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Max 201

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An Analysis of the Discrepancies between the Public Concern About Climate Change, and Their  
Willingness to Accept Cuts to their Standard of Living In Order to Protect the Environment

**Introduction**

The issue of climate change has long been debated over the past decades, and scientists first struggled to convince the public that climate change even existed. However, 97% or more of climate scientists agree that “climate-warming trends over the past century are extremely likely due to human activities”(NASA). Moreover, the scientific consensus “that [greenhouse gas] emissions from human economic activity are the main driver of climate change has led many economists and policymakers to advocate for taking climate policy action, such as establishing a price on GHG emissions” (Aldy and Stavins 2012; Pizer 2002)(Windén p.1). According to the Intergovernmental Panel on Climate Change, in order to limit the most catastrophic results from climate change, we must take significant and drastic measures this decade. Climate advocacy is important as “the willingness of the public to incur costs to address climate change will likely be a key determinant of the success of future climate change policies” that are necessary to limit the climate crisis (Windén p.5). Climate reform is needed immediately and “business as usual” must be disrupted by innovating every sector of the economy to be more sustainable.

The research article, “A contingent valuation study comparing citizen’s willingness-to-pay for climate change Mitigation in China and the United States”, uses “a

double-bounded dichotomous choice contingent valuation survey to estimate American and Chinese citizens' willingness-to-pay (WTP) for climate change action”(Windén p.1). Moreover, the results of the study determined that on average, US college students and adults have similar WTP (willingness to pay) values. This is surprising as one would assume that adults would be more willing to pay because college students often have less disposable income. Furthermore, the study concluded that “politics is shown to have a strong impact on WTP even after controlling for environmental attitudes and sociodemographic characteristics”(Windén p.9). These results align with other research that highlighted the “differences in American views on climate change [arose] from a partisan divide exacerbated by political debates and distorted media, coverage”(Windén p.5). I want to discover how concerned the public is about climate change and how willing they are to enact the change necessary. Moreover, if there was a discrepancy, I want to identify target demographics to increase climate advocacy in order to swing their opinion and drive climate reform.

## **Methods**

The variables used in this analysis are Grncon, GRNSOL, Polviews, Age, Sex, and INCOME16 from the General Social Survey (GSS). The GSS is started in 1972 and continues today to make timely, high-quality, scientifically relevant data available to the social science research community by surveying a broad range of topics. The GSS uses a multistage probability sample from adults aged eighteen and over who live in households in the U.S.

The variable Grncon represents the responses to the question, “How concerned are you about environmental issues?”. This variable is an appropriate indicator as nearly all scientists are concerned about the effects of climate change, yet public opinion about the matter is vital when

trying to get environmental policies implemented. Grncon was recoded into Grncon\_R, and very concerned and moderately concerned into concerned. Impartial was kept the same. Slightly concerned and not concerned were combined into not very concerned. GRNSOL represents the data collected from the question, “And how willing would you be to accept cuts in your standard of living in order to protect the environment?” This variable is an appropriate indicator because in order to slow climate change, significant changes to society’s way of living must be cut and determining the public’s current willingness to do is important when considering new policies and spreading awareness. GRNSOL was recoded into Grnsol\_R, and then condensed the data from very willing and fairly willing to one category of very/fairly willing. The neither willing or unwilling category was recoded into impartial. Finally, the very unwilling and fairly unwilling were combined into the very/fairly unwilling category. Another variable I used was Sex, whose categories are male and female. This variable is an appropriate indicator as I wanted to analyze if there were any differences between the sexes and possibly highlight target areas for climate advocacy. The other variable I used was age, which I recoded in the smaller and easier to understand categories of 10-29 years old, 30-49 years old, 50-69 years old, and 70 years old and over. This variable is an appropriate indicator as I wanted to see if there was a correlation in age, as the older generations were arguably the cause of this climate crisis, while the younger generations will have to see its catastrophic effects. Finally, I used the variable income16, which represents the question, “In which of these groups did your total family income, from all sources, fall last year before taxes, that is?”. This variable was selected to determine whether those with higher incomes would be more willing to accept cuts in their standard of living, as they likely have more disposable income than those below the poverty line. I recoded this variable into

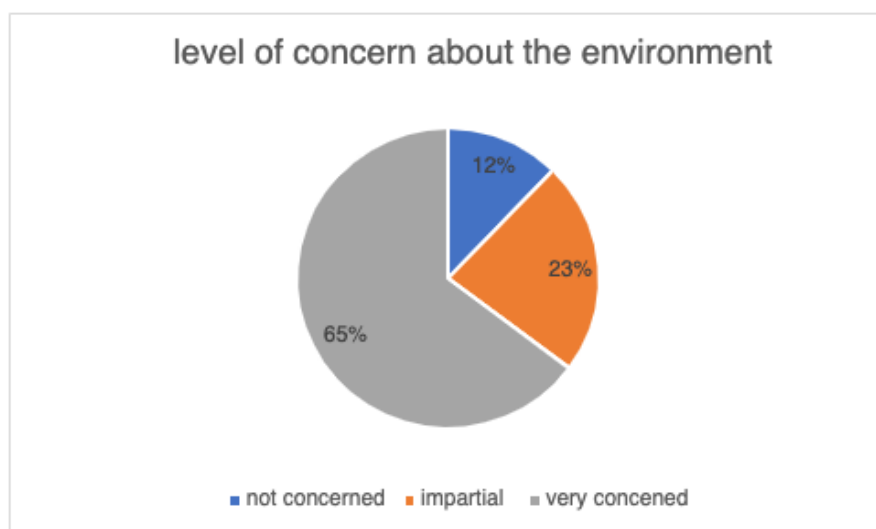
income16\_r, and condensed the data into the categories of \$24999 and below, between \$25,000 and \$59,999, between \$60,000 and \$109,999 and \$110,000 and above.

My dependant variables are Grncon\_r, GRNSOL\_r, and my independent variables are income16\_r, sex, age\_r, and polviews\_r. I first wanted to analyze the public concern about the environment, and see whether the independent variables highlighted areas of the population that lacked concern in order to drive future education and awareness of those demographics. Moreover, I wanted to analyze the public's willingness to accept cuts in their standard of living in order to protect the environment, and which groups were most likely to be unwilling. Most interestingly, I wanted to compare and contrast the outcomes from the analysis of Grncon\_r and GRNSOL\_r to determine whether there was a disconnect between public opinion on their level of concern and their willingness to make the changes necessary to limit climate change.

