East Palo Alto Climate Change Community Survey Project

Sustainable Cities (URBANST 164), Fall 2019

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Acknowledgements

This research would not have been possible without the support of our community partners and mentors:

Violet Saena: Acterra Correspondent
Derek Ouyang: Project Mentor/Consultant
Deland Chan: 'Sustainable Cities' Professor

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Executive Summary

The goal of this project was to analyze and visualize data collected via the Climate Change Community Survey to gain insight into the current knowledge of East Palo Alto (EPA) residents with regards to climate change. These findings will provide the Climate Change Community Team (CCCT) with valuable information that will allow them to make knowledgeable and informed decisions with regards to their projects in the community.

After analyzing the data collected, it was found that the main demographics of the survey respondents were 45-54 years olds (20.3%), women (55.2%), individuals employed for wages (43%), hispanic/latino (41.8%), and home renters (57.6%). From the data, there were three key findings. Finding #1: East Palo Alto Residents are aware of the threats of climate change. Finding #2: East Palo Alto residents are not directly concerned about climate change but are concerned about climate change-related issues. Finding #3: educational interventions increase awareness and concern for climate change.

Taking these findings into account, our team suggests that there be an increase in educational efforts to help residents understand the real impacts of climate change. We also recommend that the data be continually maintained, and finally, for the community to continue to support the important work that the CCCT undertakes.

Project Purpose

There is a dearth of information accessible to policymakers regarding the thoughts and concerns of East Palo Alto (EPA) residents with regards to climate change. In the face of this issue, the EPA Community Climate Change Survey was created to assess community awareness and knowledge concerning climate change. The main purpose of this project was to finalize the collection of data and analyze it in order to provide the Climate Change Community Team (CCCT) with data-informed findings so that it can be presented to the EPA City Council. Along with these findings, we hope to provide valuable, data-driven conclusions using methodologies that can be repeated in the future for other understudied communities. We would like our conclusions to drive policy making that allocates funding and attention to climate change resiliency in EPA. Most importantly, we hope our work will help the CCCT make important decisions on how to best guide their climate adaptation and resilience work in EPA and further empower the EPA community with information in an effort to foster equitable environmental justice.

Background Information

East Palo Alto (EPA) is a city in San Mateo County, located on the west side of the San Francisco Bay. The city has a population of about 30,000 with persons of Hispanic ethnicity accounting for the majority of the population. Under current conditions, it is predicted that the EPA area will flood during a storm event that has a 2% chance of occurring in any given year. However, with rising sea levels caused by climate change, 1 foot of sea level rise can increase the chance of flooding to 20% in any given year. Combined with the social and economical problems such as gentrification, homelessness, and high levels of traffic and pollution, the EPA area is extremely vulnerable to flooding and its consequences. This vulnerability will only increase as sea levels rise, with estimates that flooding can occur more than 20 times a year by 2060 if sea levels rise by 4 feet.

In order to address this issue, a nonprofit environmental organization called Acterra developed the “Capacity Building for the Development of Community Adaptation Measures Project” with the goal of creating a program that will allow EPA to better prepare for climate change. The first step of the project was to create a Climate Change Community Team. The CCCT would then be trained to lead community engagement and assessment. Afterwards, capacity and support would be built in order to foster community commitment and climate change adaptation programs.

Literature Review

While preparing to conduct our project, we completed a literature review of studies, reports, and manuscripts in order to acquaintance ourselves with the results of projects that have been carried out in the past as well as the projects themselves. The review proved useful in shedding light on the general problem of climate change and its consequences: one study quantified the future effects of sea level rise on San Mateo County's infrastructure, transportation systems, businesses, regional development patterns, and general communities. It estimated flooding will cost the county an average of $410 million per year until 2040 given that no action is taken. A different report focused on North Fair Oaks analyzed the relationship between lower-lying areas and higher-lying areas and presented details regarding how all areas will be affected by flooding since all areas' economies and services are linked. Finally, a manuscript studying the relationship between flooding and the affected communities explored how repeated flooding has the potential to change community's social composition as repeated flooding has a greater impact on the non-affluent due to their lack of capital to offset damage and repair costs, causing the non-affluent to leave and the affluent to stay.

Although these results were instrumental in understanding climate change in the bigger picture of the Bay area, they highlighted the lack of studies regarding East Palo Alto and served to underline the importance of our team's work. In the bigger picture, our project aims to build on the findings previously mentioned, however, we seek to add elements of community knowledge and awareness to the assessment.

Methodology

The survey was designed and preliminarily implemented prior to our team's involvement. ***Figure A*** below shows the detailed survey timeline throughout 2019. Our team's involvement occurred during the final stages of the surveying and data analysis processes.

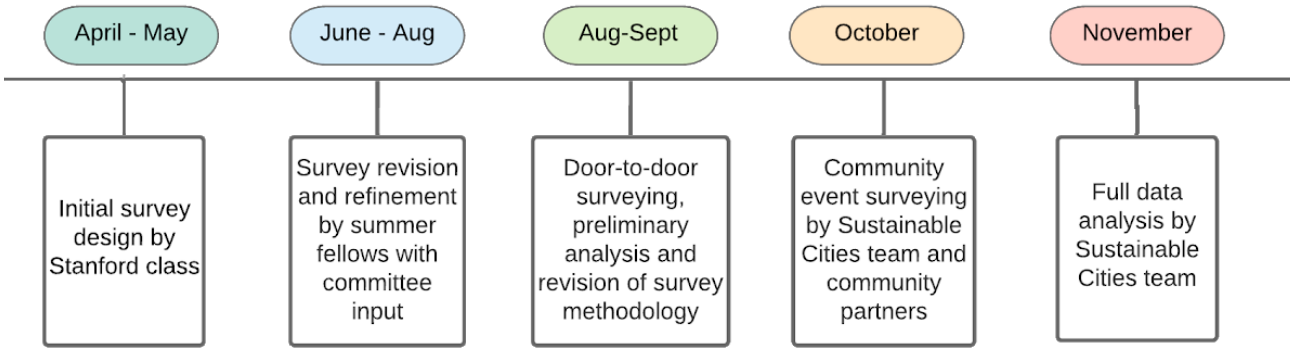


Figure A: Timeline of the project starting in April 2019.

The majority of the framework used for our data collection was inherited from the summer work on the project. The summer team--which included Derek Ouyang, Lila Mack and Zoe Brown--had compiled a google drive that contained address packets, meeting notes, survey logistics, training agendas/slides as well as a spreadsheet containing the results from the ~100 surveys that had already been completed before our team began to work on the project.

The original design of the survey planned for implementation through a door-to-door method of surveying; specific addresses were selected to get an accurate sampling of people who do and do not live in flood zones. There were also three different types of educational interventions surveyors would show participants: textual information only, a text + block-level flood map, or a text + city-level flood map. This survey process was carried out three times over the summer but unfortunately resulted in a very low success rate. Only about 20% of surveys attempted were completed, and it was found that many residents were simply not home, would not answer the door, or there would be other barriers (ie, a locked fence, barking dog) that prevented a household from being surveyed.

Due to this low survey response rate via door to door surveying, our team shifted to tabling at local events in the East Palo Alto community. These events included food drives, a LatinX festival, and surveying at churches. Surveying at events allowed for an increase in response rate, but it was at the expense of bias in our respondent demographics. For example, the gender breakdown of respondents showed in a large skew towards women. This may in part be due to the nature of the events: they were family friendly where mothers could bring their children. When contrasting gender breakdown of door to door surveying vs all of our survey responses, we could see that door to door had a more even gender distribution, which is more representative of the total population, as seen below in ***Figure B***.

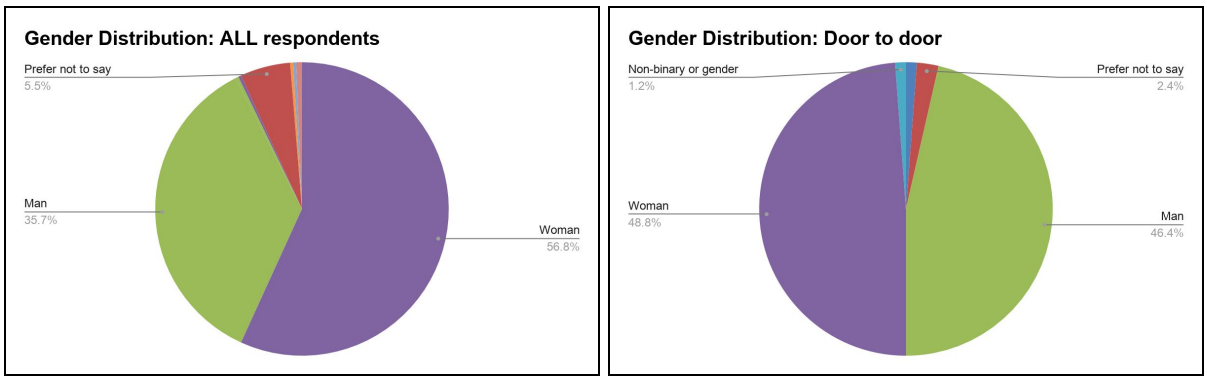


Figure B: Gender distribution of all respondents (left) and door to door respondents (right)

To collect survey responses, three surveying techniques were employed. EPA residents were able to fill out a paper survey, fill out an online survey via an iPad, or be vocally walked through the survey by the surveyor in the cases where the respondent was unable to read or write. Additionally, the survey was translated into several different languages based on the ethnic breakdown of the community. From the first round of door to door surveying we found that residents were less receptive to using iPads and preferred using paper. In turn, our team adjusted our survey delivery method to primarily use paper. This was also a tradeoff for efficiency since paper surveys required a lot more time to input manually and resulted in more errors. However, these decisions were made to allow for fewer barriers to our respondents and encourage as many voices to be included as possible.

Data Analysis

From the survey responses, we were able to collect and aggregate data on the demographics of the respondents. This includes information such as the respondents gender, age, ethnicity/race, homeownership status, and employment status among other things. These responses were collected in the form of multiple choice questions or fill in the blank fields.

Once the data collection was complete our team ran statistical analyses using Stata to look for relationships between variables and significance. Additionally, we created bar charts, pie charts, and word clouds to identify any trends over a certain demographic. Several of these charts compared the age, gender, or ethnicity of the respondent to their concern for climate change. Others looked at homeownership vs. rentership status and their concern for the community and themselves in the face of climate change and flooding. The word clouds were useful in making sense of the free response questions and to identify what issues were most frequently written in. Additionally, GIS maps were created to spatially visualize the survey responses in relation to where the respondents lived and whether their home addresses were in flood zones.

Advantages & Limitations

The ways we improved surveying accessibility and inclusivity were decided with the input and feedback of community members, using the principles of effective community participation and engagement that we learned in class. We still had room to improve in our survey methodology, but we did hear feedback from the community and incorporate those perspectives in our work. Our team attended a CCCT team meeting in October where we heard the voices of many community partners who have been involved in the survey process. During our surveying events, we also got feedback from conversations with EPA residents, and we thank and acknowledge the thoughtful feedback from the community.

The switch to surveying at community events was advantageous to the surveying process as it resulted in a higher response rate. However, this did not come without drawbacks. It was difficult to control whether the respondents actually even lived in EPA. Secondly, we were unable to selectively share the educational material presented in the middle of the survey nor show them maps of their specific neighborhood in relation to the flood zone. This unfortunately resulted in the loss of a data point.

Additionally, the survey had not been translated into chinese, which may have proven beneficial as numerous potential respondents only could read/write in the language. Few or none of our team members could fluently speak languages such as spanish or chinese making the language barrier difficult to overcome.

Shortcomings of the Data

In our analysis we encountered many errors in the data, such as incomplete surveys or inconsistent responses from paper surveying. As a result, it should be noted that the analyses presented in this report are not perfect.

For the GIS analysis, only 150 out of 311 survey addresses matched to U.S. Census parcel addresses due to errors or the ineligibility of address responses. Thus, the respondents represented in the GIS maps are only subsets of the survey data.

Deliverables

Respondent Info

Upon the completion of surveying, our team had gathered **311** total survey responses. It is important to note that, while 311 surveys were ***recorded***, not every survey was completed in full.

The main demographics of the survey respondents versus the main demographics of East Palo Alto residents:

Survey respondents	East Palo Alto Average/Majority
45-54 years old	29.7 years old
Women	Male
Employed for wages	Employed for wages
Hispanic/Latino	Hispanic/Latino
Home renters	Home renters

For all of the demographics, concern scores were calculated by converting responses about concern to a numerical form and averaging these. A lower score indicates people are generally less concerned, while a higher score indicates people are generally more concerned. Survey responses to the question “How much do you think climate change will harm the East Palo Alto community?” were converted to numerical form as follows: 0 = Not at all, 1 = A little, 2 = Neutral/I don’t know, 3 = A moderate amount, 4 = A lot.

Gender Distribution

The majority of our respondents were female (55.2%) (see ***Figure B***). When disaggregating the average climate change concern by gender, women on average reported greater concern (2.988) than men (average response of 2.955) (see **Appendix 1**). It should be noted that this data does not show significance.

Flood Insurance Status

It is worth mentioning the responses gathered regarding flood insurance status and flood-risk of our respondents. The majority of our respondents did not know whether

they had flood insurance or not (44.8%) (see ***Appendix 10***). In regards to climate change concern, the average response for people who reported not knowing their flood insurance status was much lower (2.859) than people who reported having or not having flood insurance (3.038 and 3.155, respectively). This indicates that they were less likely to worry as much as the former groups. People who reported not having flood insurance were also the most concerned about climate change, given their average climate concern value was the highest. For the respondents that provided their address, the respondent's flood insurance status is depicted in ***Figure C*** in relation to their address.

