influential in shaping the public's perception and awareness of global warming/climate change.

MD3: The national media routinely uses weather related catastrophes as evidence to support the claim that that man is responsible for global warming/climate change.

MD5: Instantaneous information received via social media (e.g., Twitter, Facebook, etc.) has helped shape young people's perception that man is causing global warming/climate change.

Reliability: Cronbach's Alpha = .556

Hypothesis 4

The researchers used regression analysis to determine if any of the variables noted previously (e.g., Proactive, Pro-tech, and Man-caused), a composite variable related to opinions about media influence (Media), and whether the individual lived through a major storm (LIVE) would be significant in predicting how the individual might view the intensity of storms (i.e., whether storms are getting worse, etc.). The belief was that one's ecological worldview would help explain an individual's attitude regrading intensity, that living through a major storm would be influential, and that the media would have a role in the perception of storm intensity. Our 4th hypothesis is written as follows:

H4: *Perceptions of storm **Intensity** will be influenced by one's attitude toward the environment as expressed by three ecologically based attitudinal factors (Proactive, Pro-tech, and Man-caused), media influence, and whether or not one lived through a major storm*.

Results for Hypothesis 4:

The model produced an R^2 of .713 and was significant at the .000 level. Upon inspection, the independent variables that proved to be significant predictors were: Pro-Active; Man-Caused; & LIVE

Conclusion

The model purports to predict how a respondent will address issues related to the intensity of storms (i.e., whether a person believes that storms are getting worse). The significant factors are 1) One's attitude toward the environment (Pro-Active = .000); 2) One's perspective on man's responsibility for global weather change (man-Caused =.000); and 3) whether one lived through a severe weather incident (LIVE =.002). Non-significant factors included Pro-Tech views (.610) and Media (.366). The fact that the media variable (Media) did not prove significant is somewhat surprising given the role the media often plays in shaping public opinion, particularly since the mainstream media appears supportive of those who believe in manmade climate change. Nonetheless, because of the poor reliability of the items

loading on this factor, it is premature to suggest that media influence is not significant. Given the availability of alternative news sources, however, the finding is in keeping with research indicating the declining role of the (traditional/mainstream) media in terms of influencing public opinion (Wanta, Golan, and Lee 2004). It comes as no surprise that the variable LIVE played a significant role in attitudes toward intensity since having lived through a major storm event was expected to be a life changing experience. Hence, H_4 is partially supported and is accepted. See table 5.

Table 5 Regression

Regression Analysis

Dependent Variable (Y) =**Intensity** (whether respondents believe storms are getting worse)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.845[a]	.713	.707	.53257

a. Predictors: (Constant), Media, ManCaused, LIVE, ProTech, ProActive

R^2 =.713

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	151.093	5	30.219	106.543	.000[b]
	Residual	60.696	214	.284		
	Total	211.790	219			

a. Dependent Variable: Intensity

b. Predictors: (Constant), Media, ManCaused, LIVE, ProTech, ProActive

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.043	.335		-.130	.897
	ProActive	.752	.074	.589	10.120	.000
	ProTech	.028	.055	.022	.511	.610
	ManCaused	.356	.069	.318	5.151	.000
	LIVE	-.232	.073	-.118	-3.188	.002
	Media	-.046	.050	-.034	-.906	.366

a. Dependent Variable: Intensity

Model is significant (@ .000)

Conclusions and Recommendations

Findings from the previous sections illustrate what research associated with ecological responsibility and consumerism has repeatedly demonstrated over several decades. Specifically, eco-oriented individuals tend to report that they are "all in" in terms of their willingness to sacrifice and make lifestyle changes for the good of the ecological environment. These individuals tend to be supportive of environmental regulations designed to protect the environment and would likely agree that manmade GW poses a threat to both man's survival and to the planet's ecological system. Hence, such individuals would likely be supportive of government actions that forced societal members to cut back on consumption activities (such as a carbon denominated consumption tax) and they would have strong opinions in matters related to mankind's role in both destroying and protecting the environment. Three factors emerged to identify and categorize respondents based on their ecological positioning: Pro-Active; Pro-Tech, and Man-Caused. Two of the factors (Pro-Active and Man-Caused) were ecologically centered and more or less accusatory (i.e., "anti-mankind"), while the Pro-Tech factor reflected agreement with items suggesting mankind's ability to overcome ecological problems using technology based solutions (i.e., pro-mankind). Reliability for the 6 items loading on

the Pro-Tech factor was considered adequate (@ Alpha = .742) and quite good for the Pro-Active factor (@ Alpha=.923). Although a fourth factor did emerge, reliability for the item loadings was inadequate.

