

Environmental Concern: Difference in Global and Local Concern Among Groups

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Introduction

There is no mistaking the large inequities between those who have power and those who do not in the United States. Disadvantaged populations frequently share the brunt of this unequal relationship. For instance, communities with large populations of minorities are quite often subjected to a greater risk of exposure to the side effects of environmental pollution than predominantly white communities. One of the single highest predictors of pollution sites are race and class. It seems more than reasonable to expect those affected by environmental racism to care about the environment more than other groups. However, I suspect I may find differing factors influence environmental concern among privileged groups compared to disadvantaged groups. I aim to look at how these different factors influence levels of environmental concern mainly among different races. I theorize that my findings will mirror other research like it and show greater concern among people of color, but that there might also be a relationship between race and greater concern for local or global environmental problems.

Although research has been slowly building that shows people of color typically experience greater environmental concern, there is still a stigma that the environmental movement is a white, elitist movement (Bell and Ashwood, 2016). And that's also partially true. According to an article by Kevin Bundy, the mainstream environmental movement is mostly white (Bundy, 2003). It's goals and policies attract mostly white members, but that does not mean other groups aren't joining because they don't care about the environment. Bundy explains that major organizations fail to listen to local activists and their specific concerns, instead pushing them to the side and keeping people of color in the margins of the mainstream environmental movement.

So, among environmentally conscious people, white people are more likely to join a national environmental movement, but that does not mean whites care more about the environment than other groups. In fact, a 2004 study conducted by Dan Kahan noted the “White-male effect” which showed there was a decreasing amount of environmental concern (including issues like environmental protection, health risks, and “technological hazards”) with non-White women showing the most concern, then non-White men, the White women, and finally White men show the least concern (Bell and Ashwood, 2016).

To most accurately measure the complex concept of environmental concern, I borrowed heavily from a past research conducted by Chenyang Xiao and Riley Dunlap in 2016, who worked to clarify the dimensionality of environmental concern by analyzing questions on the 1992 Health of our Planet Survey conducted by Gallup that used confirmatory factor analysis (CFA) to study environmental concern. Xiao and Dunlap used this research as a model to expand upon as they felt that it did not achieve measurement validity, but was headed in the right direction. By clearly defining what influences the cognition of “environmental concern” more broadly than past research has, they hoped to provide more solid evidence that environmental issues are not multi-dimensionally influenced, but are rather tied together through an underlying concept of environmental concern. Xiao and Dunlap aim not to measure environmental concern in the U.S. and Canada, but to evaluate how best to validly and reliably measure the concept of environmental concern. Because their results showed strong support that the concepts they chose did achieve this, I adapted many of their questions to my own survey.

By focusing on only the U.S. and Canada, Xiao and Dunlap created a comparative analysis to support their internal validity. Eight factors were chosen as possible links to the underlying “source”, environmental concern. These were not chosen arbitrarily. They chose

questions based on a framework for environmental concern developed originally by Robert Jones and Dunlap in 2002. This framework divides environmental concern into two categories: the “concern domain” and the “environment domain” (aka substantive domain). Additionally, the new environmental paradigm (NEP) was also included as a basis for environmental concern. Of the eight total factors, four pertain to the concern domain, three to the substantive domain, and one to the NEP. Questions relating to each factor were then chosen from the HOP survey (Xiao and Dunlap, 2016).

After the study was concluded, only two of these factors were rejected as not accurately showing a link to environmental concern, though they were still statistically significant. This still leaves 6 factors that Xiao and Dunlap determined were good indicators of environmental concern and that I will be using in my research to gauge environmental concern. However, one of the two determined to be less significantly related to environmental concern was pertaining to local feelings of environmental problems (Xiao and Dunlap, 2016). I still included this set of questions in my research therefore, as the statistical relationship between local feelings and overall environmental concern may be influenced by an additional racial component that Xiao and Dunlap did not consider.

Again, Xiao and Dunlap do not include race as a factor in their research. Another study conducted by Robert Jones and Shirley Rainey in 2006 specifically focuses on how environmental concern relates to race. They spend much of the introduction preceding their study discussing how many past researchers are often misled by their own biases when studying the relation between environmental concern and ethnicity (specifically pertaining to African Americans). They also stress that this relationship is only just beginning to be studied with

intensity but, so far, the literature does show equal or greater concern among blacks compared to whites (Jones and Rainey, 2006).