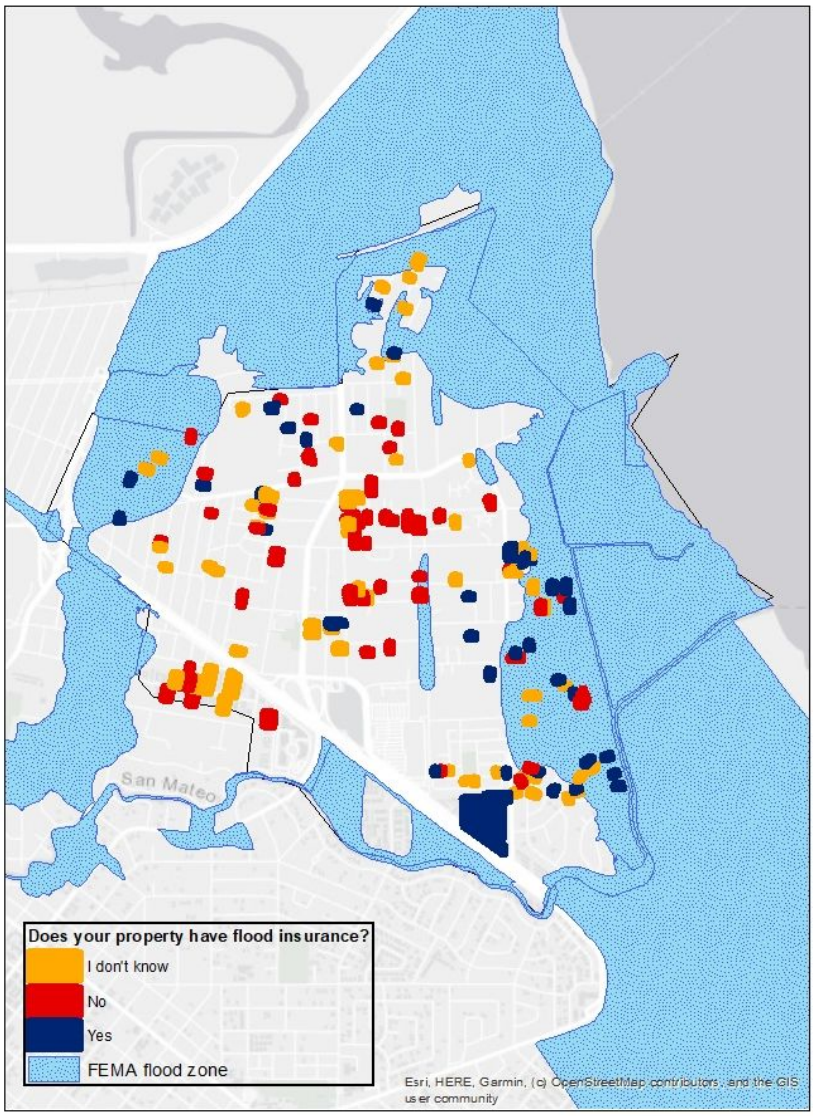


Figure C: Flood insurance status in relation to the address of the respondent's home.

Homeownership Status

As is the case for the entire population of East Palo Alto, a majority of our respondents reported being renters of houses (57.6%) (see ***Appendix 9***). Our data analysis found that renters expressed the most concern for climate change, with their average response at 3.061. When asked about flooding, renters and homeowners were more likely to be concerned about the EPA community as a whole in comparison to the worry of the flooding of their own home.

Ethnicity/Race of Respondents

Similarly to the entire population of East Palo Alto, a majority of our respondents identified themselves as Hispanic or Latino (42.1%) (see ***Appendix 7***). In East Palo Alto, 63.2% of residents are Hispanic or Latino. From looking at our table, we were able to conclude that Asian respondents were, on average, the most concerned about climate change (3.231), with the second most-concerned ethnic group being people who identified themselves as Hispanic or Latino (3.116).

Employment Status

People who reported being a homemaker were on average the most concerned about climate change, with an average response of 3.154). Interestingly enough, the least concerned group of people were students, with an average response of 2.312. Please see ***Appendix 8*** for the breakdown of employment status.

Concern Score by Topic

From ***Chart 1*** on the left, we are able to discern the following concern scores.

Concern Score:
All: 2.99
Global Warming: 3.25
Flooding: 2.77
Destruction: 3.40
Earth: 3.11

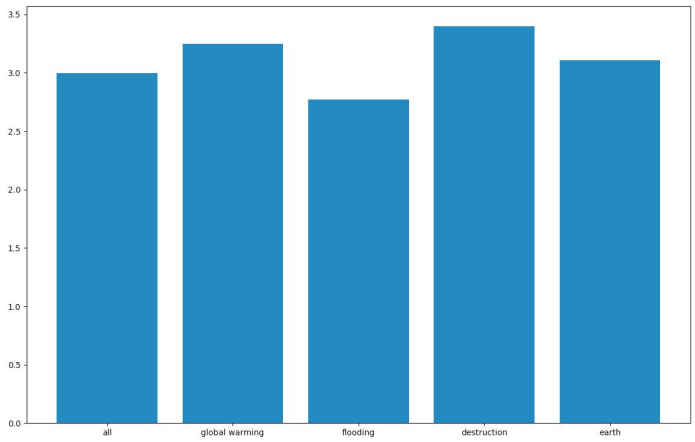


Chart 1: This chart depicts the concern score by topic

The average concern score for all responses was 2.99, closely corresponding to "somewhat concerned." It is reassuring that this figure leans toward the higher end of the concern score scale, indicating that residents of East Palo Alto are not oblivious to the possible negative consequences of climate change.

Respondents who mentioned death or destruction when asked what came to mind when they heard the term "climate change" tended to be very concerned, with the highest concern score of 3.40 compared to the other categories. This seems to make sense, as those who think the worst of the effects of climate change should be the most concerned.

Respondents who mentioned global warming or the planet followed in concern score, with scores of 3.25 and 3.11 respectively. This follows logically, as these respondents were likely concerned for the future wellbeing of the planet, but not immediately concerned about death and destruction.

Perhaps unexpectedly, respondents who mentioned flooding tended to be the least concerned out of these few categories, with the lowest concern score of 2.77. This observation points to an interesting conclusion, however: that residents may be aware

of flooding, but don’t believe they will be affected by it. If this is the case with these respondents, then community flood risk education should be an area of primary focus.

Key Findings

From the data, we found that there were three important points, which are outlined below. These findings are useful to inform and guide the CCCT.

Key Finding #1: East Palo Alto Residents are aware of the threats of climate change

In a free response question, EPA residents were asked “What comes to mind when you hear the term ‘climate change’.” The word cloud in ***Figure D*** below visualizes these concerns, with larger words representing more frequency in answers. A lot of respondents think about weather, melting (ice/glaciers), rising sea levels, heat, and pollution. These are all very broad, global-scale ideas.

Figure D: A word cloud representing responses to the question “What comes to mind when you hear the term ‘climate change.’

Additionally, we conclude that EPA residents are aware of climate change because for the question What are the top risks to your wellbeing (select three), climate change was ranked at number three, coming behind health and housing. However, it is also important to note that this finding may be biased because respondents knew that they were answering a survey about climate change. In reality, they might rank climate change as a lower risk.

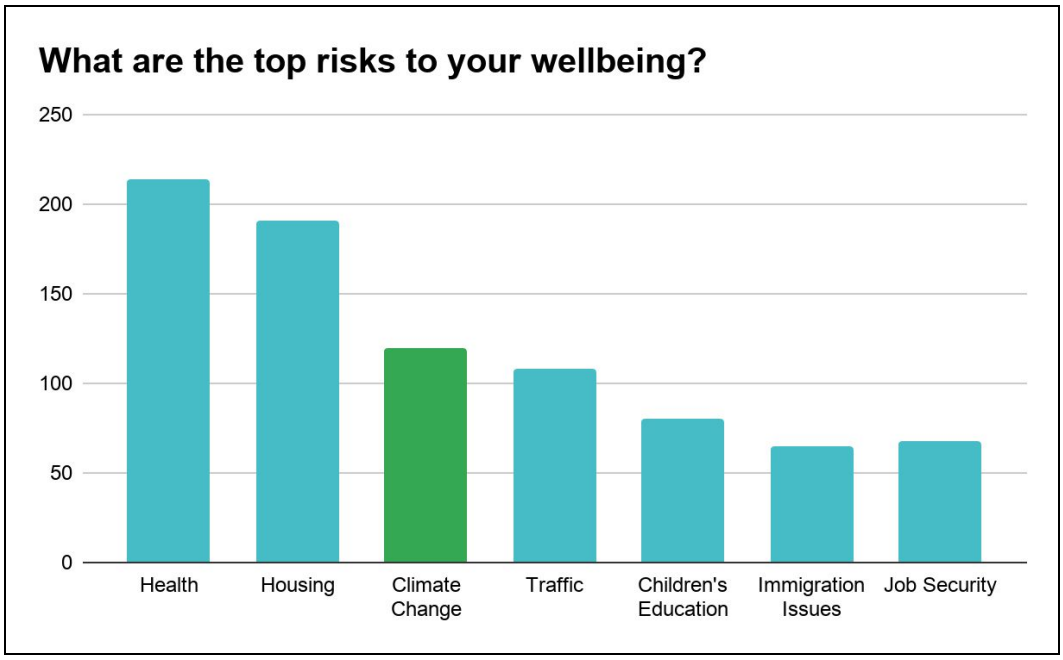


Chart 2: Respondents identified climate change within the top three risks to their wellbeing

Key Finding #2:

East Palo Alto residents are not directly concerned about climate change but are concerned about climate change related issues

It was a puzzling contrast for our team to find that most EPA residents answered “not at all” to how much climate change will harm EPA (see ***Chart 3***), yet they also answered that they were concerned about flooding (see ***Chart 4***). Our confusion came from the fact that we know flooding can be attributed to climate change. We concluded that this data mismatch was because residents may not necessarily connect the term “climate change” to its actual impacts. This is supported from the evidence in ***Figure D***, where residents mention many global scale phenomena when asked about climate change but very few said “flooding”. We concluded that EPA residents *are* concerned about the

risks of climate change, but may not necessarily understand that the immediate risks such as flooding are connected to the broader theme of climate change.

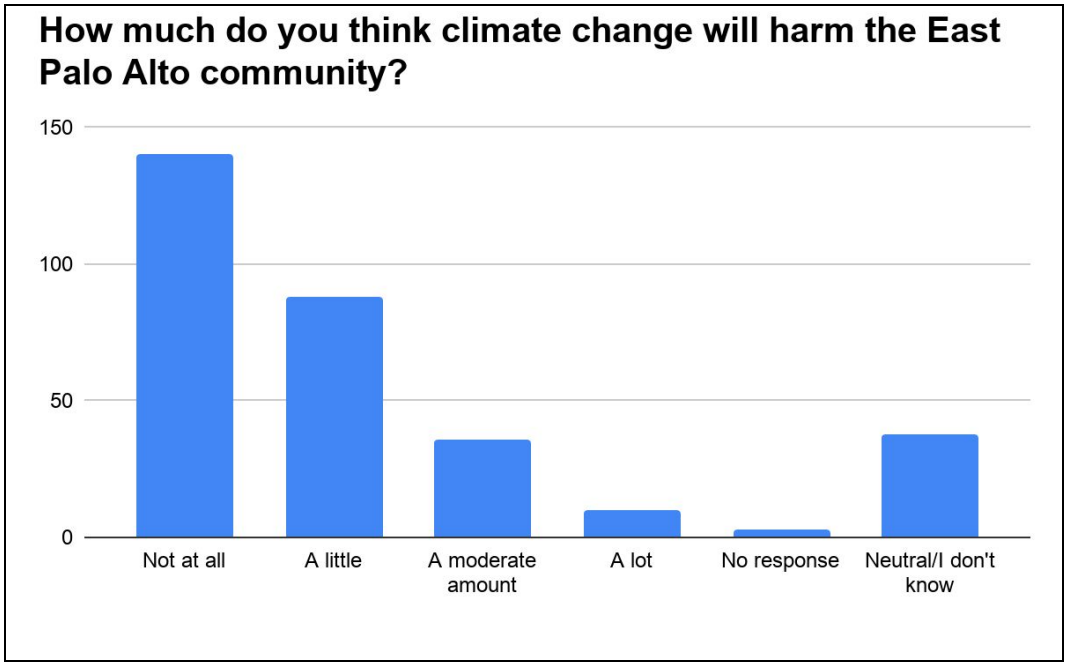


Chart 3: EPA residents do not think climate change will harm their community at all

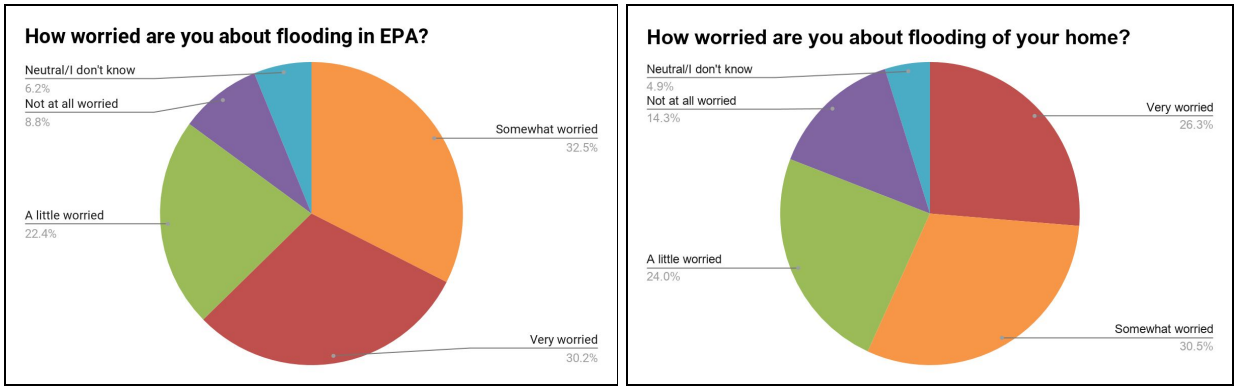


Chart 4: EPA residents are generally concerned about flooding both in their homes and their communities

Key Finding #3:

Educational interventions increase awareness and concern for climate change

Survey respondents were asked about the top three risks to their well-being before and after an educational intervention. This intervention presented them with information about flooding and climate change. How respondents responded can be seen in ***Chart 6*** below. However, as seen in ***Chart 5*** to the right, the net change of the fraction of individuals who chose climate change as one of their top three concerns increased by about 13.3% after the intervention. This demonstrates that education can increase awareness and concern for climate change within the community.