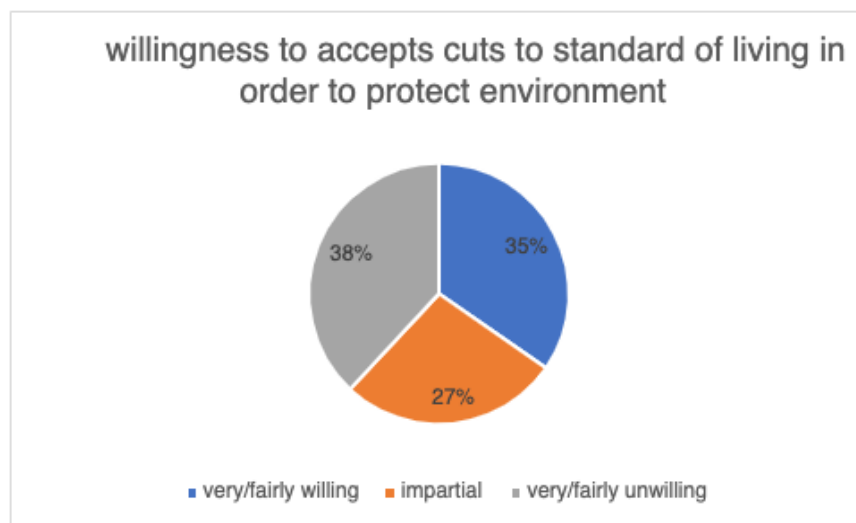
## **Results**

The results of this analysis were surprising. Based on the frequency table of the data collected from Grncon\_r, 65% of respondents were concerned about environmental issues, and only 12% were not concerned. However, when we look at the frequency table of the data collected from GRNSOL\_r, the results are more divided. Only 35% of respondents were very/fairly willing to accept cuts in standard of living to preserve the environment. Moreover, the modal of respondents is very/fairly unwilling to accept cuts with 38%. These results were shocking, as one would assume that if the majority of the population is concerned about the environment and climate change, the majority would be willing to do the change necessary and ultimately accept the cuts in their standard of living. In order to investigate what accounts for this

discrepancy between concern and inaction, I analyzed these dependent variables' outcomes from a variety of independent variables.



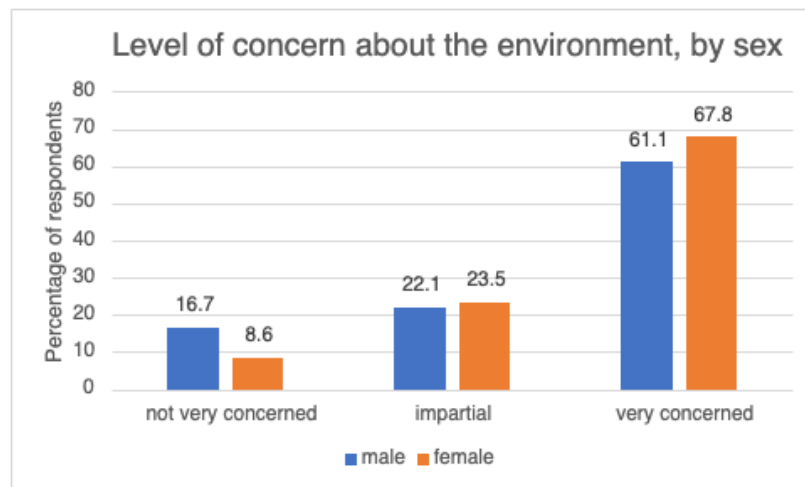
*Chart 1, Level of Concern about the environment, Sample size: 1823 respondents*



*Chart 2, Willingness to accept cuts to standard of living in order to protect the environment, Sample size: 1778 respondents*

First, I analyzed the correlation between sex and their concern for the environment. My null hypothesis was that there is no correlation between sex and one's level of concern about the

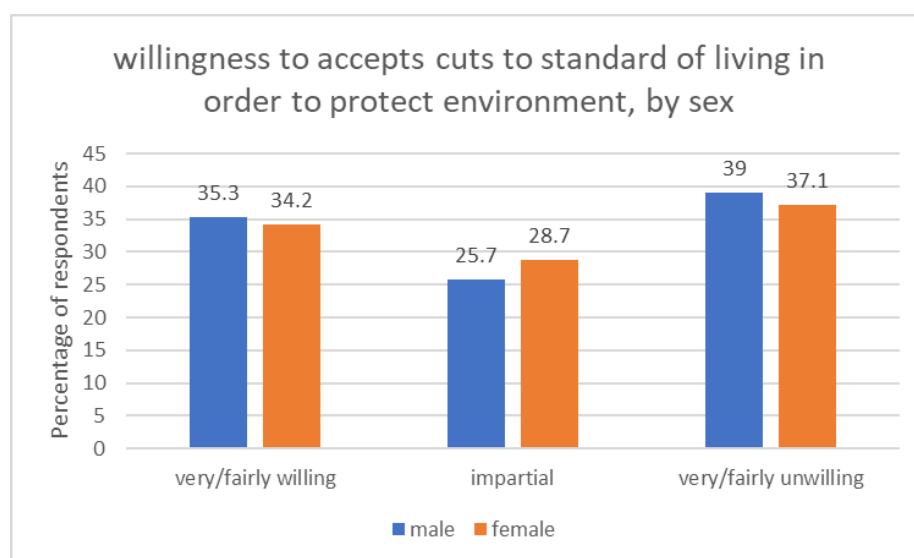
environment. My research hypothesis was if a respondent is female, then they will be more likely to be concerned about the environment. The results of my crosstab analysis and chi-square test demonstrate that this relationship is statically significant as the p-value is .000, which is less than the .05 significance threshold. Therefore we reject the null hypothesis. Overall, the graph is negatively skewed, meaning that the left tail is long relative to the right tail and demonstrates the mean will be less than the median. Moreover, in the concerned about the environment category, females were in the majority with 67.8%, and males with 61.1%. Conversely, males lead the modal in the not very concerned category with 16.7%, while only 8.6% of females were not concerned. I predict that females are more likely to be concerned about the environment because stereotypically, they are caregivers and therefore more concerned about nurturing the earth to protect the children's futures.



*Graph 1, Level of concern about the Environment by Sex,  $n=1820$ ,  $X^2=27.510$ ,  $p=.000$*

To discover if there was a difference in the dependent variables, I analyzed if sex was correlated with one's willingness to accept cuts in their standard of living to protect the environment. My null hypothesis is that there is no correlation between sex and one's willingness

to accept cuts in their standard of living to protect the environment. My research hypothesis is if a respondent is female, then they will be more likely to be willing to accept cuts in their standard of living to protect the environment. The results of my crosstab analysis and chi-square test demonstrate that this relationship is not statistically significant as the p-value is .368, which is more than the .05 significance threshold. Therefore, we fail to reject the null hypothesis. I predict that there is no correlation between one's willingness to accept cutss to standard of living to protect the environment by sex as there is another factor that is influencing the change in willingness to act and protect the environment.

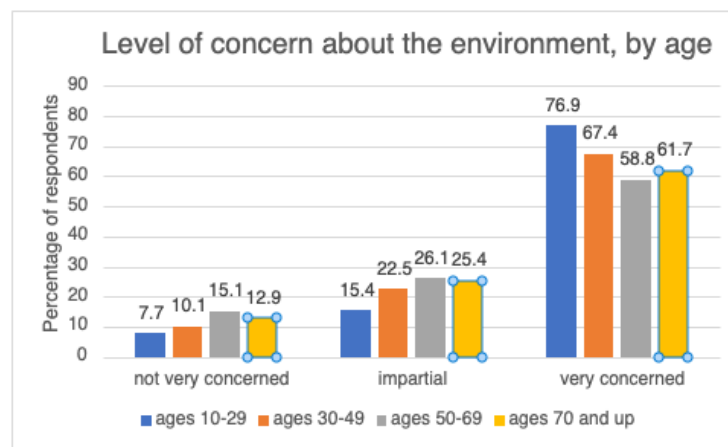


*Graph 2, Willingness to accepts to standard of living to protect the environment by sex,*

$$n=1776, \chi^2=2.001, p=.368$$

Furthermore, I analyzed if age was correlated with one's concern over the environment. My null hypothesis is there is no correlation between age and one's concern about the environment. My research hypothesis is that if someone is aged 70 or above, they are more likely to not be concerned about the environment. The results of my crosstab analysis and chi-square

test demonstrate that this relationship is not statistically significant as the p-value is .299, which is more than the .05 significance threshold. Therefore, we fail to reject the null hypothesis. I predict that there is no correlation between age and one's concern because there must be another underlying factor other than age that is driving the vast discrepancies in the data between the level of concern and willingness to accept cuts in standard of living to protect the environment. I predict that the reason there is no correlation is that the effects of climate change are evident today and the science is undeniable so fewer people, regardless of age, can deny its existence.

