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Analyzing Climate Change Awareness and Responsibility Effects

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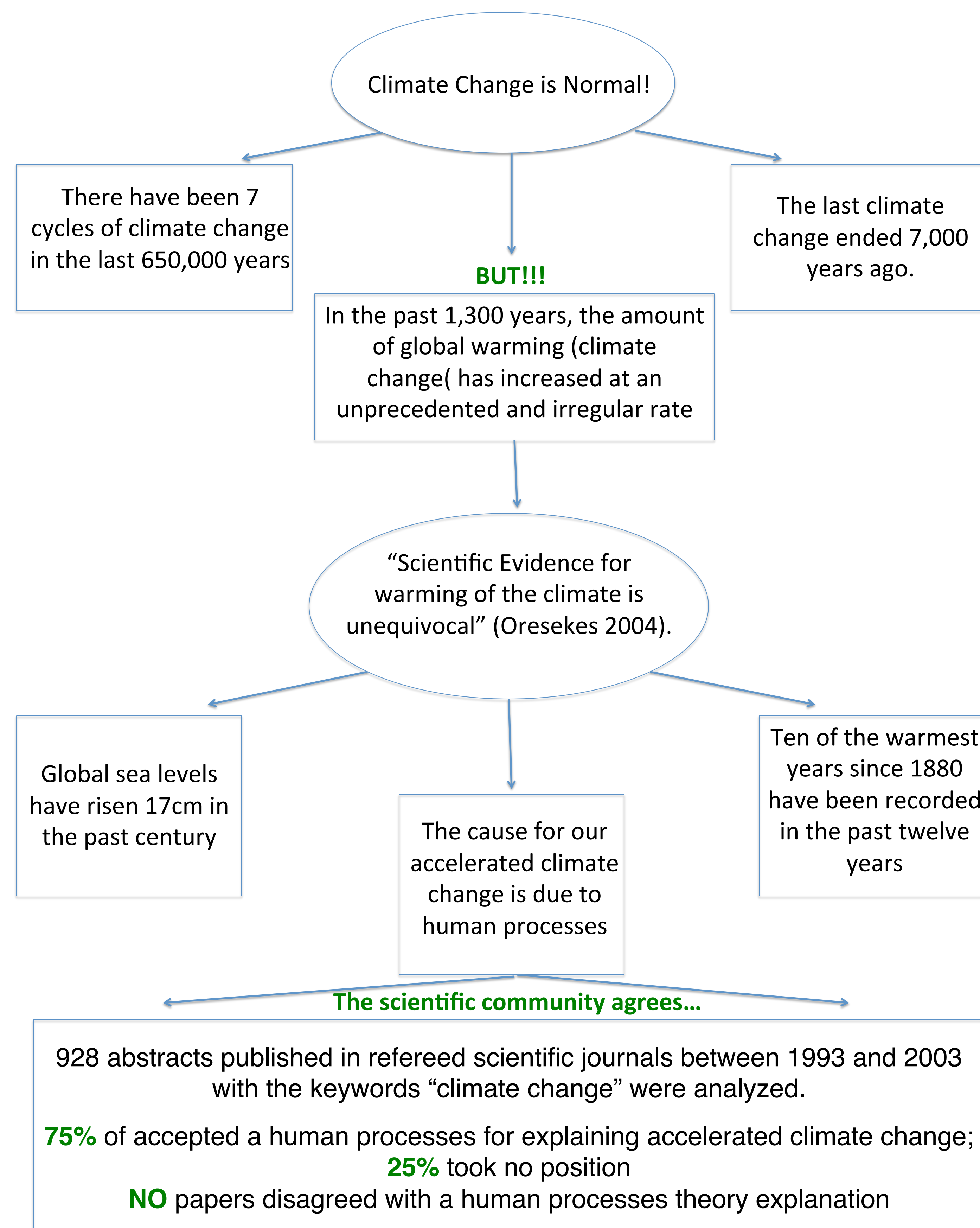
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A Survey on Climate Change: How Beliefs Shape Responsibility