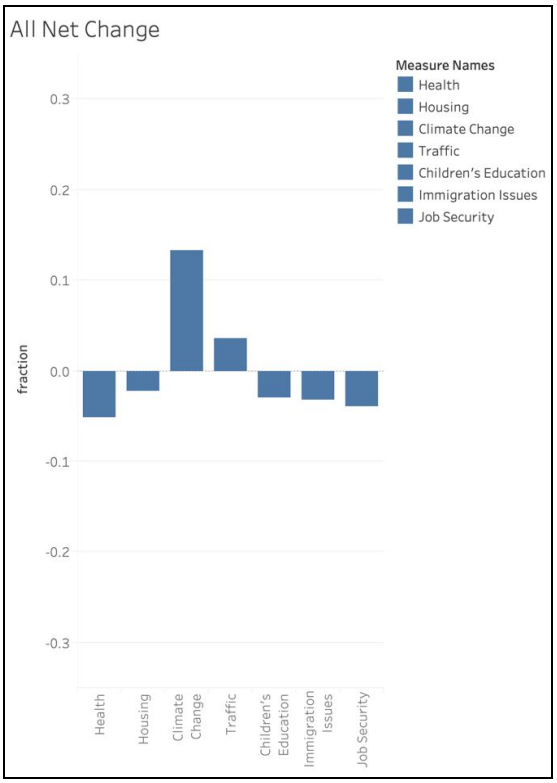


Chart 5: The net change of the fraction of respondents for a particular concern before and after educational intervention.

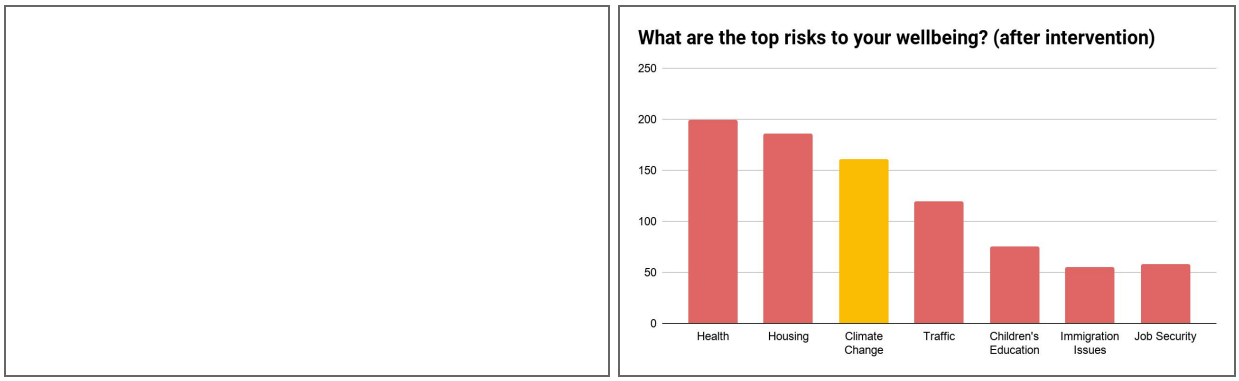


Chart 6: Answers to "What are the top risks to your wellbeing?" before and after the educational intervention

Figure E: Word cloud showing responses to question, “What comes of projects should the community/local government be working on to address environmental issues?”

Although there is an incredibly wide range of responses, “awareness”, “information”, and “education” are some of the responses that stand out. This is significant for it shows that although the community may not at the moment be particularly knowledgeable about climate change and its effects, they want to be informed, they want to be “in the know”. These responses support the notion that if programs were to be implemented in order for the community to learn how to better combat climate change and minimize its effects, it would be supported and taken advantage of by the community.

Recommendations

Our surveying process and data analysis were performed with the main goal of answering two critical questions in mind: 1) How aware of the threat of climate change are East Palo Alto residents? and 2) How concerned about the threat of climate change are East Palo Alto residents? Based on our data analyses and aforementioned key findings, we concluded that 1) East Palo Alto residents are ***aware*** of the threat of

climate change but may not contextualize climate change in their daily lives and that 2) although East Palo Alto residents may have a high level of awareness about the existence of climate change, climate change is ***not a huge concern*** compared to other issues such as health and housing.

Based on our data analyses, we would like to make three main recommendations to the CCCT. First, we want to encourage the CCCT to increase educational efforts to help residents understand the real impacts of climate change.

Second, we encourage the CCCT to continue to maintain and collect survey data. Third, we recommend the continued support of the CCCT through funding and further encouragement of community members to interact with the team.

Reflection & Conclusion

Upon completion of our project, our team reflected on numerous survey drawbacks that may have impacted our ability to provide the most well-rounded, representative findings. The survey included no mention of educational attainment or income. There was also the lack of a Chinese-translated survey. However, the drawbacks to the surveying process were even greater. As it became clearer that door-to-door surveying wouldn't provide the 400 sought after surveys, surveying was taken to food drives and community events. Although this change in approach was more successful in collecting surveys, it skewed the demographics of the respondents due to the nature of the events attracting specific groups of the community more so than others. This could explain why the change in approach led to an increase in the number of female responders.

However, even with the greater exposure of the survey, collection was still slow as individuals were skeptical. Several individuals asked if the survey was designed to scare people into purchasing flood insurance, while others questioned why the survey was even taking place. Perhaps this was due to a lack of incentives, as the only incentive was entrance into a $100 gift card raffle and even this wasn't mentioned at all of the survey collection events. From the collected surveys there stemmed a different drawback: some of the collected surveys were incomplete. Furthermore, others were filled out in such a manner that implied whoever completed it didn't take the survey seriously. There were also numerous errors and inconsistencies in the survey responses. Finally, it should be noted that although climate change was often chosen as an area of concern, this could be a result from informing the surveyed that the survey was about climate change.

The data collected from the Climate Change Community Survey and the subsequent data analysis and visualization will be useful to provide the CCCT an overall picture of the EPA community. It is our hope that the knowledge gained from this project will help shape the future of EPA climate change resiliency efforts and policies.

APPENDIX

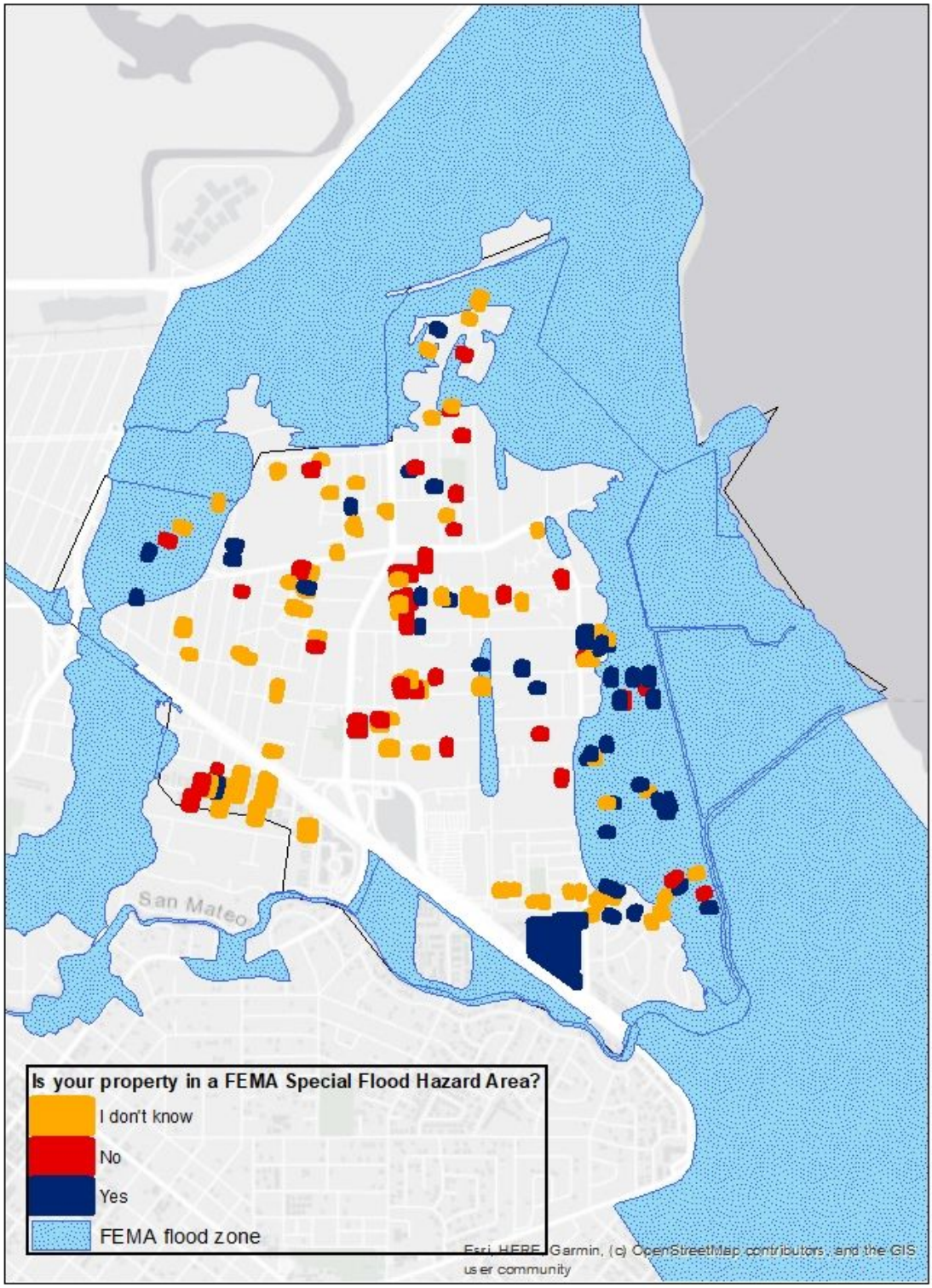
Appendix 1: *Summary of Demographic Data Related to Climate Concern.*

	Obs. #	Average Climate Concern Score*	Chi-squared (p-value)	Correlation Coefficient (r^2)
Gender	--	----------	0.096 (<.001)	0.056 (slightly positive correlation)
Male	110	2.955		
Female	171	2.988		
Other	3	3.214		
Prefer not to say/No response	28	3.333		
Flood Insurance Status	--	---------	0.142 (>.001)	-0.1031 (slightly negative correlation)
Insured	79	3.154		
Not Insured	97	3.038		
Don't Know	134	2.858		
No Response	2	3.5		
Homeownership Status	----------	----------	1.180 (>.001)	----------
Homeowner	98	3.041		
Renter	181	3.061		
I don't know	9	2.667		
Other	20	2.4		
No response	4	3		
Age	----------	----------	0.568 (>.001)	0.0099 (as you increase age group, climate change concern values increase, meaning ppl get more worried)
12-17 years old	5	3.4		
18-24 years old	21	3.381		
25-34 years old	76	2.947		
35-44 years old	66	2.803		

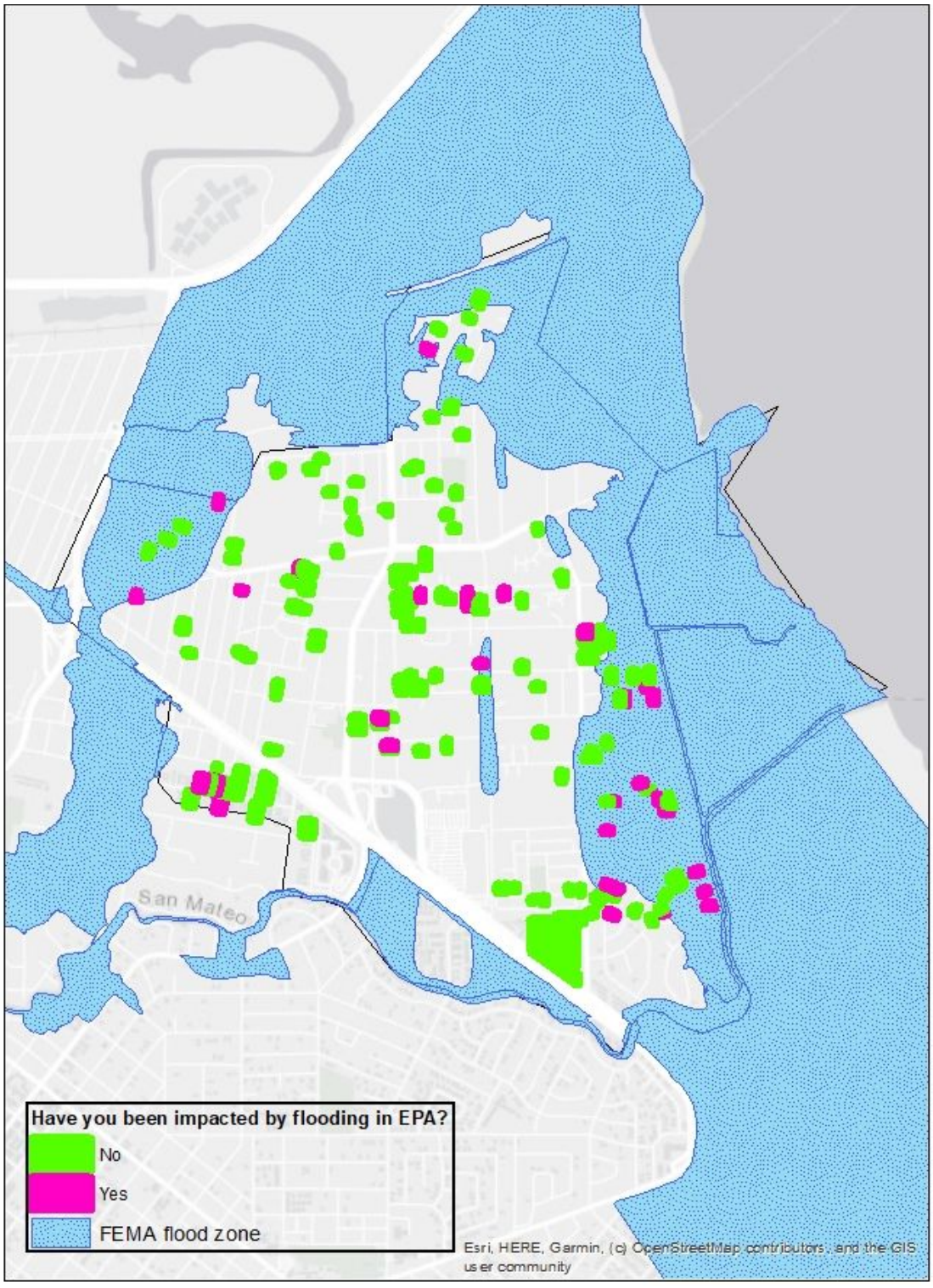
45-54 years old	70	2.914		
55-64 years old	24	3.292		
65-74 years old	36	3.222		
75 years or older	8	2.75		
No response	6	3		
Race and/or Ethnicity	----------	----------	0.671 (>.001)	
Pacific Islander	28	3.036		
Black or African American	58	2.862		
White	37	2.784		
Hispanic or Latino	129	3.116		
Native American or Alaska Native	1	4		
Asian	13	3.231		
Other	4	2.75		
Other (including two or more)	13	2.769		
Prefer not to say	29	3		
Employment Status	----------	----------	0.234 (>.001)	----------
Employed for wages	135	3.067		
Self-employed	43	3.12		
Out of work temporarily	20	2.85		
A homemaker	26	3.154		
A student	16	2.313		
Retired	27	2.63		
Unable to work	15	3		
Other	23	3.13		
No response	7	3.286		