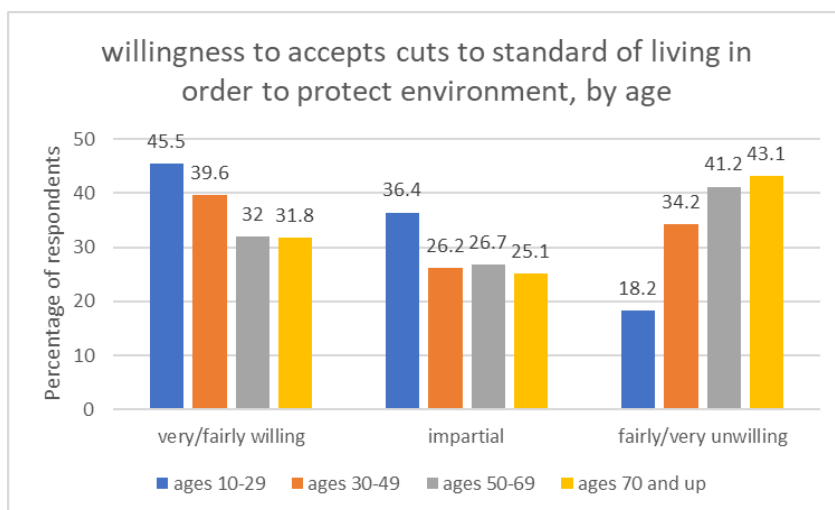


*Graph 3, Level of concern about the Environment by age, n=922,  $X^2=7.244$ ,  $p=.299$*

To discover if there was a difference in the dependent variables, I analyzed if age was correlated with one's willingness to accept cuts in their standard of living to protect the environment. My null hypothesis is that there is no correlation between one's age and their willingness to accept cuts in standard of living in order to protect the environment. My research hypothesis was that if a respondent is aged 30-49, then they will be more likely to be willing to accept cuts in their standard of living to protect the environment. The results of my crosstab analysis and chi-square test demonstrate that this relationship is not statistically significant as the p-value is .178, which is more than the .05 significance threshold. Therefore we fail to reject the



null hypothesis. It was interesting that my research hypothesis was incorrect, as I had assumed that those ages 30-49, who are in the workforce yet still young enough to feel the effects of climate change would be willing to accept cuts in their standard of living to protect the environment. Despite this, it was interesting to find that ages 70 and up were most likely to be fairly/ very unwilling to accept cuts with 43.1%, which makes sense as they have lived their whole lives this way and most likely will not be affected by climate change so they would rather not change their ways. Conversely, ages 10-29 led the very/fairly willing to accept cuts with 45.5%. This makes sense as I predict that those respondents' futures and their kids are at stake, which would explain their increased willingness to accept cuts in standard of living in order to protect the environment.

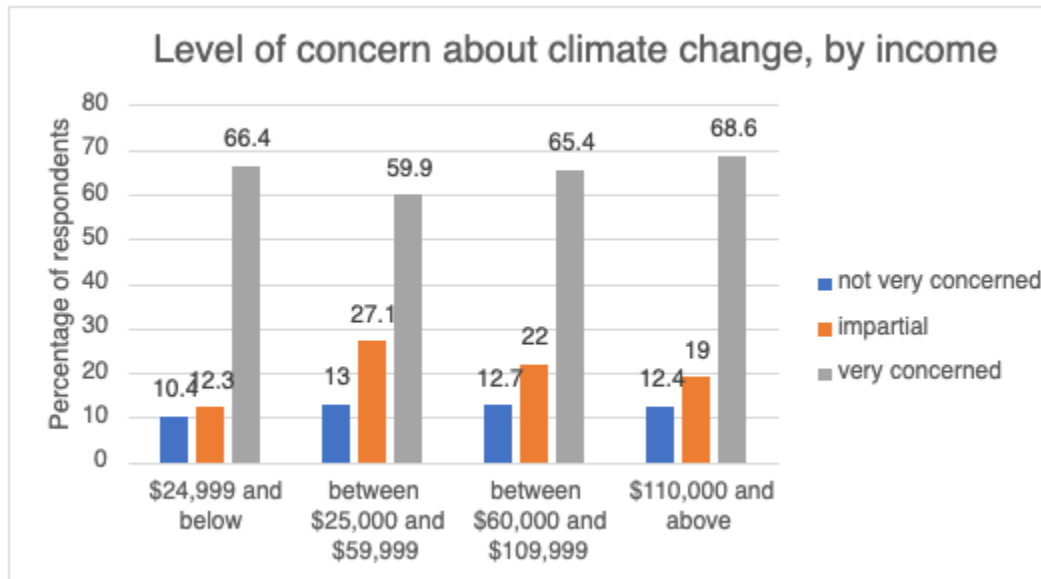


*Graph 4, Willingness to accepts to standard of living to protect the environment by age,*

$$n=900, \chi^2=8.922, p=.178$$

Additionally, I analyzed if there was a correlation between income and level of concern about the environment. My null hypothesis was that there is no correlation between income and

level of concern about the environment. My research hypothesis was that those with an income of \$110,000 and above are more likely to be not concerned about the environment. The results of my crosstab analysis and chi-square test demonstrate that this relationship is not statically significant as the p-value is .127, and is more than the .05 significance threshold. Moreover, we fail to reject the null hypothesis.

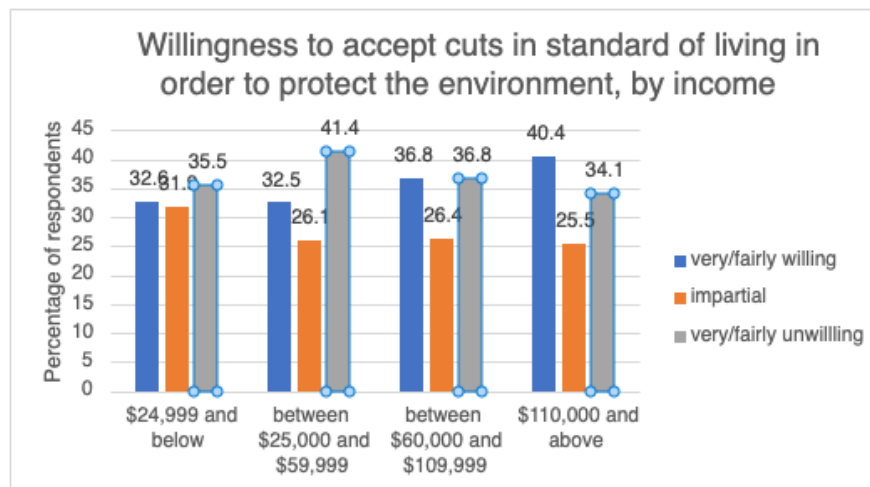


*Graph 5, Level of concern about the Environment by income, n=1635,  $X^2=9.934$ ,*

$$p=.127$$

To discover if there was a difference in the dependent variables, I analyzed if the level of income was correlated with one's willingness to accept cuts in their standard of living to protect the environment. My null hypothesis was that there is no correlation between income and one's willingness to accept cuts in their standard of living to protect the environment. My research hypothesis is if one's level of income is \$110,000 and above, then they are more likely to be willing to accept cuts in their standard of living to protect the environment. The results of my crosstab analysis and chi-square test demonstrate that this relationship is not statistically