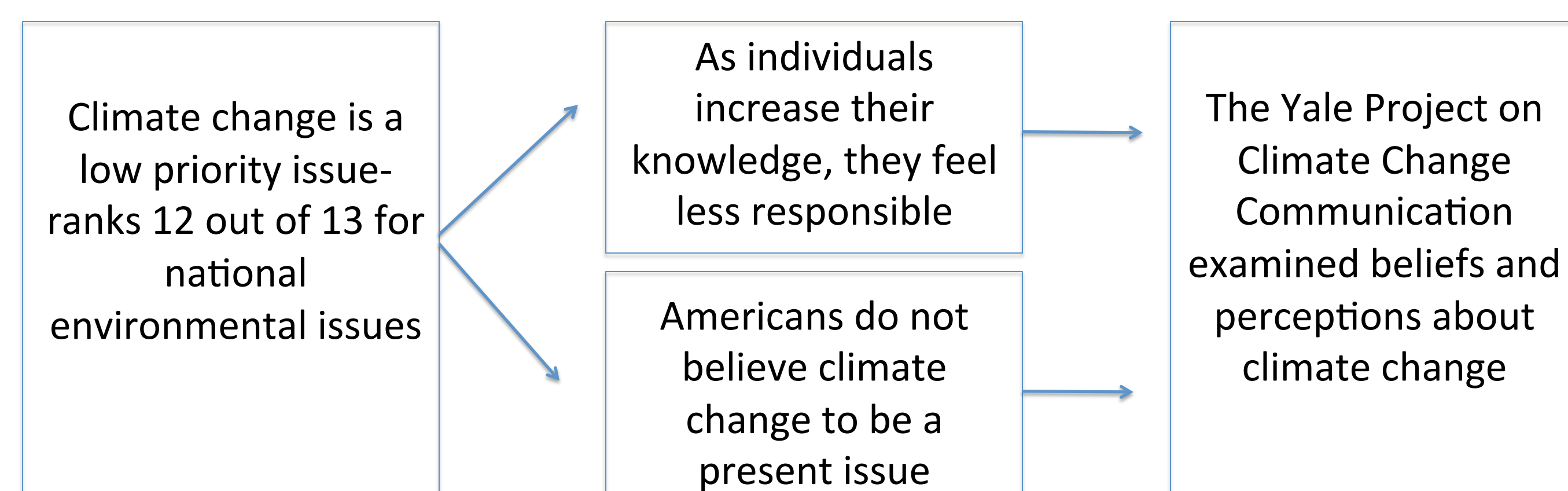
Connor Clancy '15 and Sarah Beth Soloman '15