* our proxy for concern was the question in our survey that asked “How much do you think climate change will harm the East Palo Alto community?” The responses were translated into a Likert Scale for analysis purposes. (0=Not at all 1= A little 2=Neutral/I don’t know 3= A moderate amount 4=A lot 5=No response (inputted as ‘missing’ so as not to throw off the averages))

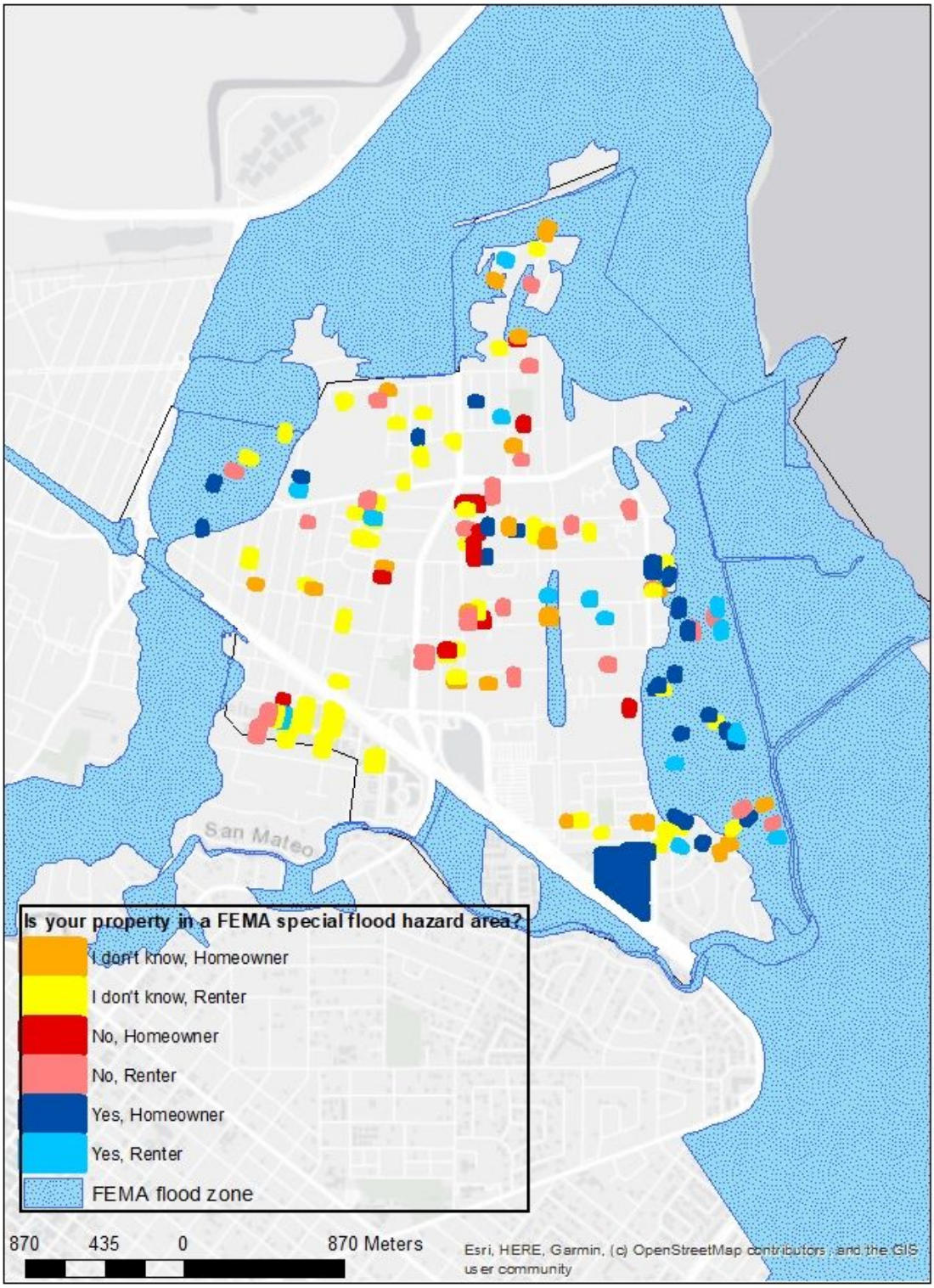
Appendix 2: *Knowledge of FEMA special flood hazard*



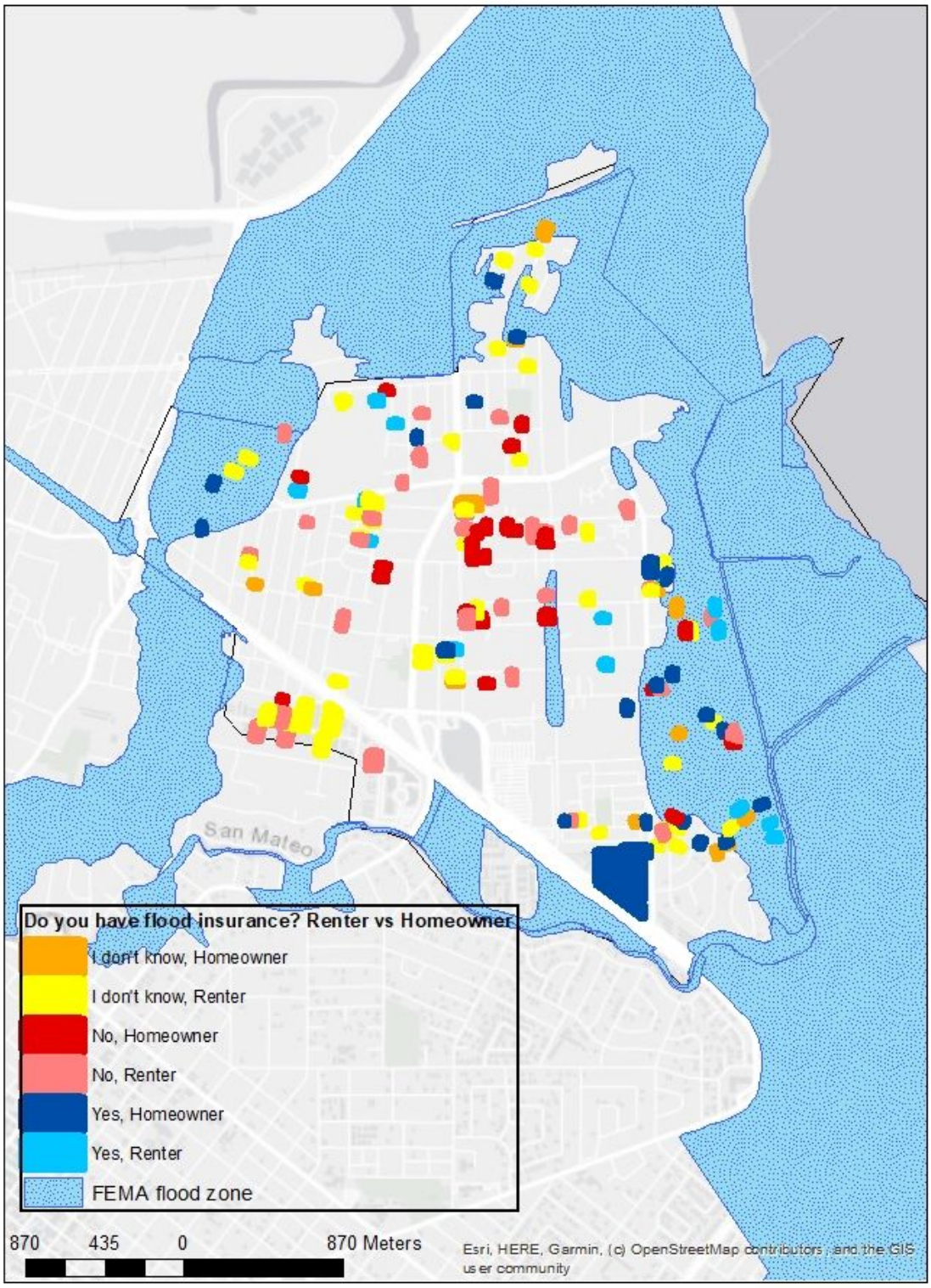
Appendix 3: *Residents impacted by flooding*



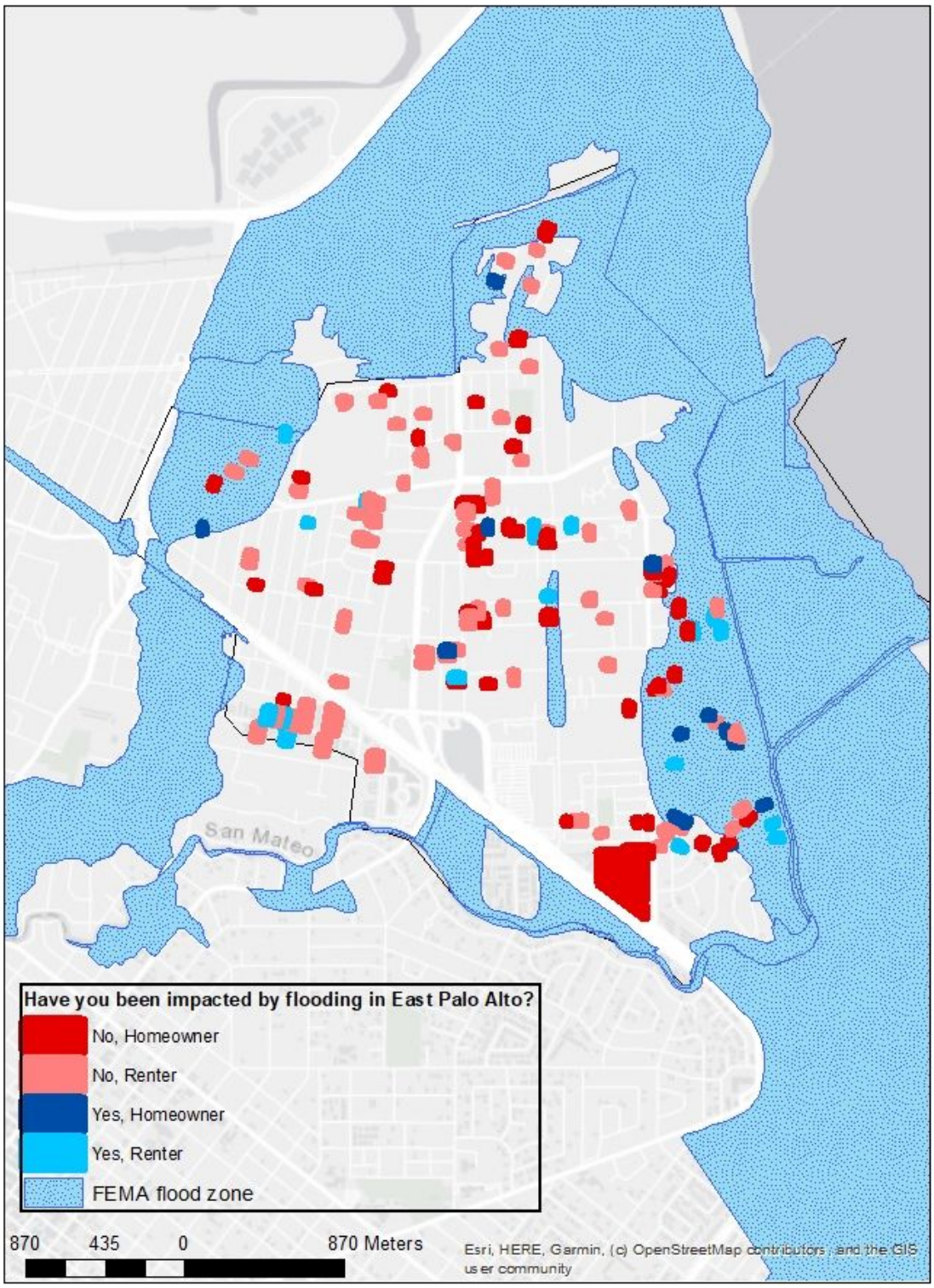
Appendix 4: *Knowledge of FEMA special flood hazard area broken down by homeowners and renters*