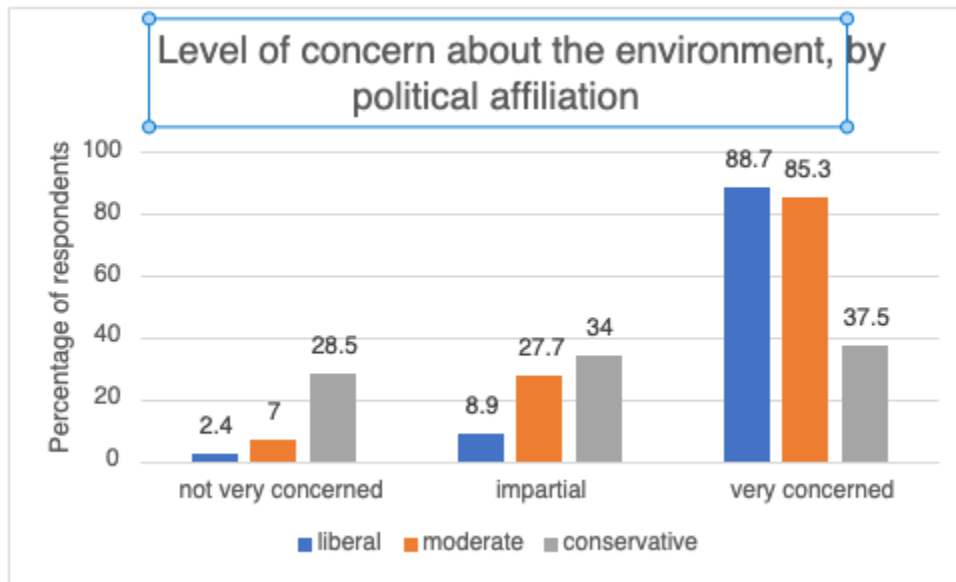
significant as the p-value is .082, which is more than the .05 significance threshold. Therefore, we fail to reject the null hypothesis as there is no correlation between income and one's willingness to accept cuts in their standard of living to protect the environment. I predict that the reason there is no correlation between income and one's willingness to accept cuts is that especially when looking at income, many respondents do not want to make economic decisions that may harm their current way of living and income.



*Graph 6, Willingness to accepts to standard of living to protect the environment by income, n=1599,  $X^2=11.210$ ,  $p=.082$*

Also, I analyzed whether political affiliation impacted one's level of concern about the environment. My null hypothesis for polviews\_r was that there is no correlation between political affiliation and level of concern about the environment. My research hypothesis is that if a respondent is liberal, then they are more likely to be very concerned about the environment. The results of my crosstab analysis and chi-square test demonstrate that this relationship is statically significant as the p-value is .000, and is less than the .05 significance threshold. Therefore, we reject the null hypothesis. My research hypothesis was correct, as liberals were

more likely to be concerned about the environment, with 88.7%. Conversely, conservatives were the most likely to be not very concerned about the environment, with 28.5%; In comparison, only 2.4% of liberals were not concerned about the environment. Moderates were split on the matter, with 28.5% not concerned, 34% impartial, and 37.5% concerned about the environment.

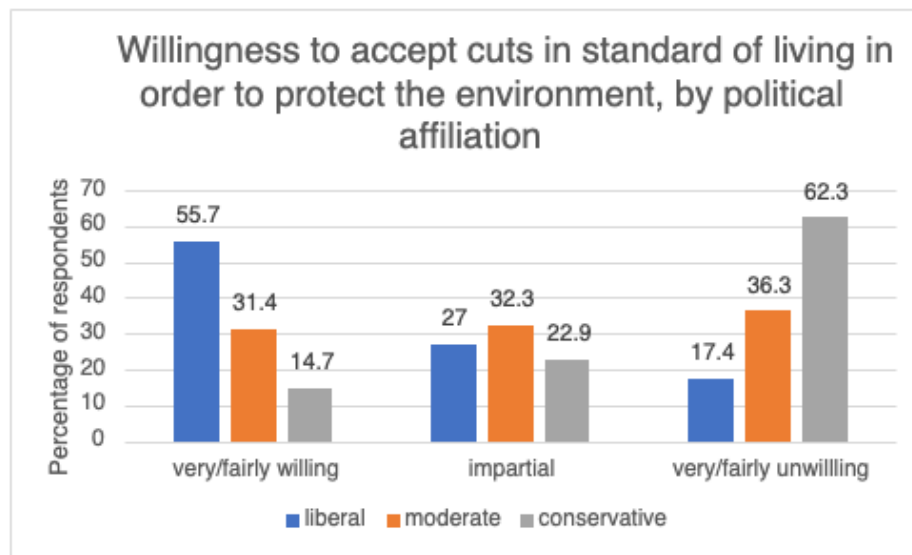


*Graph 7, Level of Concern About the Environment by Political Affiliation, n=1801,*

$$X^2=401.619, p=.000$$

To discover if there was a difference in the dependent variables, I analyzed if political affiliation was correlated with one's willingness to accept cuts in their standard of living to protect the environment. My null hypothesis is there is no correlation between political affiliation and willingness to accept cuts in standard of living to preserve the environment. My research hypothesis is if a respondent is liberal, then they are more likely to be very willing to accept cuts in standard of living to preserve the environment. The results of my crosstab analysis and chi-square test demonstrate that this relationship is statistically significant as the p-value is .000, and is less than the .05 significance threshold. Therefore, we reject the null hypothesis. Overall,

the graph is negatively skewed, meaning that the left tail is long relative to the right tail and demonstrates the mean will be less than the median. The data displays that liberals are more likely to be willing to accept cuts with 55.7%. Therefore, my research hypothesis is correct. Moreover, conservatives are most likely to be unwilling to accept cuts with 62.3%. Moderates lead the impartial category with 32.3%.



*Graph 8, Willingness to accept cuts in standard of living to protect the environment by political affiliation,  $n=1790$ ,  $\chi^2=313.661$ ,  $p=.000$*

Based on the findings, I decided to conduct multivariate analysis to determine if the effect of one's political ideology on one's willingness to accept cuts in their standard of living will vary by the sex age of the respondent. In general, those who are conservative are more likely to be unwilling to accept cuts in their standard of living to protect the environment (62.3%) than those who are liberal (17.4%). However, the relationship between political ideology and willingness to accept cuts in standard of living is different for males and females. In the multivariate analysis

chart, you can see that when the variable sex is controlled, 65.9% of conservative males are unwilling to accept cuts, while conservative females make up 58.3%. Additionally, only 16% of male liberals are unwilling to accept cuts, while 18.4% of liberal females are unwilling. For moderates, 39.6% of females were unwilling to accept cuts while 31.6% of males were unwilling. Overall, male conservatives were the most likely to be unwilling to accept cuts in standard of living to preserve the environment, with 65.9%. In the chi-square tests, you can see that the relationship is statistically significant for females and males. The P-value for every variable is .000, which is less than the .05 significance threshold. Therefore, we can reject the null hypothesis overall and for males and females. We hypothesized that there is a relationship between the political ideology of a person and their willingness to accept cuts in standard of living in order to preserve the environment. For the population overall and for males and females the results are consistent with the research hypotheses. Conservatives are more likely to be unwilling to accept cuts in standard of living in order to preserve the environment, even when controlling for sex.