EC476 Senior Seminar: Department of Economics, Colby College, Waterville, ME

Introduction



Background

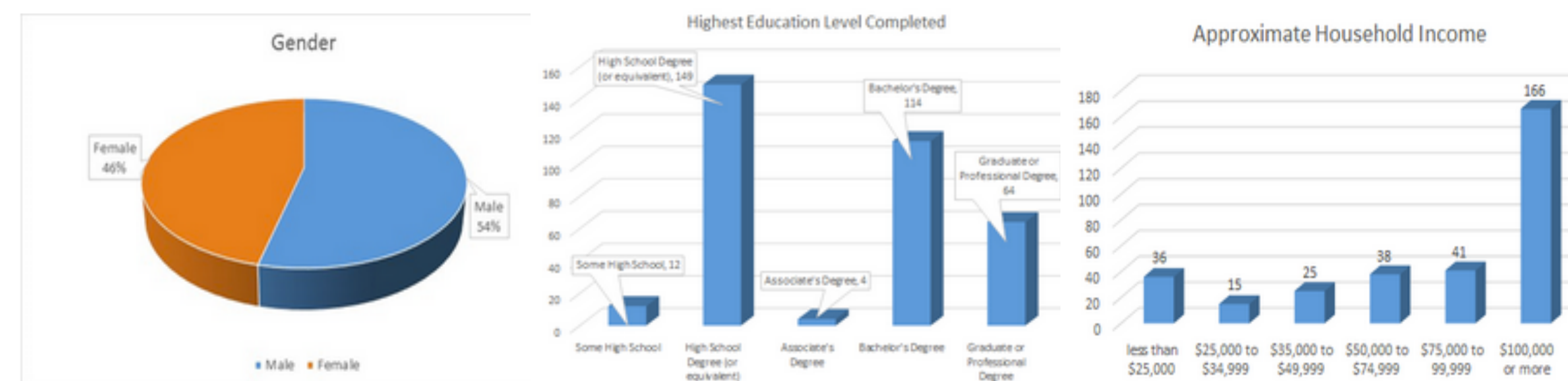


Research Questions

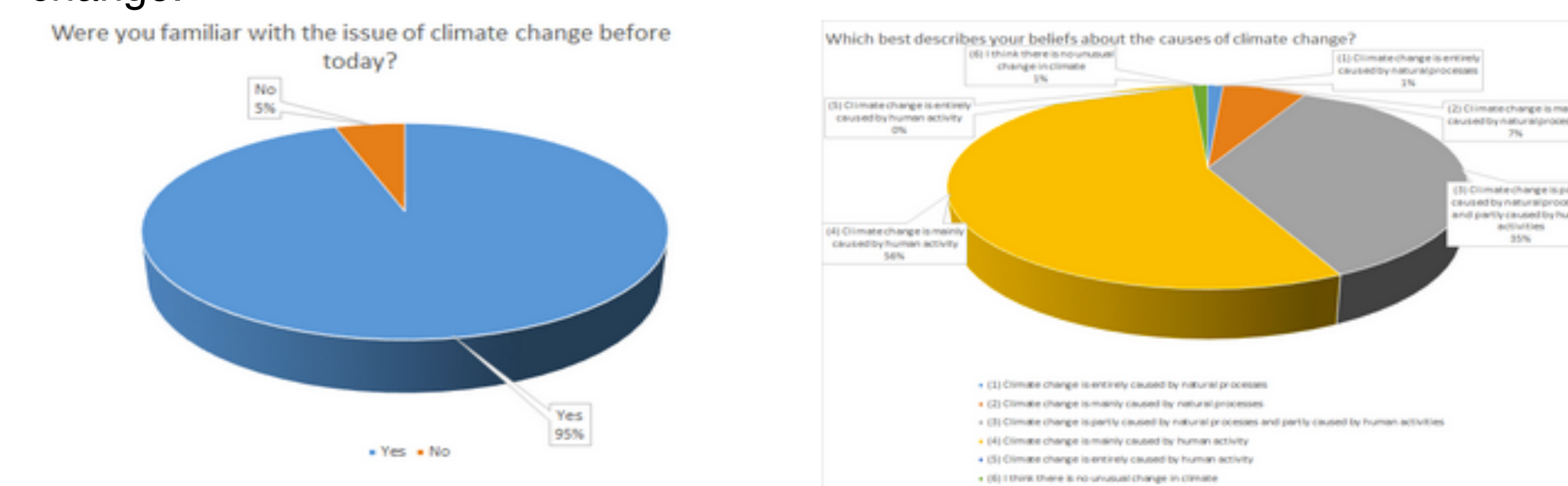
- Question #1:** What demographics and personal factors are most important in accepting personal responsibility for climate change?
- Question #2:** How do individuals' beliefs regarding the effects and causes of climate change shape their sense of responsibility for it?
- Question #3:** Does the color of a graph provoke different beliefs on climate change?