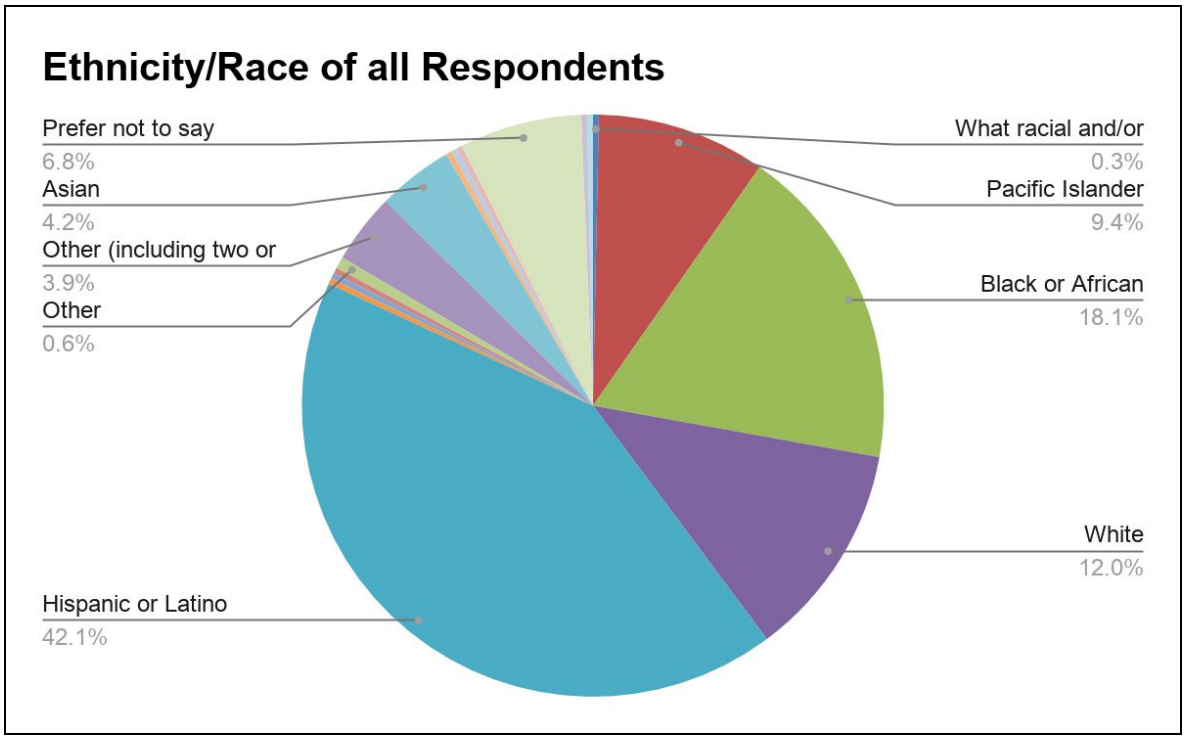
Appendix 5: *Flood insurance status broken down by homeowners and renters*



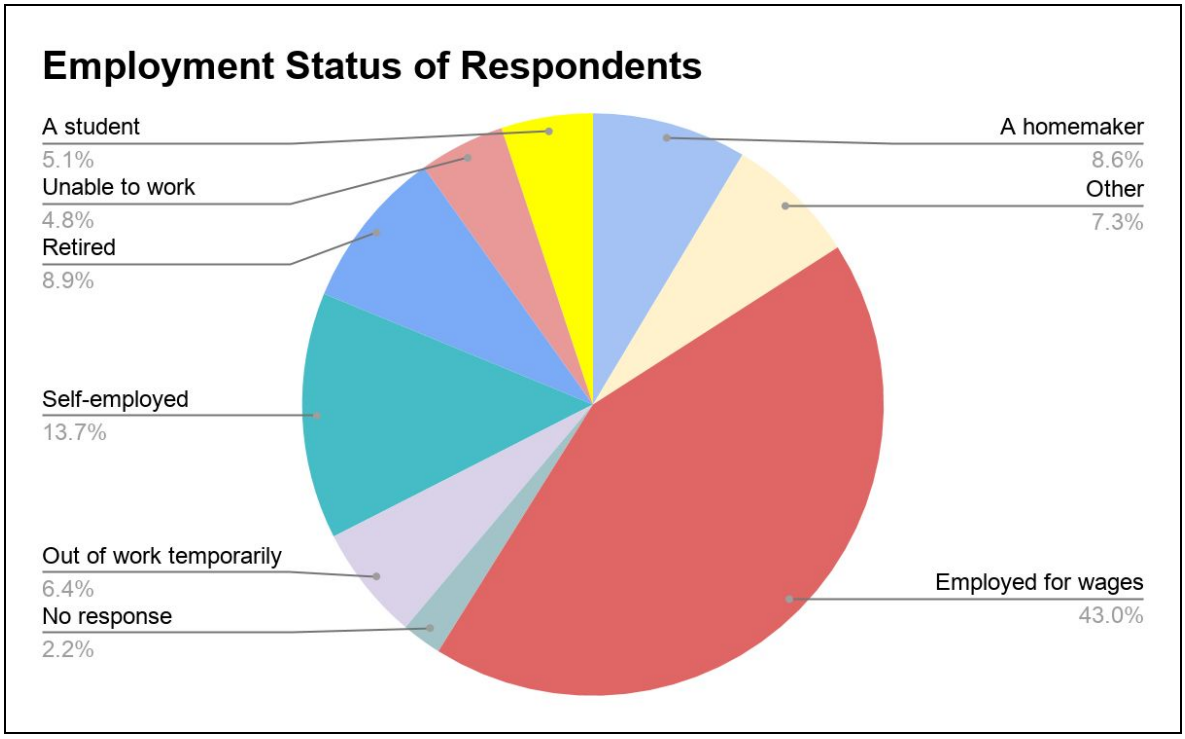
Appendix 6: *Residents impacted by flooding broken down by homeowners and renters*



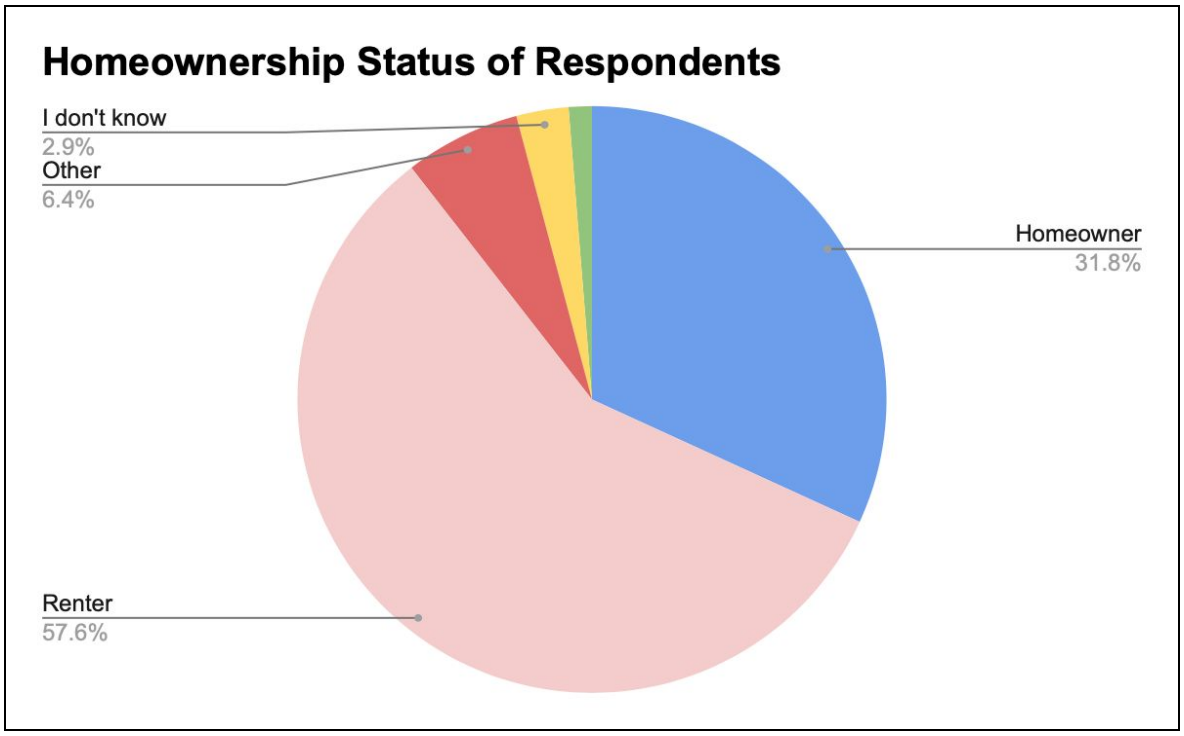
Appendix 7: *Ethnicity/Race of respondents*



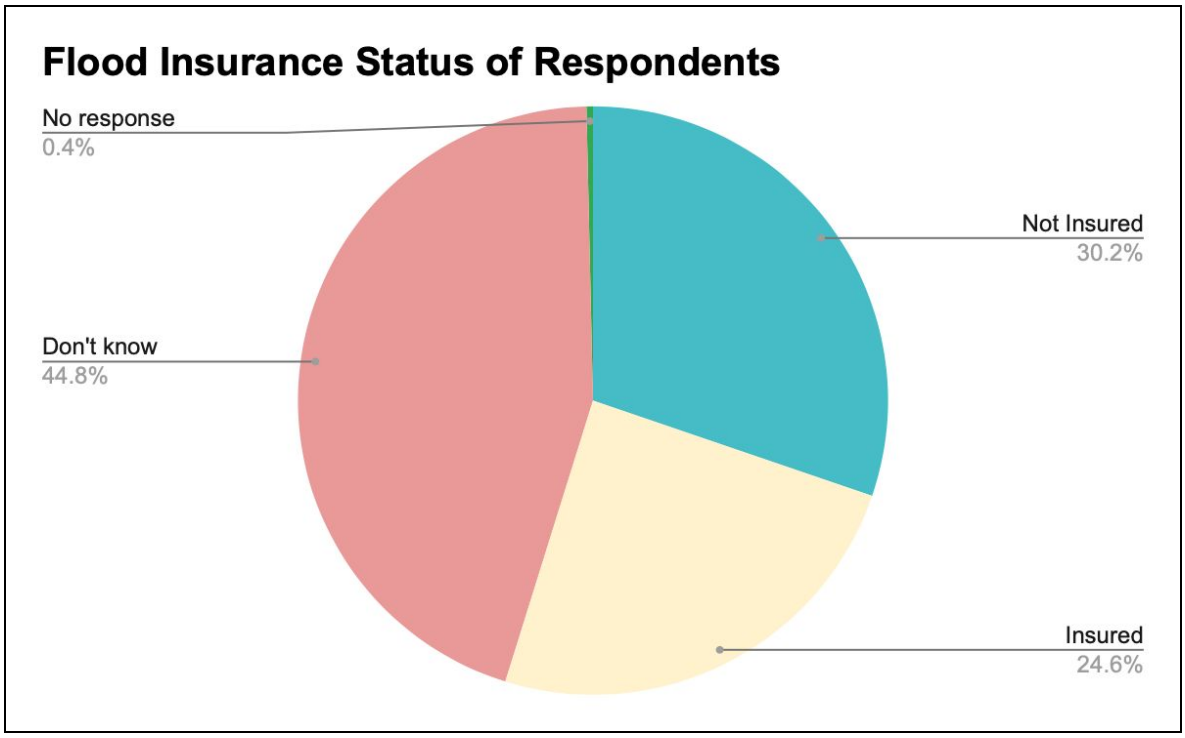
Appendix 8: *Employment status of respondents*



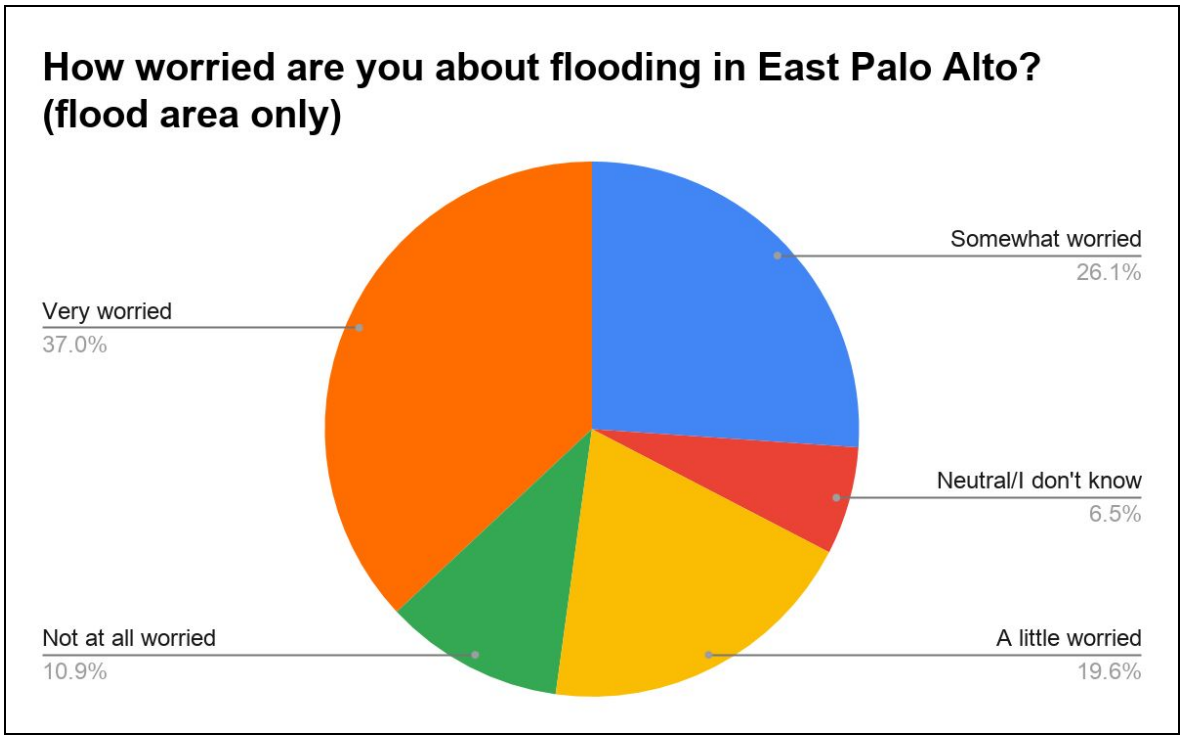
Appendix 9: *Homeowner status of respondents*