**Crosstab**

respondents sex				recoded grnsol			Total
				very willing/fairly willing	impartial	fairly unwilling/very unwilling	
male	recoded polviews	liberal	Count	159	61	42	262
			% within recoded polviews	60.7%	23.3%	16.0%	100.0%
		moderate	Count	81	79	74	234
			% within recoded polviews	34.6%	33.8%	31.6%	100.0%
		conservative	Count	38	63	195	296
			% within recoded polviews	12.8%	21.3%	65.9%	100.0%
	Total		Count	278	203	311	792
			% within recoded polviews	35.1%	25.6%	39.3%	100.0%
female	recoded polviews	liberal	Count	190	107	67	364
			% within recoded polviews	52.2%	29.4%	18.4%	100.0%
		moderate	Count	98	105	133	336
			% within recoded polviews	29.2%	31.3%	39.6%	100.0%
		conservative	Count	45	66	155	266
			% within recoded polviews	16.9%	24.8%	58.3%	100.0%
	Total		Count	333	278	355	966
			% within recoded polviews	34.5%	28.8%	36.7%	100.0%
Total	recoded polviews	liberal	Count	349	168	109	626
			% within recoded polviews	55.8%	26.8%	17.4%	100.0%
		moderate	Count	179	184	207	570
			% within recoded polviews	31.4%	32.3%	36.3%	100.0%
		conservative	Count	83	129	350	562
			% within recoded polviews	14.8%	23.0%	62.3%	100.0%
	Total		Count	611	481	666	1758
			% within recoded polviews	34.8%	27.4%	37.9%	100.0%

*Chart 3, Multivariate crosstab of willingness to accept cuts in standard of living in order to protect the environment by political affiliation, controlling for sex,  $n=1758$ ,  $X^2=312.825$ ,  $p=.000$*

## Conclusion

In conclusion, the results of this analysis highlight the disparities between public concern about the environment and climate change, but their lack of willingness to enact the change necessary to avoid climate catastrophe. 65% of respondents were concerned about environmental issues, and only 12% were not concerned. However, when asked if respondents were willing to accept the change necessary to preserve the environment, only 35% of respondents were very/fairly willing to accept cuts in standard of living to preserve the environment. Based on the

data, the discrepancy between the level of concern and willingness to accept cuts in standard of living could be correlated with political affiliation. The majority of those who were unwilling to accept cuts to their standard of living in order to protect the environment were conservative, with 62.3%. Based on the multivariate analysis, male conservatives were the most likely to be unwilling to accept cuts in standard of living to preserve the environment, with 65.9% when controlling for sex. Climate reform is needed now and drastic changes are necessary to disrupt business as usual and slow climate change. However, the results of my analysis demonstrate that the demographic that must be targeted to change their opinion on climate reform are conservatives, especially those that are male. On a broader scale, my research emphasizes the state of America's political state and the inability to implement the change the public wants and science demands. The public consensus is that they are concerned about the environment, however, politics muddies the water and makes climate reform difficult. Based on this research, there is a demonstrated need to transform the issue of climate change from a political talking point to a matter of global emergency.



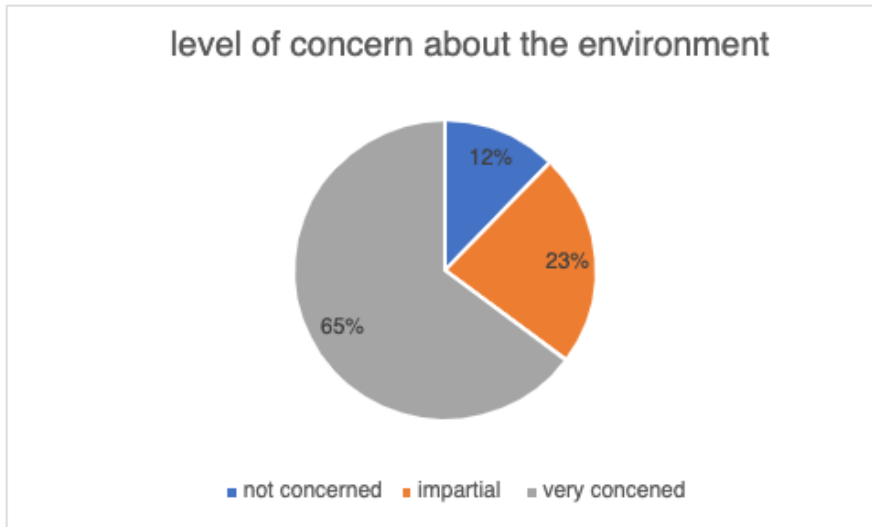
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## Appendix

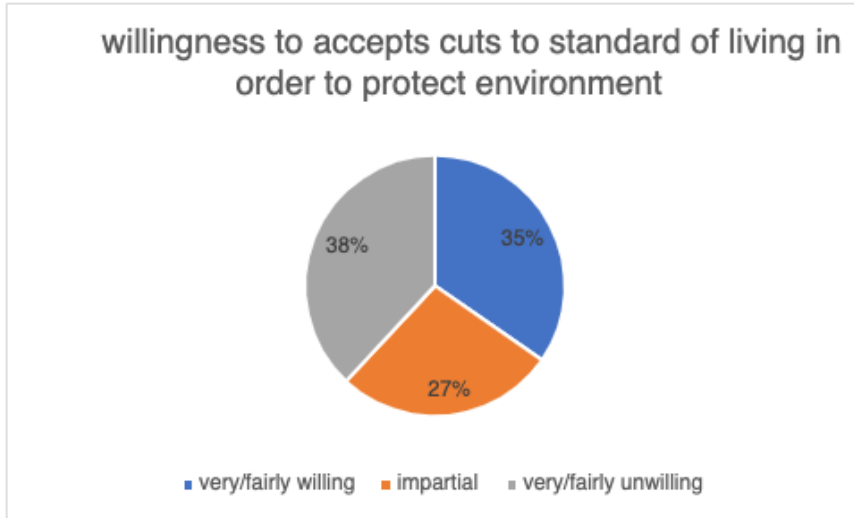


- Chart 1, Level of Concern about the environment, Sample size: 1823 respondents

### recoded grncon

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not very concerned	223	5.5	12.2	12.2
	impartial	419	10.4	23.0	35.2
	very concerned	1181	29.3	64.8	100.0
	Total	1823	45.2	100.0	
Missing	System	2209	54.8		
Total		4032	100.0		

- Frequency table of Level of Concern about the environment (grncon\_r), Sample size: 1823 respondents