Initial Findings From Survey

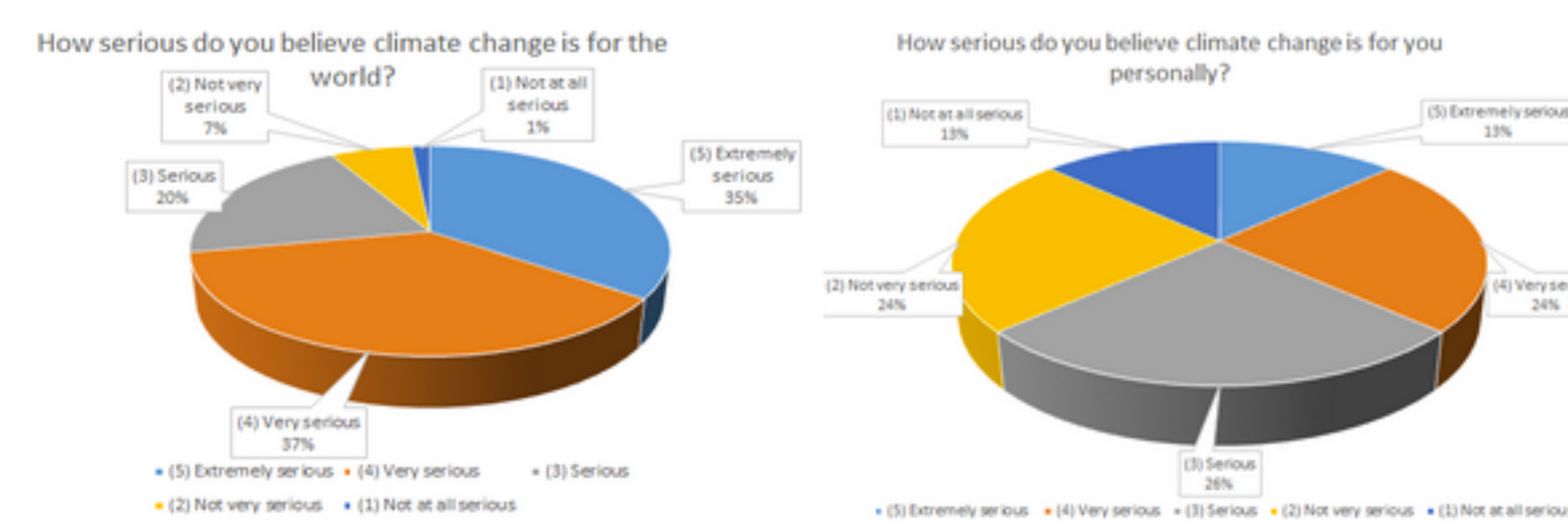
Gender was fairly evenly distributed with respondents clumping in age around 18-25 years old and 50-59 years old. Our sample was **highly educated** and **extremely affluent**. Finally, our respondents identified as moderately liberal and risky.