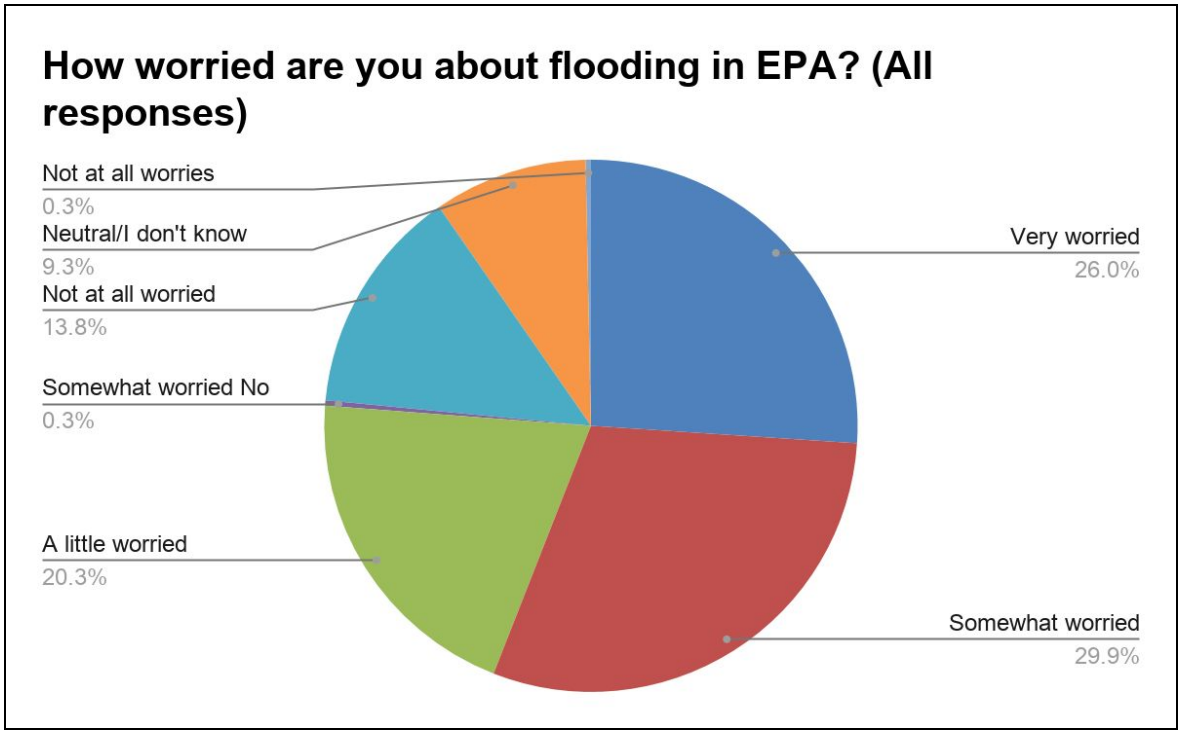
Appendix 10: *Flood insurance status of respondents*



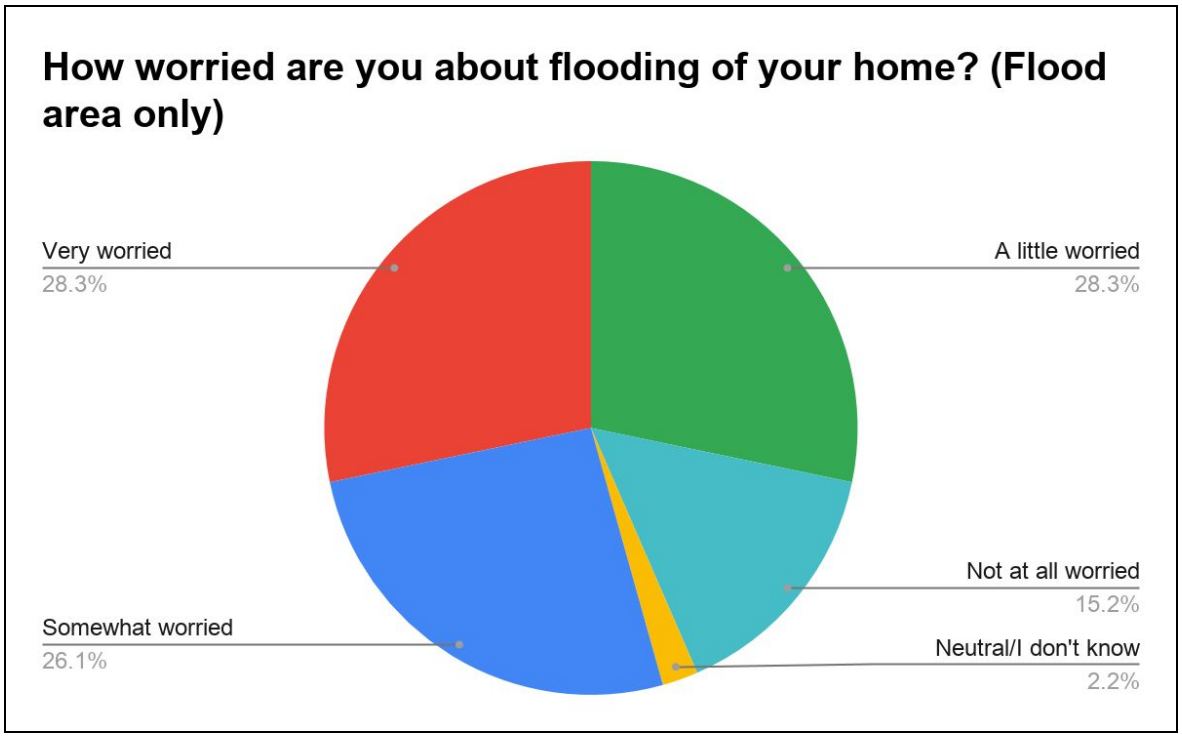
Appendix 11: *Worry about flooding in East Palo Alto (flood area only)*



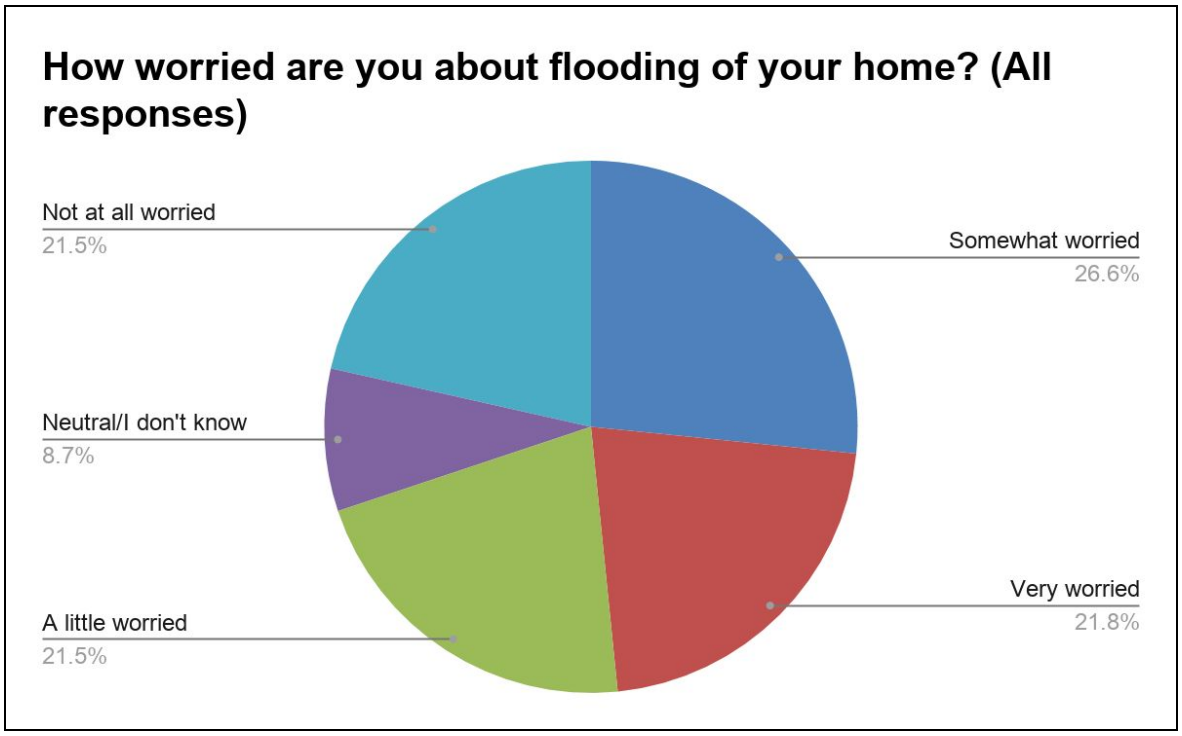
Appendix 12: *Worry about flooding in East Palo Alto (all responses)*



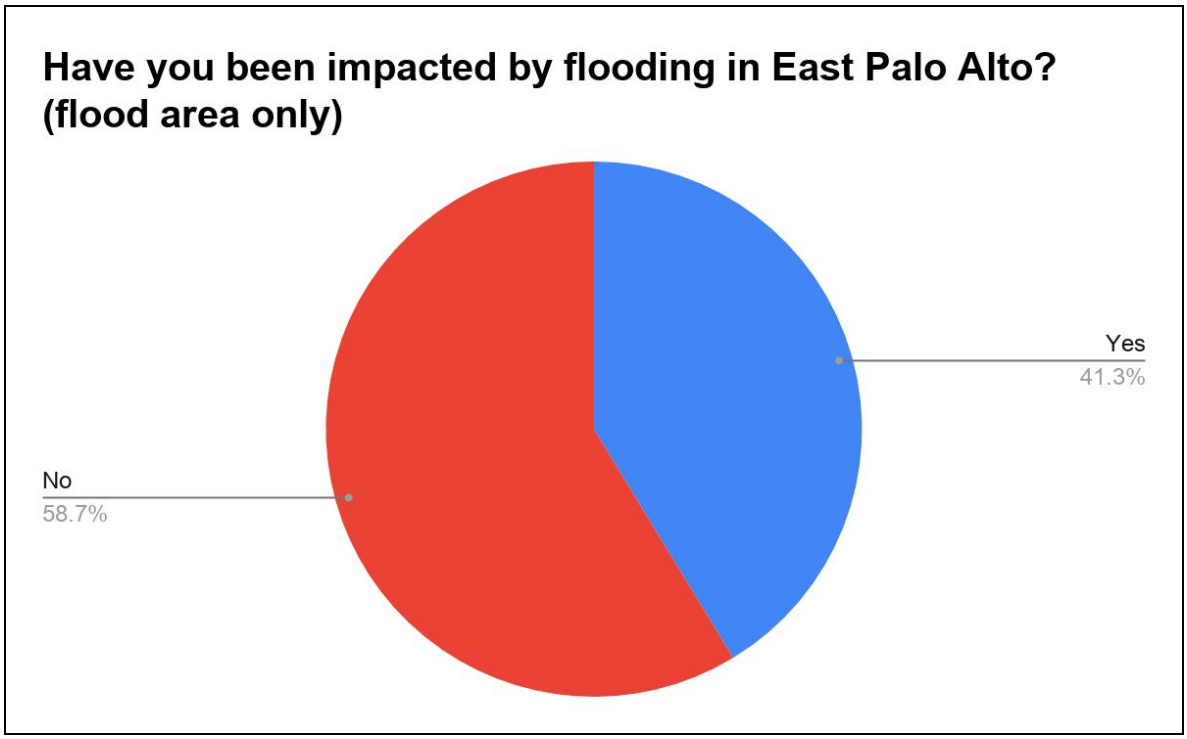
Appendix 13: *Worry about flooding of home (flood area only)*



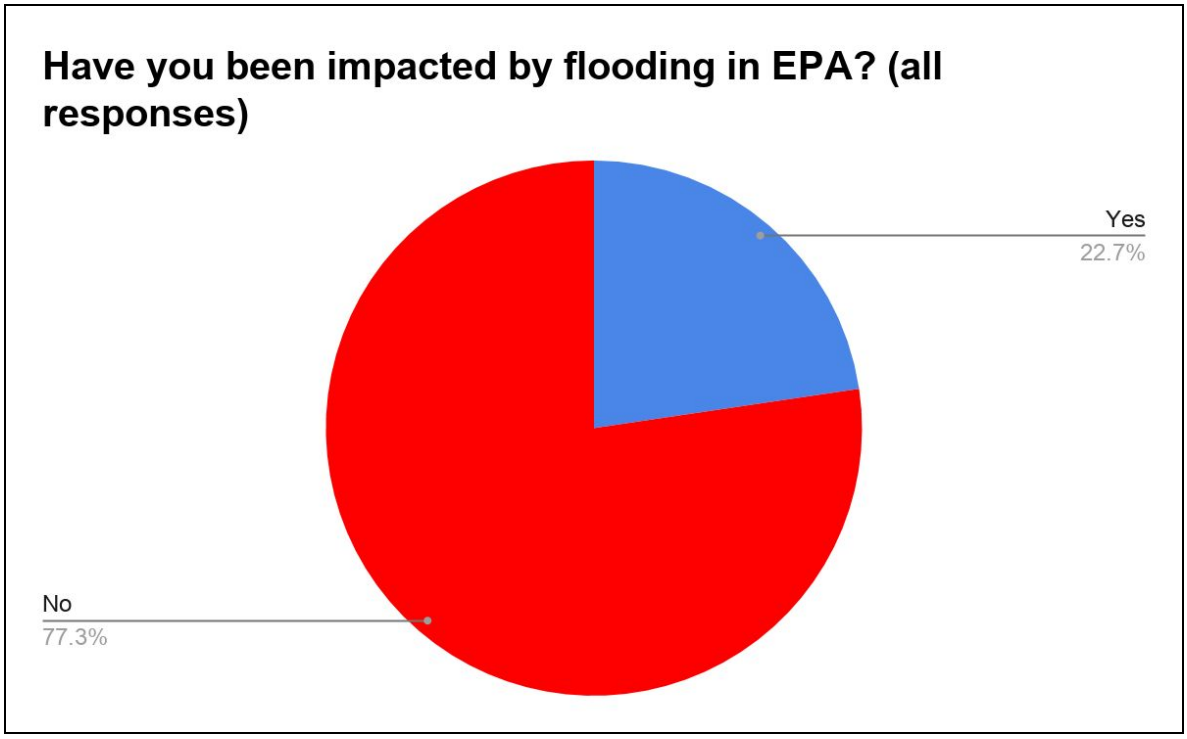
Appendix 14: *Worry about flooding of home (all responses)*