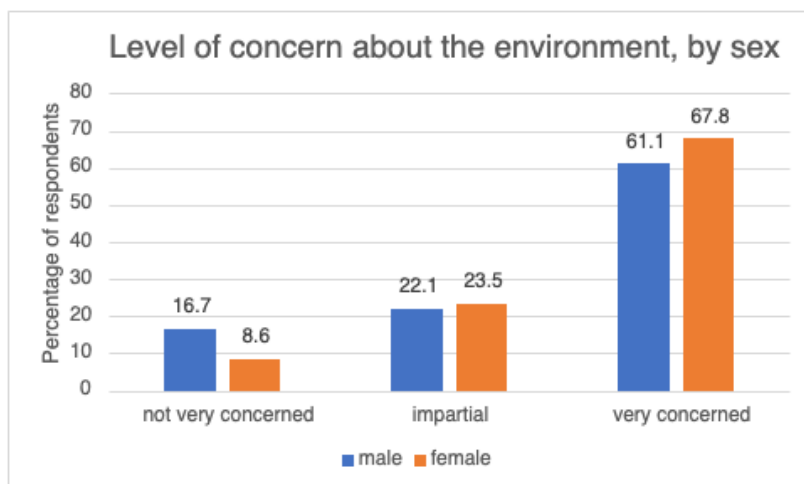


- Chart 2, Willingness to accept cuts to standard of living in order to protect the environment, Sample size: 1778 respondents

**recoded grnsol**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	very willing/fairly willing	616	15.3	34.6	34.6
	impartial	487	12.1	27.4	62.0
	fairly unwilling/very unwilling	675	16.7	38.0	100.0
	Total	1778	44.1	100.0	
Missing	System	2254	55.9		
Total		4032	100.0		

- Frequency table #2, willingness to accept cuts to standard of living to protect the environment (grnsol\_r), Sample size: 1778 respondents



- Graph 1, Level of concern about the Environment by Sex, n=1820,  $X^2=27.510$ ,  $p=.000$

#### respondents sex \* recoded grncon Crosstabulation

			recoded grncon			Total
			not very concerned	impartial	very concerned	
respondents sex	male	Count	136	180	497	813
		% within respondents sex	16.7%	22.1%	61.1%	100.0%
	female	Count	87	237	683	1007
		% within respondents sex	8.6%	23.5%	67.8%	100.0%
Total	Count		223	417	1180	1820
	% within respondents sex		12.3%	22.9%	64.8%	100.0%

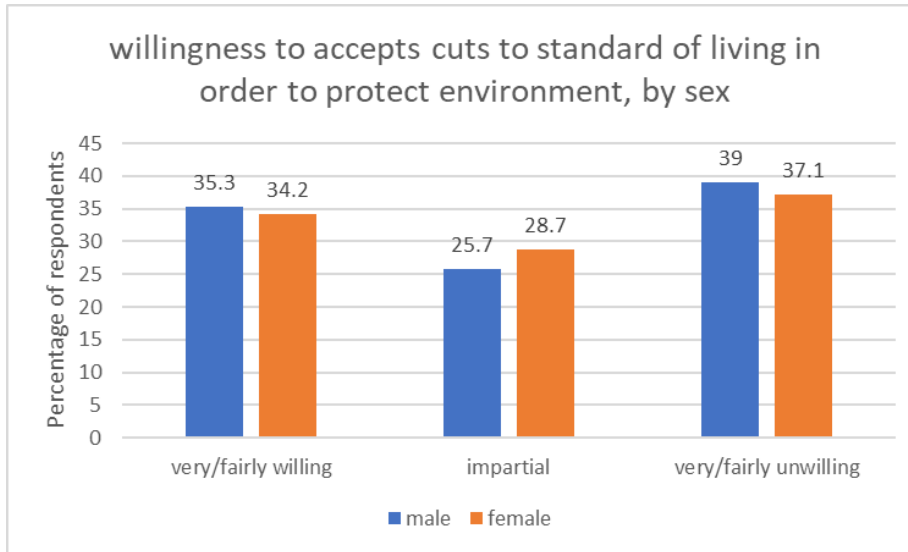
- Grncon\_r by sex crosstab analysis

#### Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	27.510 <sup>a</sup>	2	.000
Likelihood Ratio	27.394	2	.000
Linear-by-Linear Association	19.871	1	.000
N of Valid Cases	1820		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 99.61.

- Grncon\_r by sex chi-square test



- Graph 2, Willingness to accepts to standard of living to protect the environment by sex,  $n=1776$ ,  $X^2=2.001$ ,  $p=.368$

#### respondents sex \* recoded grnsol Crosstabulation

			recoded grnsol			Total
			very willing/fairly willing	impartial	fairly unwilling/very unwilling	
respondents sex	male	Count	281	205	311	797
		% within respondents sex	35.3%	25.7%	39.0%	100.0%
	female	Count	335	281	363	979
		% within respondents sex	34.2%	28.7%	37.1%	100.0%
Total		Count	616	486	674	1776
		% within respondents sex	34.7%	27.4%	38.0%	100.0%

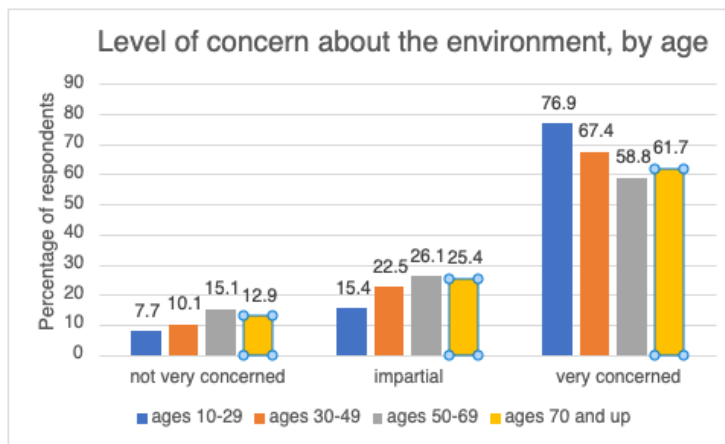
- Grnsol\_r by sex crosstab analysis

### Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.001 <sup>a</sup>	2	.368
Likelihood Ratio	2.006	2	.367
Linear-by-Linear Association	.049	1	.824
N of Valid Cases	1776		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 218.10.

- Grnsol\_r by sex chi-square test



- Graph 3, Level of concern about the Environment by age, n=922,  $X^2=7.244$ ,  $p=.299$

### recoded age \* recoded grncon Crosstabulation

			recoded grncon			
			not very concerned	impartial	very concerned	Total
recoded age	10-29 years old	Count	1	2	10	13
		% within recoded age	7.7%	15.4%	76.9%	100.0%
	30-49 years old	Count	32	71	213	316
		% within recoded age	10.1%	22.5%	67.4%	100.0%
	50-69 years old	Count	52	90	203	345
		% within recoded age	15.1%	26.1%	58.8%	100.0%
	70 years old and older	Count	32	63	153	248
		% within recoded age	12.9%	25.4%	61.7%	100.0%
Total	Count	117	226	579	922	
	% within recoded age	12.7%	24.5%	62.8%	100.0%	