This leads to an important difference between the two articles. Xiao and Dunlap include questions on the perceived seriousness of global, national, and local environmental issues but found that only global issues had a significant relationship to environmental concern. Therefore, they concluded that questions on local environmental issues likely related to personal experiences that cause these differences, such as firsthand exposure to local pollution or news stories on environmental issues (Xiao and Dunlap, 2016). On the other hand, Jones and Rainey asked questions primarily dealing with local feelings on the environment. There may therefore be a racial component to their differences in responses since Jones et al. did not ask questions about national or global environmental problems, and Xiao and Dunlap did not include race as a variable in their research.

So, while Xiao and Dunlap don't touch on race at all, Jones and Rainey focused entirely on how environmental concern differs among Blacks and Whites, but discarded surveys returned Latinos, Asian Americans, etc. since they were not relevant to the research. Although differences between Whites and Blacks is an important topic, I believe that by investigating environmental concern among various races, we can learn a lot about how different groups conceptualize this concern. It's an especially important consideration in an area as diverse as California.

Additionally, I believe that by utilizing the work done by Xiao and Dunlap to find a reliable method to measure environmental concern, as well as incorporating the work done by Jones and Rainey on race, I can accurately measure environmental concern among different groups and compare how all six factors, plus race/ethnicity, shape environmental concern. For the current paper, however, only global and local environmental attitudes will be compared to

race, due to time and space constraints on the research. Based off these studies and other observations, I hypothesize that disadvantaged groups like racial minorities will show more environmental concern for local issues that tend to more directly affect them and people they know, while privileged groups that are less affected by local problems will show greater concern for global environmental problems.

Methodology

When constructing my survey, I used the most relevant portions of Xiao and Dunlap's questions, which they believed to have medium to high validity. Questions #1-8 are a measure of NEP (the New Ecological Paradigm). Questions #9-18 gauge general support for environmental regulation, especially where it conflicts with economic interests. Most importantly questions #19-32 measure the respondents' feelings towards local and global environmental issues. The remaining questions, #33-40, ask about demographic information relating to the respondent. As already stated, I designed this survey to reliably measure environmental concern across racial groups with a variety of variables. However, for the purposes of this essay and due to time and space constraints, only the questions on race, global environmental concern, and local environmental concern are considered.

Global and local environmental concern consisted of 7 questions each and have been compiled as indexes. Respondents were asked to rate their agreement with a statement from 1-4 (Strongly Disagree to Strongly Agree). Therefore, the highest score on either index would be a 28 and the lowest would be a 7. A high score on one the indexes indicates high concern for that variable. One last question that asked, "How serious are environmental problems?" was used here to measure overall environmental concern (both global and local) by racial category. This question and the indexes, which all utilize Likert Scales, will be treated in my analysis as interval

level variables. Additionally, race was measured in four categories: Hispanic/Latino, Black, White, and Asian/Pacific Islander.

I used availability sampling by standing out on the sidewalk in front of stores and asking every 5th person that came by to participate in my survey. I did set quotas for the racial composition of my sample, however, since it is essential that I had enough respondents from different backgrounds to test my hypothesis. I tried to get approximately 10 surveys from each racial category that I measured. I passed out 20 surveys by myself in Monterey's downtown district. It was a weekday afternoon so tourist traffic was low. Another 20 surveys were passed out on the weekend in Castroville, a more rural farming community. The average age for the sample was 39.6, slightly lower than the average for the population which is about 42 (averaged between Castroville and Monterey). The unit of analysis for this survey is the individual. Below, in Table 1, is the racial composition of the surveys I collected.

| | | R's race | | | |
|-------|------------------------|-----------------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | White/Non-Hispanic | 10 | 25.0 | 25.0 | 25.0 |
| | Hispanic/Latino | 11 | 27.5 | 27.5 | 52.5 |
| | Black/African American | 10 | 25.0 | 25.0 | 77.5 |
| | Asian/Pacific Islander | 9 | 22.5 | 22.5 | 100.0 |
| | Total | 40 | 100.0 | 100.0 | |

Table 1.

Because I set quotas, it does not reflect the actual population of Monterey County in terms of race. However, if I had set the quotas to accurately reflect the population, I would not have received enough variability to test my hypothesis.