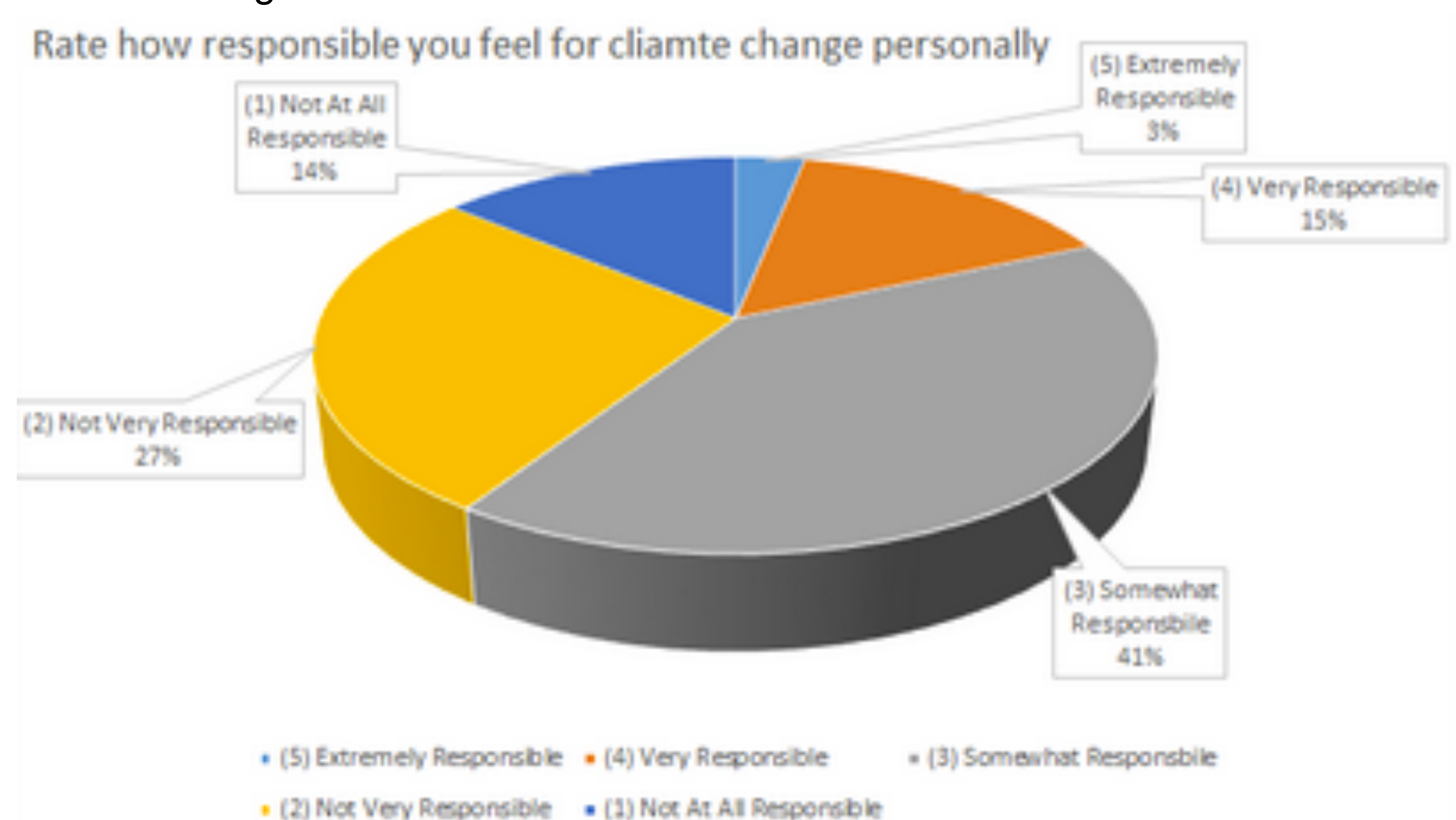
Respondents had **high awareness** for climate change despite not feeling informed and displayed correct beliefs for the causes and impacts of climate change.



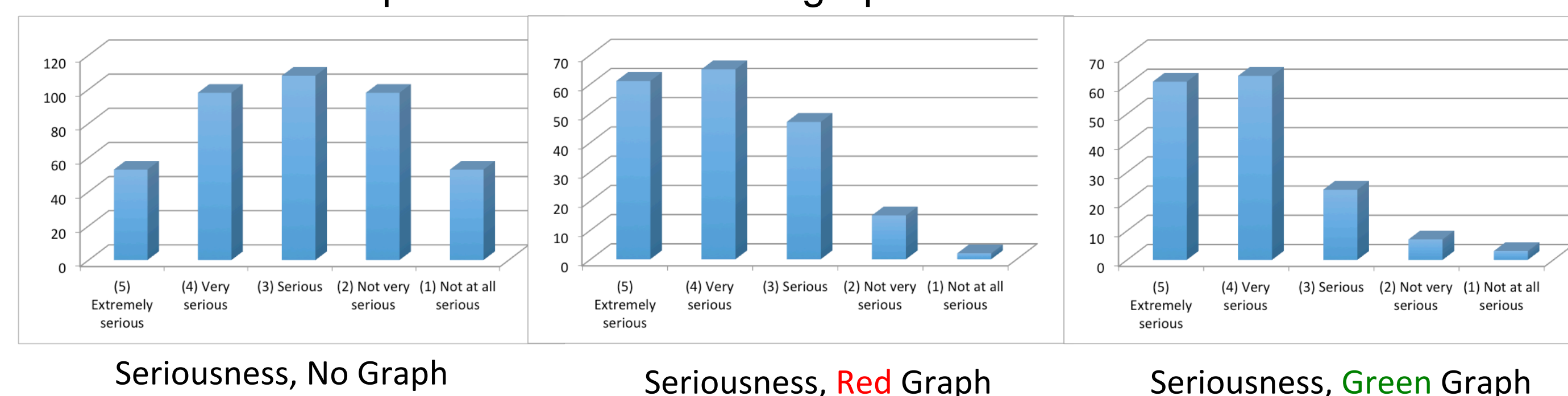
However, respondents did not believe climate change was serious for them **personally**, nor did they believe climate change would affect them.