Roughly 31% of the individuals in our sample self-identified as being highly ecologically oriented (i.e., those who circled an 8 or higher on a 1-10 scale). The mean score for the sample was 5.13 (roughly 47%) and less than a third (21.3%) identified with the low ecological/pro-growth position. These designations were more or less arbitrarily developed (with scores of 1-3 designated as low and 8-10 identified as high on the Eco-Level variable) and so the percentage breakout could have been significantly different had we altered the designations (say, from 1-3 to 1-4). Nonetheless, the mean score of 5 appears to indicate that most people tend to remain in the middle, understanding the need to balance environmental consideration against lifestyle considerations.

The first three hypotheses were developed to assess the impact that having lived through a major storm would have on the respondent mean scores on each of three eco factors. Findings suggest that having lived through major storms (i.e., such as Katrina and Sandy or the CAT tornados that struck Alabama and areas around Kansas and Missouri) did not impact respondent scores on the two more pro-environmental variables (Pro-Active and Man-Caused). One of the conclusions reached is that eco-centric/eco-activist type individuals have a rather entrenched mindset/conviction when it comes to ecological issues. Hence, one does not have to live through a CAT 5 weather event in order to believe in the importance of living an eco-oriented lifestyle. Additionally, the aftermath of devastating storm events is routinely covered by the news media on a 24 hour basis, sometimes for weeks. Individuals are therefore more likely to develop empathy for the victims of the devastation when they see the destruction non-stop over extended periods (or until the media comes up with another crisis). There was a significant difference in the mean scores between the two groups (i.e., lived through versus not lived through) on the Pro-Tech factor. This finding appears to make intuitive sense, primarily because having lived through a CAT 5 weather event would be considered a life changing experience. Seeing the destructive force of nature firsthand might give pause to anyone who believes that mankind might be able to control over such an event.

Finally, the research investigated respondent opinions as to whether storms are increasing in intensity and whether one's viewpoint has anything to do with one's ecological worldview, the media's role in influencing opinion, and whether one has firsthand experience with CAT 5 level storm events. The regression equation (using Intensity as the dependent variable) revealed a significant model (F=106.543 significant @ .000) with a relatively high R2 value (.845). The significant factors included the two pro-environmental factors discussed earlier, and having lived through the event. Media influence and a pro-tech attitude were not significant. As noted earlier, the mainstream media no longer dominates public opinion as it has previously due to the prevalence of alternative media outlets (Wanta, et. al. 2004; Stromberg 2001; Cook, et. al. 1983). As more people gravitate to informational sites

that tend to support what they already believe one can expect increased polarization on this and other issues.

In conclusion, much work remains in terms of improving our knowledge of the impact man is having on the world's climate. The fact that previously well regarded scientific institutions have been caught fudging data does not improve the public's trust on this issue. Additionally, it would obviously be helpful if both sides toned down the rhetoric and did not constantly accuse the other side of evil intent. If anything, the current research proved useful in a number of ways, particularly since it exposed two research assistants to their first opportunity to conduct a social science research study. Since the study was more or less ad hoc and reliant on previous research conducted in this area, the theoretical aspect of the paper is somewhat limited. In order to improve the overall validity of the findings, future research using this data will include a more thorough literature review and perhaps a model expanding on the media's role in developing public opinion. What appears unique, however, is the impact actual experience (in this case with a major weather event) has in determining attitudes.

Additional research in this area is currently ongoing that will examine the role public relations and marketing communications have in motivating individuals to take action (i.e., to move) after announcement of major, and potentially devastating storm activity. This is clearly a major public policy issue and one where effective marketing could play a crucial role in convincing people to evacuate before storm arrival. Much more work needs to be conducted on the role the media plays in influencing attitudes about man's impact on the climate weather, and part of that work includes developing a more robust factor that contains a larger set of items related to media effect.

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