Analysis

Since my dependent variables are being treated at the interval-ratio level, I conducted ANOVA tests on each to assess the whether the means between groups (racial categories) were significantly different using an alpha level of 0.05 ($p < 0.05$). The null hypothesis is no difference between the means for different groups. The alternative hypothesis is that there is a relationship between the response (index score) and racial identification. I created cross tabulation tables in SPSS to visually analyze the variation in the data, then used SPSS again for the ANOVA tests of the null hypothesis.

Results

How serious are environmental problems * R's race Crosstabulation

| | | | R's race | | | | Total |
|--|--------------------|-------------------|--------------------|-----------------|------------------------|------------------------|--------|
| | | | White/Non-Hispanic | Hispanic/Latino | Black/African American | Asian/Pacific Islander | |
| How serious are environmental problems | Very Serious | Count | 3 | 3 | 3 | 2 | 11 |
| | | % within R's race | 30.0% | 27.3% | 30.0% | 22.2% | 27.5% |
| | Somewhat Serious | Count | 4 | 3 | 2 | 5 | 14 |
| | | % within R's race | 40.0% | 27.3% | 20.0% | 55.6% | 35.0% |
| | Not Very Serious | Count | 1 | 3 | 2 | 0 | 6 |
| | | % within R's race | 10.0% | 27.3% | 20.0% | 0.0% | 15.0% |
| | Not at all Serious | Count | 2 | 2 | 3 | 2 | 9 |
| | | % within R's race | 20.0% | 18.2% | 30.0% | 22.2% | 22.5% |
| | Total | Count | 10 | 11 | 10 | 9 | 40 |
| | | % within R's race | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Table 2a.

The first variable we are interested in is general environmental attitudes among our measured racial identifications. In Table 2a, we can see that there does not seem to be much difference among groups. Respondents answered with similar percentages for every race. This is more or less consistent with past research. Environmental attitudes tend to be similar for all races, and in some studies, tend towards greater concern among racial minorities (Bundy, 2003;

Bell and Ashwood, 2016). To analyze the relationship more closely, we'll run an ANOVA test on the group means.

ANOVA

How serious are environmental problems

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|------|------|
| Between Groups | .574 | 3 | .191 | .143 | .934 |
| Within Groups | 48.201 | 36 | 1.339 | | |
| Total | 48.775 | 39 | | | |

Table 2b.

As expected, from the SPSS output we find no statistically significant difference between the means of the groups using ANOVA ($F(3,36) = 0.143, p = 0.934$). We do not reject H_0 since there likely is no relationship between race and responses to this question. The next table we are looking at is the local environmental concern index cross tabulated with race. Remember that the lowest possible score is 7 (low concern) and the highest possible score is 28 (high concern).

LOCALindex * R's race Crosstabulation

| | | R's race | | | | | |
|------------|-------|--------------------|-----------------|------------------------|------------------------|--------|--------|
| | | White/Non-Hispanic | Hispanic/Latino | Black/African American | Asian/Pacific Islander | Total | |
| LOCALindex | 7.00 | Count | 1 | 0 | 0 | 0 | 1 |
| | | % within R's race | 10.0% | 0.0% | 0.0% | 0.0% | 2.5% |
| | 9.00 | Count | 0 | 0 | 0 | 1 | 1 |
| | | % within R's race | 0.0% | 0.0% | 0.0% | 11.1% | 2.5% |
| | 10.00 | Count | 2 | 0 | 0 | 0 | 2 |
| | | % within R's race | 20.0% | 0.0% | 0.0% | 0.0% | 5.0% |
| | 12.00 | Count | 1 | 0 | 0 | 2 | 3 |
| | | % within R's race | 10.0% | 0.0% | 0.0% | 22.2% | 7.5% |
| | 13.00 | Count | 1 | 1 | 0 | 0 | 2 |
| | | % within R's race | 10.0% | 9.1% | 0.0% | 0.0% | 5.0% |
| | 14.00 | Count | 1 | 0 | 0 | 0 | 1 |
| | | % within R's race | 10.0% | 0.0% | 0.0% | 0.0% | 2.5% |
| | 15.00 | Count | 1 | 0 | 1 | 1 | 3 |
| | | % within R's race | 10.0% | 0.0% | 10.0% | 11.1% | 7.5% |
| | 16.00 | Count | 2 | 0 | 1 | 1 | 4 |
| | | % within R's race | 20.0% | 0.0% | 10.0% | 11.1% | 10.0% |
| | 17.00 | Count | 0 | 2 | 1 | 1 | 4 |
| | | % within R's race | 0.0% | 18.2% | 10.0% | 11.1% | 10.0% |
| | 18.00 | Count | 0 | 2 | 1 | 0 | 3 |
| | | % within R's race | 0.0% | 18.2% | 10.0% | 0.0% | 7.5% |
| | 19.00 | Count | 0 | 2 | 2 | 1 | 5 |
| | | % within R's race | 0.0% | 18.2% | 20.0% | 11.1% | 12.5% |
| | 20.00 | Count | 0 | 0 | 1 | 1 | 2 |
| | | % within R's race | 0.0% | 0.0% | 10.0% | 11.1% | 5.0% |
| | 21.00 | Count | 0 | 1 | 0 | 0 | 1 |
| | | % within R's race | 0.0% | 9.1% | 0.0% | 0.0% | 2.5% |
| | 22.00 | Count | 1 | 2 | 2 | 1 | 6 |
| | | % within R's race | 10.0% | 18.2% | 20.0% | 11.1% | 15.0% |
| | 23.00 | Count | 0 | 0 | 1 | 0 | 1 |
| | | % within R's race | 0.0% | 0.0% | 10.0% | 0.0% | 2.5% |
| | 24.00 | Count | 0 | 1 | 0 | 0 | 1 |
| | | % within R's race | 0.0% | 9.1% | 0.0% | 0.0% | 2.5% |
| Total | | Count | 10 | 11 | 10 | 9 | 40 |
| | | % within R's race | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Table 3a.