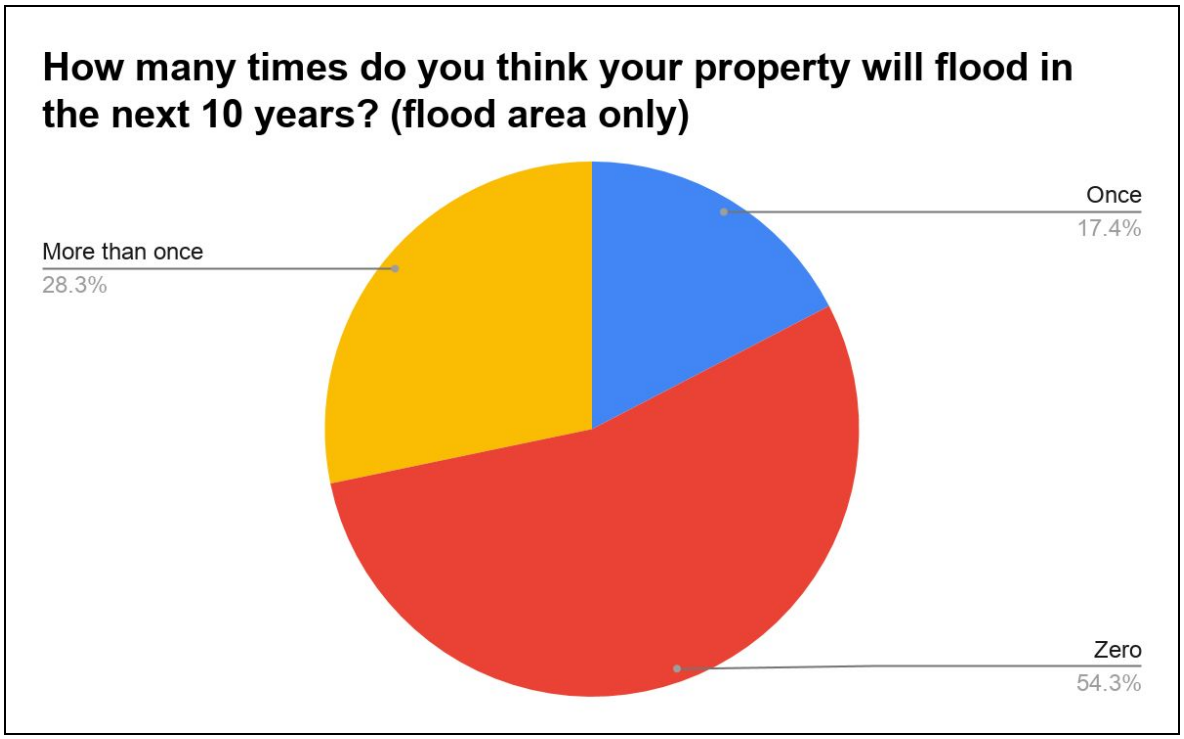
Appendix 15: *Impacted by flooding in East Palo Alto (flood area only)*



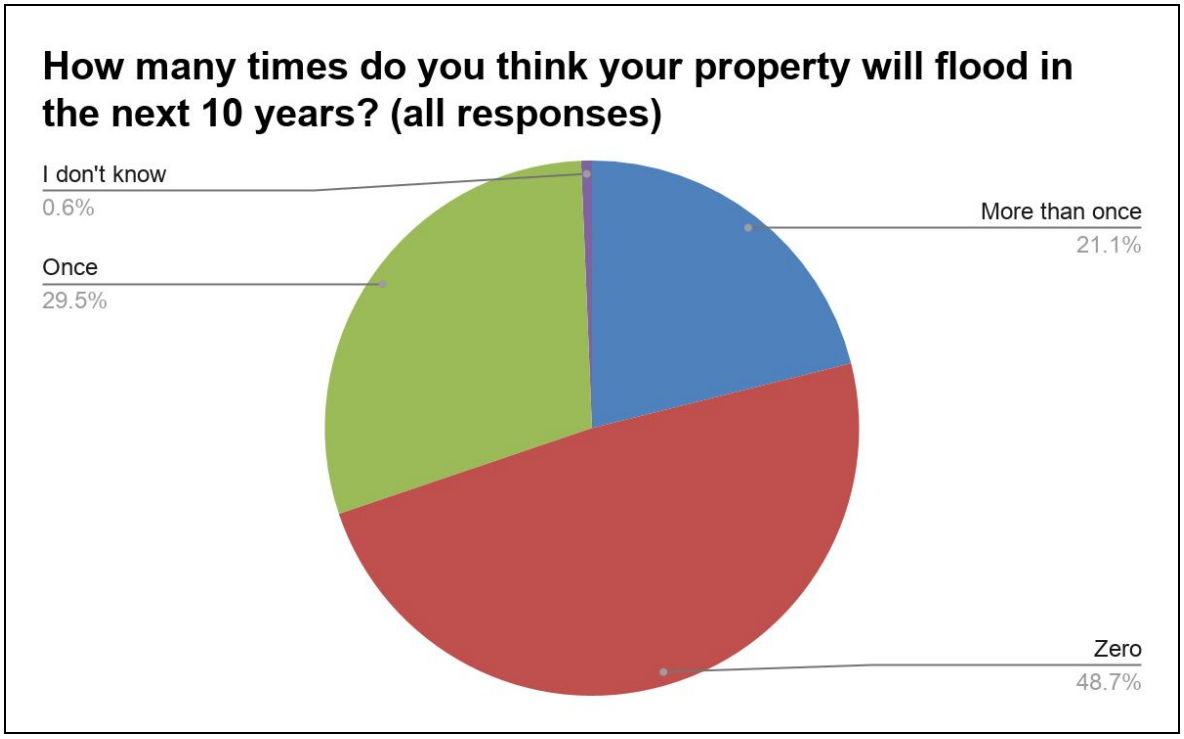
Appendix 16: *Impacted by flooding in East Palo Alto (all responses)*



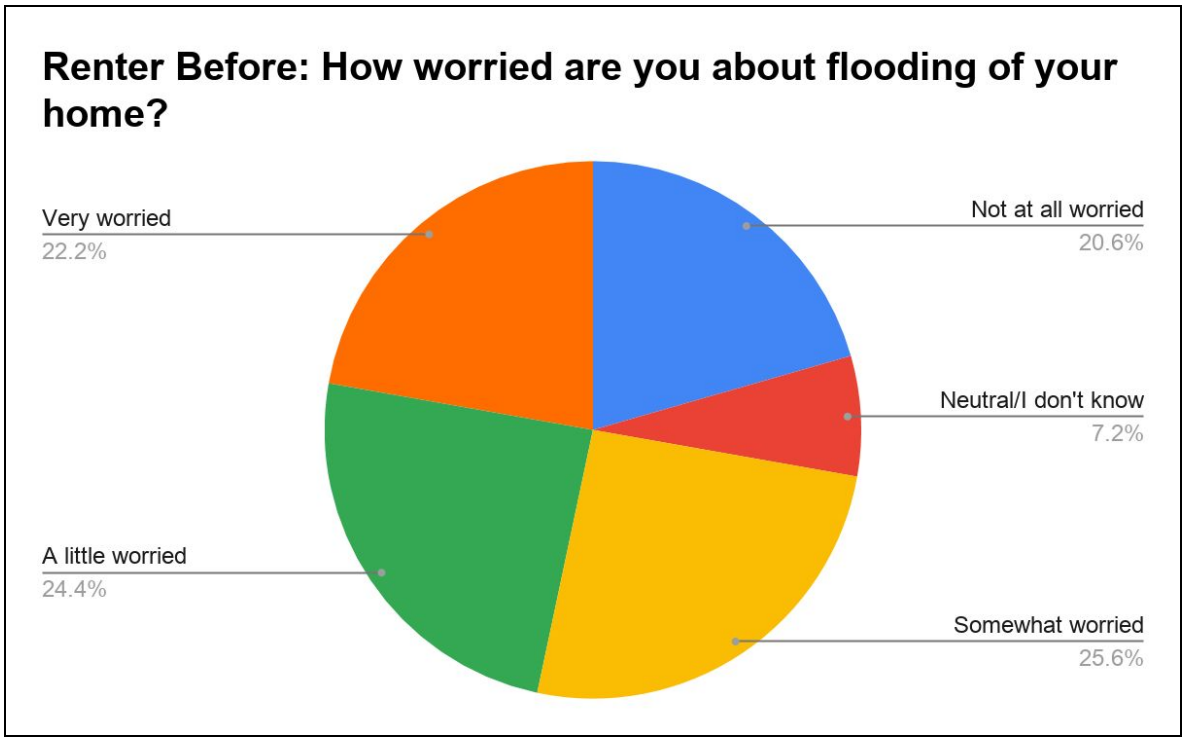
Appendix 17: *Flooding in next 10 years (flood area only)*



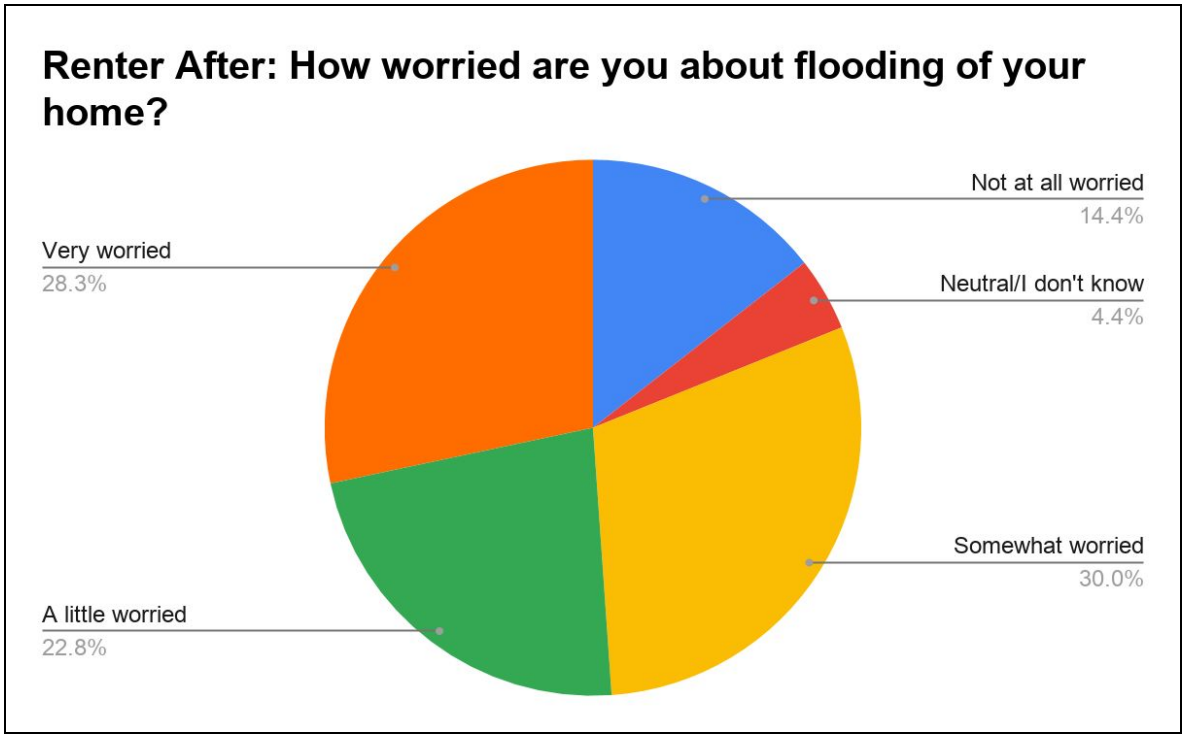
Appendix 18: *Flooding in next 10 years (all responses)*



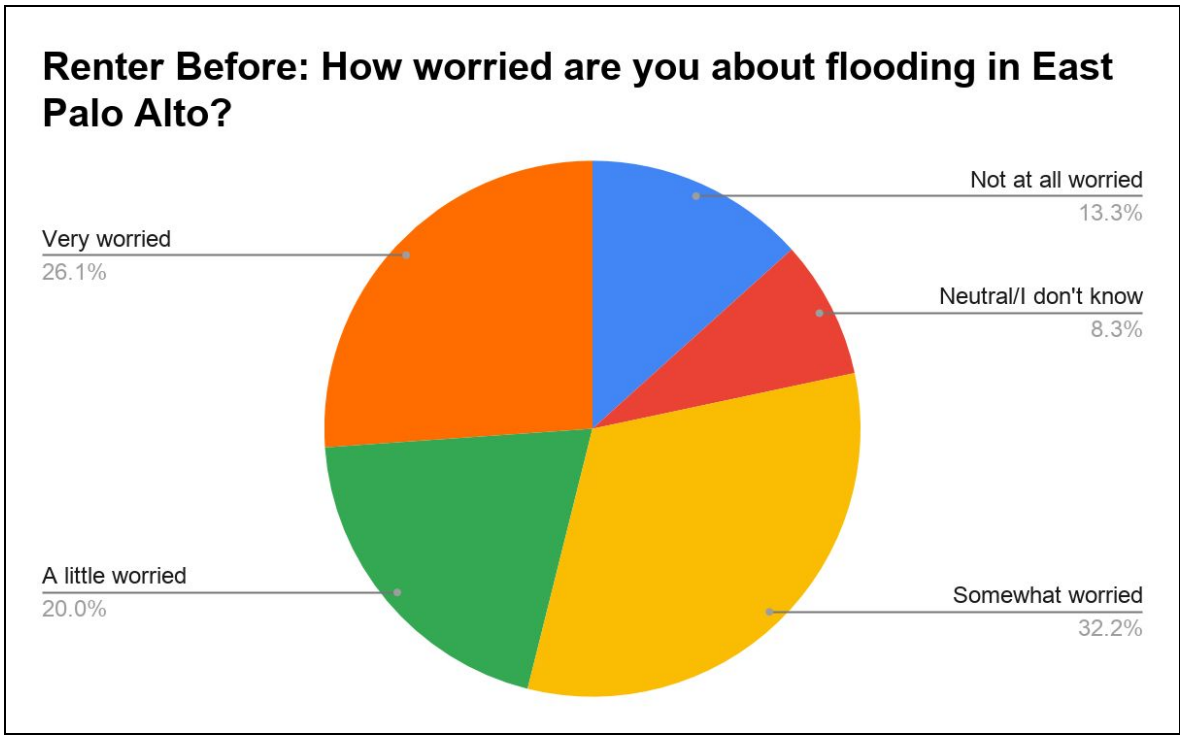
Appendix 19: *Renter concern about home flooding before educational intervention*