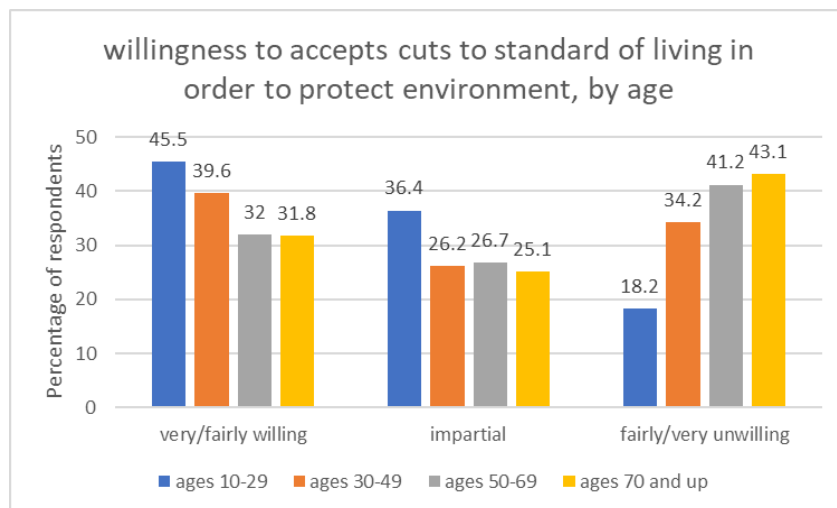
- Grncon\_r age\_R crosstab analysis

### Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.244 <sup>a</sup>	6	.299
Likelihood Ratio	7.362	6	.289
Linear-by-Linear Association	3.122	1	.077
N of Valid Cases	922		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 1.65.

- Grncon\_r by age\_R chi-square test



- Graph 4, Willingness to accepts to standard of living to protect the environment by age, n=900,  $X^2=8.922$ ,  $p=.178$

recoded age \* recoded grnsol Crosstabulation

			recoded grnsol			
			very willing/fairly willing	impartial	fairly unwilling/very unwilling	Total
recoded age	10-29 years old	Count	5	4	2	11
		% within recoded age	45.5%	36.4%	18.2%	100.0%
	30-49 years old	Count	124	82	107	313
		% within recoded age	39.6%	26.2%	34.2%	100.0%
	50-69 years old	Count	108	90	139	337
		% within recoded age	32.0%	26.7%	41.2%	100.0%
	70 years old and older	Count	76	60	103	239
		% within recoded age	31.8%	25.1%	43.1%	100.0%
Total	Count	313	236	351	900	
	% within recoded age	34.8%	26.2%	39.0%	100.0%	

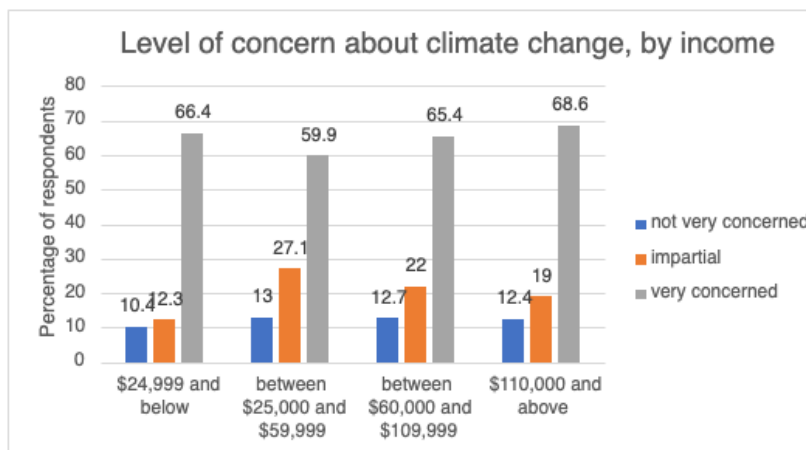
- Grnsol\_r, age\_R crosstabulation analysis

### Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.922 <sup>a</sup>	6	.178
Likelihood Ratio	9.136	6	.166
Linear-by-Linear Association	6.770	1	.009
N of Valid Cases	900		

a. 3 cells (25.0%) have expected count less than 5. The minimum expected count is 2.88.

- Grnsol\_r, age\_R chi-square test





- Graph 5, Level of concern about the Environment by income,  $n=1635$ ,  $X^2=9.934$ ,  $p=.127$

**recoded income16 \* recoded grncon Crosstabulation**

			recoded grncon			
			not very concerned	impartial	very concerned	Total
recoded income16	\$24999 and below	Count	33	74	211	318
		% within recoded income16	10.4%	23.3%	66.4%	100.0%
	between \$25000 and 59999	Count	54	112	248	414
		% within recoded income16	13.0%	27.1%	59.9%	100.0%
	between \$60000 and 109999	Count	61	106	315	482
		% within recoded income16	12.7%	22.0%	65.4%	100.0%
	\$110000 and above	Count	52	80	289	421
		% within recoded income16	12.4%	19.0%	68.6%	100.0%
Total	Count	200	372	1063	1635	
	% within recoded income16	12.2%	22.8%	65.0%	100.0%	

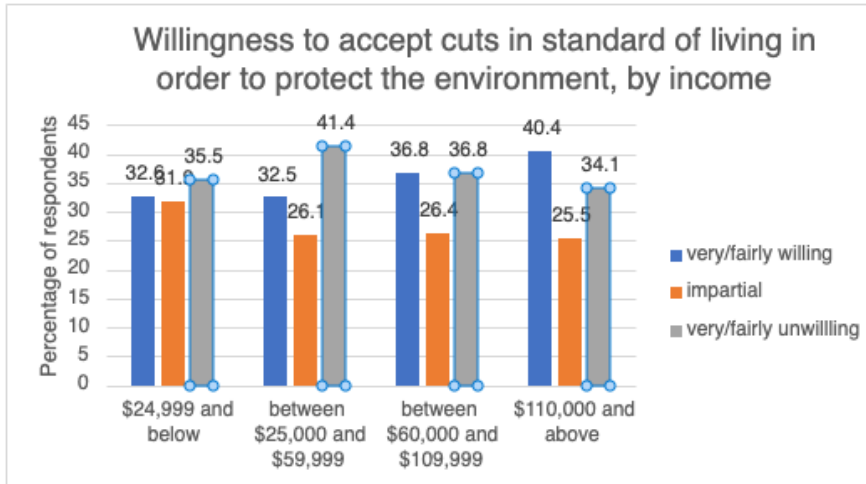
- Grncon\_r, income16\_r crosstab analysis

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.934 <sup>a</sup>	6	.127
Likelihood Ratio	9.970	6	.126
Linear-by-Linear Association	.392	1	.531
N of Valid Cases	1635		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 38.90.

- Grncon\_r, income16\_r chi-square analysis



- Graph 6, Willingness to accepts to standard of living to protect the environment by income, n=1599,  $X^2=11.210$ ,  $p=.0.82$

**recoded income16 \* recoded grnsol Crosstabulation**

			recoded grnsol			
			very willing/fairly willing	impartial	fairly unwilling/very unwilling	Total
recoded income16	\$24999 and below	Count	100	98	109	307
		% within recoded income16	32.6%	31.9%	35.5%	100.0%
	between \$25000 and 59999	Count	131	105	167	403
		% within recoded income16	32.5%	26.1%	41.4%	100.0%
	between \$60000 and 109999	Count	174	125	174	473
		% within recoded income16	36.8%	26.4%	36.8%	100.0%
	\$110000 and above	Count	168	106	142	416
		% within recoded income16	40.4%	25.5%	34.1%	100.0%
Total	Count	573	434	592	1599	
	% within recoded income16	35.8%	27.1%	37.0%	100.0%	