Looking at Table 3a, there is a notable difference from the previous table. White respondents tend to have a lower index; their scores vary at the low end, with one white respondent that had a

high score (22). Hispanic/Latino respondents tend to have quite high scores. Black respondents vary a little more but still score quite high, and finally Asian/Pacific Islander respondents are a little more spread out across the possible score range. Again, we will use SPSS to run an ANOVA test of significance for the difference in the means.

ANOVA

LOCALindex

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|-------|------|
| Between Groups | 228.035 | 3 | 76.012 | 5.976 | .002 |
| Within Groups | 457.865 | 36 | 12.718 | | |
| Total | 685.900 | 39 | | | |

Table 3b.

In Table 3b, we see a statistically significant difference between the group means ($F(3,36) = 5.976, p = .02$). Because $p < 0.05$ we reject H_0 . There is good support that race identification has a relationship to a person's score on the local index. This finding will be explored more in my discussion following the analysis.

The next cross tabulation in Table 4a compares global environmental concern with race. The score range is the same here as with the local environmental concern index.

GLOBALindex * R's race Crosstabulation

| | | R's race | | | | Total | |
|-------------|-------|--------------------|-----------------|------------------------|------------------------|--------|--------|
| | | White/Non-Hispanic | Hispanic/Latino | Black/African American | Asian/Pacific Islander | | |
| GLOBALindex | 11.00 | Count | 0 | 2 | 1 | 0 | 3 |
| | | % within R's race | 0.0% | 18.2% | 10.0% | 0.0% | 7.5% |
| | 12.00 | Count | 0 | 2 | 0 | 0 | 2 |
| | | % within R's race | 0.0% | 18.2% | 0.0% | 0.0% | 5.0% |
| | 13.00 | Count | 0 | 1 | 1 | 0 | 2 |
| | | % within R's race | 0.0% | 9.1% | 10.0% | 0.0% | 5.0% |
| | 14.00 | Count | 0 | 1 | 1 | 1 | 3 |
| | | % within R's race | 0.0% | 9.1% | 10.0% | 11.1% | 7.5% |
| | 15.00 | Count | 0 | 1 | 4 | 0 | 5 |
| | | % within R's race | 0.0% | 9.1% | 40.0% | 0.0% | 12.5% |
| | 16.00 | Count | 3 | 1 | 1 | 0 | 5 |
| | | % within R's race | 30.0% | 9.1% | 10.0% | 0.0% | 12.5% |
| | 17.00 | Count | 1 | 0 | 0 | 3 | 4 |
| | | % within R's race | 10.0% | 0.0% | 0.0% | 33.3% | 10.0% |
| | 18.00 | Count | 0 | 2 | 1 | 0 | 3 |
| | | % within R's race | 0.0% | 18.2% | 10.0% | 0.0% | 7.5% |
| | 19.00 | Count | 0 | 0 | 0 | 1 | 1 |
| | | % within R's race | 0.0% | 0.0% | 0.0% | 11.1% | 2.5% |
| | 20.00 | Count | 2 | 0 | 0 | 2 | 4 |
| | | % within R's race | 20.0% | 0.0% | 0.0% | 22.2% | 10.0% |
| | 21.00 | Count | 3 | 1 | 0 | 1 | 5 |
| | | % within R's race | 30.0% | 9.1% | 0.0% | 11.1% | 12.5% |
| | 22.00 | Count | 1 | 0 | 1 | 1 | 3 |
| | | % within R's race | 10.0% | 0.0% | 10.0% | 11.1% | 7.5% |
| Total | | Count | 10 | 11 | 10 | 9 | 40 |
| | | % within R's race | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Table 4a.