Most importantly, **only 18%** of respondents feel extremely or very responsible for climate change.



Finally, our study showed that beliefs of climate change severity significantly increased with the presence of a colored graph.



Methodology

$Responsibility = \beta_0 + \beta_1 \text{degree_of_familiarity} + \beta_2 \text{is_climate_changing} + \beta_3 \text{personal_impact_timeline} + \beta_4 \text{diff_ave_impact_timeline} + \beta_5 \text{severity_world_personal_diff} + \beta_6 \text{severity_US_personal_diff} + \beta_7 \text{severity_community_personal_diff} + \beta_8 \text{bin_sociopolitical_unrest} + \beta_9 \text{bin_severe_weather} + \beta_{10} \text{belief_causes_cc} + \beta_{11} \text{risk} + \beta_{12} \text{education} + \beta_{13} \text{gender} + \beta_{14} \text{age} + \beta_{15} \text{political_spectrum} + \xi$

Results

	Responsibility	Responsibility Low Education	Responsibility High Education
degree_of_familiarity	-0.0664 (-0.76)	0.0594 (0.48)	-0.277** (-2.05)
is_climate_changing	0.0906 (0.65)	-0.0647 (-0.35)	0.375 (1.65)
personal_impact_timeline	0.520*** (5.12)	0.307** (2.15)	0.856*** (5.67)
diff_ave_impact_timeline	0.469*** (4.70)	0.278* (1.85)	0.752*** (5.20)
severity_world_personal_diff	0.0806 (0.85)	0.0880 (0.63)	0.0807 (0.59)
severity_US_personal_diff	-0.161 (-1.56)	-0.117 (-0.84)	-0.258 (-1.60)
severity_community_personal_diff	-0.0608 (-0.73)	-0.0853 (-0.65)	-0.0862 (-0.77)
bin_sociopolitical_unrest	-0.524 (-0.95)	-1.800** (-2.23)	0.434 (0.55)
bin_severe_weather	0.220* (1.74)	0.357* (1.88)	0.105 (0.59)
belief_causes_cc	0.156* (1.94)	0.105 (0.88)	0.130 (1.14)
risk	-0.0477* (-1.73)	0.0111 (0.28)	-0.0923** (-2.35)
education	0.0902 (1.60)		
gender	0.110 (0.98)	-0.0608 (-0.37)	0.274* (1.71)
age	-0.0108** (-2.24)	-0.00358 (-0.39)	-0.00821 (-1.59)
political_spectrum	-0.0329 (-1.27)	-0.0387 (-1.00)	-0.0367 (-1.03)
_cons	0.825 (1.48)	1.270* (1.73)	0.552 (0.72)
N	222	112	112
R ²	0.331	0.327	0.449

t statistics in parentheses
* p < .1, ** p < .05, *** p < .01

Conclusions

- In the overall sample (column 1), respondents:
 - Take **more** responsibility if they believe climate change will impact them in the near future
 - Take **more** responsibility if they believe climate change was caused by humans
 - Take **less** responsibility if they are “riskier”
 - Take **less** responsibility if they are older
 - Believe effects of climate change will affect **others before themselves**
 - Believe climate change will **likely** cause severe weather
- Possible Further Research
 - Extensions of our work on additional factors influencing responsibility
 - Choice Experiment to examine individuals' willingness to pay for combating negative effects of climate change

Acknowledgements

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