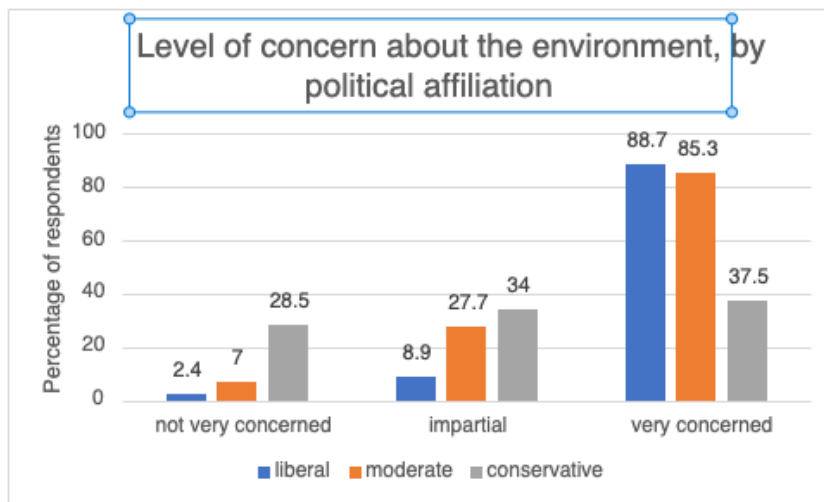
- Grnsol\_r, income16\_r crosstab analysis

### Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.210 <sup>a</sup>	6	.082
Likelihood Ratio	11.004	6	.088
Linear-by-Linear Association	3.999	1	.046
N of Valid Cases	1599		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 83.33.

- Grnsol\_r, income16\_r chi-square test



- Graph 7, Level of Concern About the Environment by Political Affiliation, n=1801,  $X^2=401.619$ ,  $p=.000$ ,

**recoded polviews \* recoded grncon Crosstabulation**

			recoded grncon			
			not very concerned	impartial	very concerned	Total
recoded polviews	liberal	Count	15	57	565	637
		% within recoded polviews	2.4%	8.9%	88.7%	100.0%
	moderate	Count	41	163	384	588
		% within recoded polviews	7.0%	27.7%	65.3%	100.0%
	conservative	Count	164	196	216	576
		% within recoded polviews	28.5%	34.0%	37.5%	100.0%
Total	Count	220	416	1165	1801	
	% within recoded polviews	12.2%	23.1%	64.7%	100.0%	

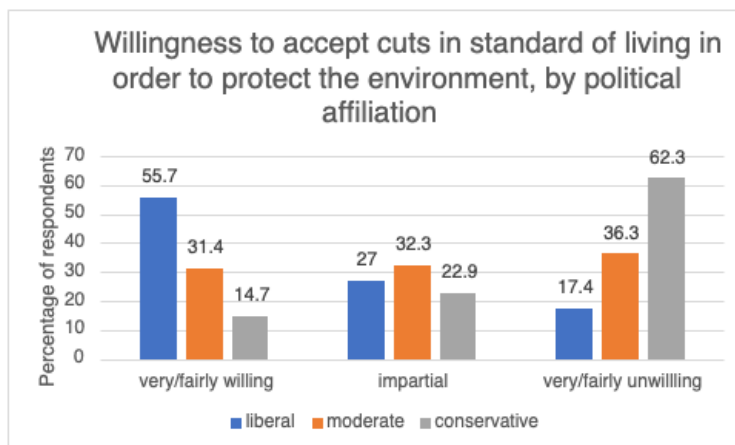
- Grncon\_r, polviews\_r crosstab analysis

### Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	401.619 <sup>a</sup>	4	.000
Likelihood Ratio	413.944	4	.000
Linear-by-Linear Association	363.024	1	.000
N of Valid Cases	1801		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 70.36.

- Grncon\_r, polviews\_r chi-square analysis



- Graph 8, Willingness to accepts to standard of living to protect the environment by political affiliation,  $n=1790$ ,  $X^2=313.661$ ,  $p=.000$

**recoded polviews \* recoded grnsol Crosstabulation**

		recoded grnsol			Total
		very willing/fairly willing	impartial	fairly unwilling/very unwilling	
recoded polviews	liberal	Count	349	169	109
		% within recoded polviews	55.7%	27.0%	17.4%
	moderate	Count	179	184	207
		% within recoded polviews	31.4%	32.3%	36.3%
	conservative	Count	83	129	351
		% within recoded polviews	14.7%	22.9%	62.3%
Total	Count		611	482	667
	% within recoded polviews		34.7%	27.4%	37.9%

- Grnsol\_r, polviews\_r crosstab analysis

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	313.661 <sup>a</sup>	4	.000
Likelihood Ratio	322.466	4	.000
Linear-by-Linear Association	301.888	1	.000
N of Valid Cases	1760		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 154.19.

- Grnsol\_r, polviews\_r chi square

**Crosstab**

				recoded grnsol			Total
respondents sex				very willing/fairly willing	impartial	fairly unwilling/very unwilling	
male	recoded polviews	liberal	Count	159	61	42	262
			% within recoded polviews	60.7%	23.3%	16.0%	100.0%
		moderate	Count	81	79	74	234
			% within recoded polviews	34.6%	33.8%	31.6%	100.0%
		conservative	Count	38	63	195	296
			% within recoded polviews	12.8%	21.3%	65.9%	100.0%
		Total	Count	278	203	311	792
			% within recoded polviews	35.1%	25.6%	39.3%	100.0%
female	recoded polviews	liberal	Count	190	107	67	364
			% within recoded polviews	52.2%	29.4%	18.4%	100.0%
		moderate	Count	98	105	133	336
			% within recoded polviews	29.2%	31.3%	39.6%	100.0%
		conservative	Count	45	66	155	266
			% within recoded polviews	16.9%	24.8%	58.3%	100.0%
		Total	Count	333	278	355	966
			% within recoded polviews	34.5%	28.8%	36.7%	100.0%
Total	recoded polviews	liberal	Count	349	168	109	626
			% within recoded polviews	55.8%	26.8%	17.4%	100.0%
		moderate	Count	179	184	207	570
			% within recoded polviews	31.4%	32.3%	36.3%	100.0%
		conservative	Count	83	129	350	562
			% within recoded polviews	14.8%	23.0%	62.3%	100.0%
		Total	Count	611	481	666	1758
			% within recoded polviews	34.8%	27.4%	37.9%	100.0%

- Chart 3, Multivariate crosstab of willingness to accept cuts in standard of living in order to protect the environment by political affiliation, controlling for sex, n=1758,  $X^2=312.825$ ,  $p=.000$

## Chi-Square Tests

respondents sex		Value	df	Asymptotic Significance (2-sided)
male	Pearson Chi-Square	192.345 <sup>b</sup>	4	.000
	Likelihood Ratio	198.278	4	.000
	Linear-by-Linear Association	179.712	1	.000
	N of Valid Cases	792		
female	Pearson Chi-Square	129.501 <sup>c</sup>	4	.000
	Likelihood Ratio	133.119	4	.000
	Linear-by-Linear Association	125.261	1	.000
	N of Valid Cases	966		
Total	Pearson Chi-Square	312.825 <sup>a</sup>	4	.000
	Likelihood Ratio	321.507	4	.000
	Linear-by-Linear Association	301.052	1	.000
	N of Valid Cases	1758		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 153.77.

b. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 59.98.

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 76.55.

- Multivariate chi-square test of willingness to accept cuts in standard of living in order to protect the environment by political affiliation, controlling for sex