By looking at the table, we can see another possible pattern here. White respondents had high scores on the Global index whereas Hispanic/Latino and Black respondents scored on the lower end. It is important to note that within each group there is still quite a bit of variation (about 2 Black and 2 Hispanic respondents scored on the high end of the index). Again, Asian/Pacific Islanders span the whole range of scores. We will run an ANOVA test in SPSS one last time to test if the differences between the means are statistically significant.

ANOVA

| GLOBALIndex | | | | | |
|----------------|----------------|----|-------------|-------|------|
| | Sum of Squares | df | Mean Square | F | Sig. |
| Between Groups | 147.232 | 3 | 49.077 | 6.068 | .002 |
| Within Groups | 291.168 | 36 | 8.088 | | |
| Total | 438.400 | 39 | | | |

Table 4b.

Based on the SPSS output, we do see a statistically significant difference ($F(3,36) = 6.068, p = .02$). Again we reject H_0 , there appears to be a relationship between racial category and the respondent's score on the global index.

Discussion

Some support for my hypothesis has been given through this research and analysis, but more exploration of the topic is necessary before anything can be said for certain. Answers to the questions analyzed in this paper do give the impression that minorities care about the environment equally as much as white respondents, but that concern does not behave in the same way for each group. Most prominently, minorities (especially Black and Hispanic/Latino respondents) tend to have higher concern about local environmental problems than do white respondents, while white respondents tend to have higher concern for global environmental problems.

As mentioned above, this survey was conducted in Monterey County. Monterey County, which is home to both wild life reserves (such as the Elkhorn Slough) and numerous farming communities, has a history of balancing preservation versus economic priorities. Farming can be polluting to local water supplies, especially when it requires copious amounts of fertilizer and pesticides. Additionally, more minority groups, such as Hispanic migrants, work in the

agricultural industry in California than white individuals and are thus more likely to be doing farm work and living near these conditions. The differences in responses could be attributed to minorities experiencing greater local environmental damage than white people living in Monterey County. This phenomenon is not new (Bell and Ashwood, 2016). Whites, who are more likely to have unrestricted access to clean water are less likely to feel the repercussions of local water pollution than minorities, and therefore would not find poor local water quality to be a serious issue.

More generally, if white respondents don't personally experience high amounts of local pollution, they might be more likely to find climate change, a phenomenon that affects other places in the global community greater than it does California, a bigger issue. Whereas minority groups that experience pollution first hand, might not see that has such a big issue compared to problems at home.

This research was limited somewhat in measurement validity due to extraneous constraints on the survey. Using availability sampling to collect responses and the relatively small number of respondents are obstacles to generalizability, but were required under the circumstances. It is also important to consider how relevant some of Xiao and Dunlap's questions pertaining to local environmental problems are. The content of their questions were not explored in this paper, but it is worth noting that they are not applicable to all areas. For example, two questions asked pertaining to local environmental concern were the respondent's concern with 1) the severity of local water pollution and 2) the severity of local noise pollution. While the severity of local water pollution is certainly applicable most places, severity of local noise pollution is more suitable to urban areas than rural areas.

Clearing up some of these issues and taking a larger, randomized sample will doubtlessly produce results that can be much more generalizable to the public and reliable over repeat samples. Additionally, if I were able to conduct this survey on a larger scale, I would incorporate more of the variables measured in the survey that Xiao and Dunlap found integral to measuring environmental concern, such as SES, location, and political affiliation.

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