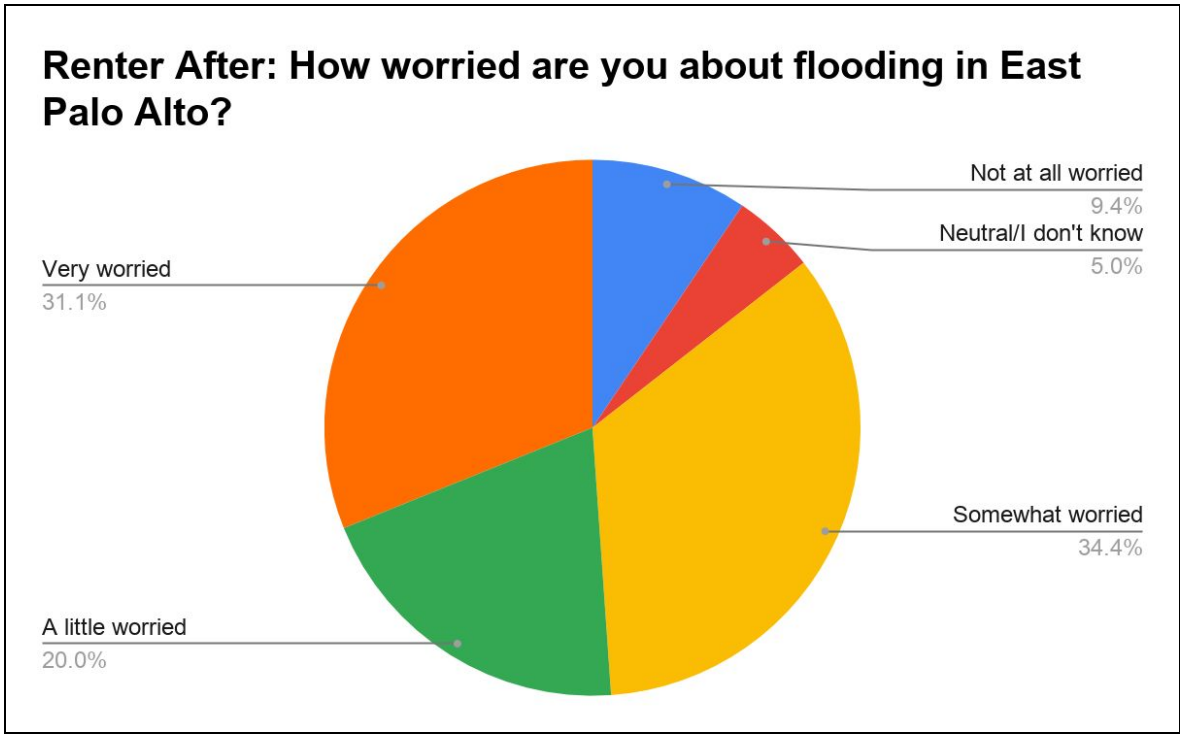
Appendix 20: *Renter concern about home flooding after educational intervention*



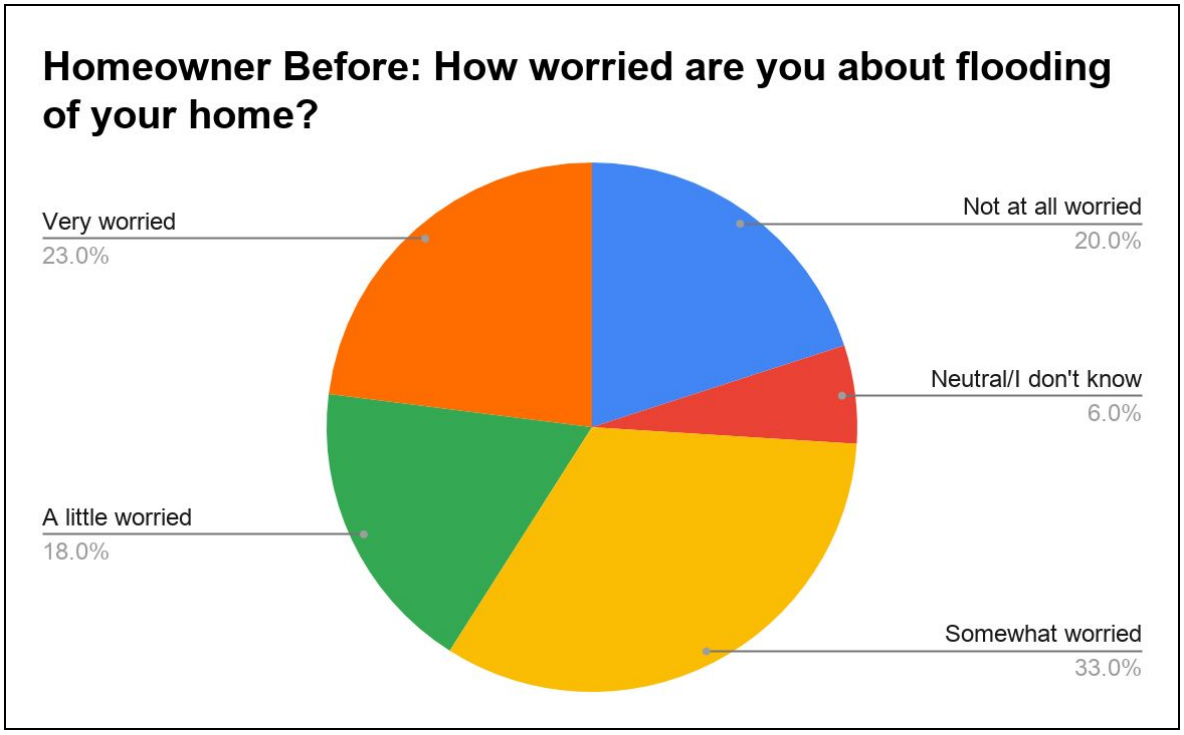
Appendix 21: *Renter concern about EPA flooding before educational intervention*



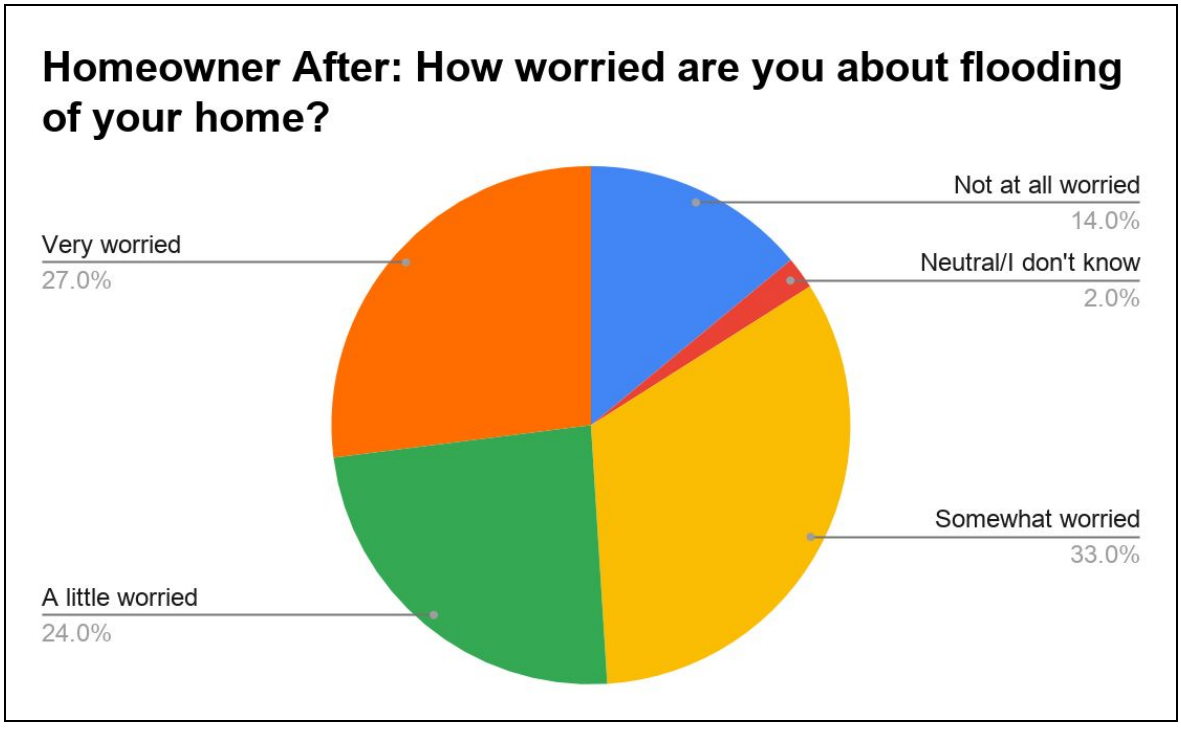
Appendix 22: *Renter concern about EPA flooding after educational intervention*



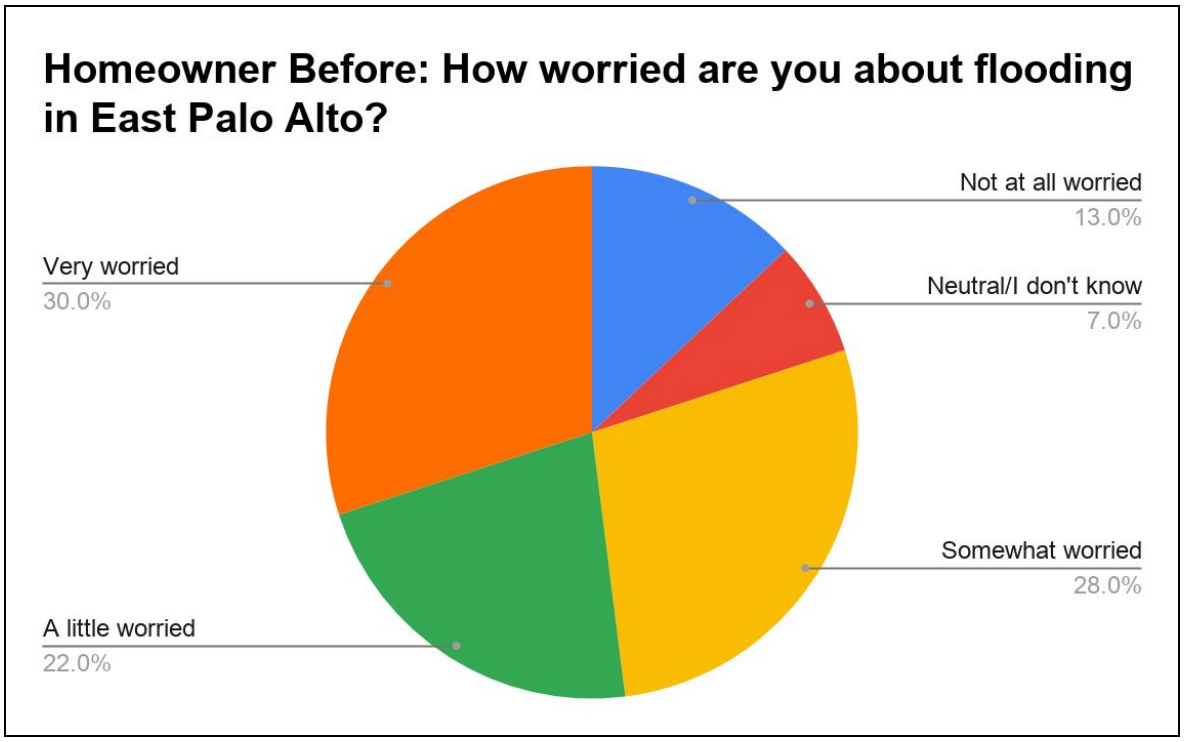
Appendix 23: *Homeowner concern about home flooding before educational intervention*



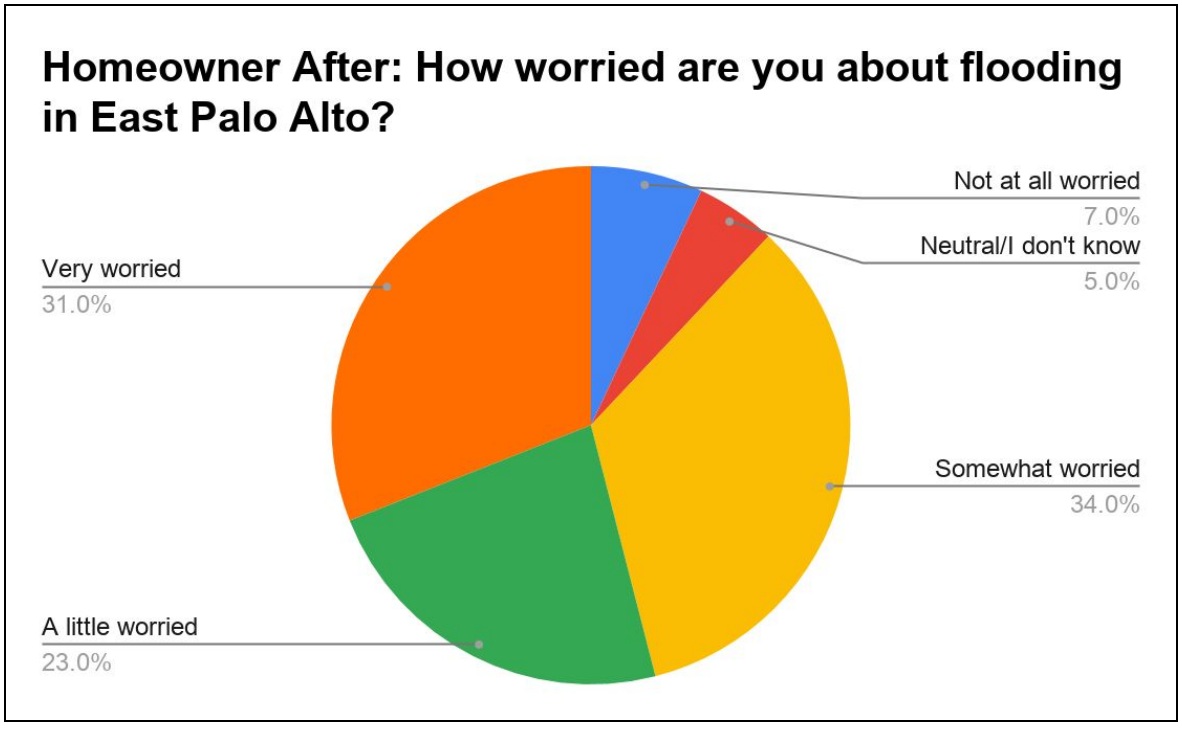
Appendix 24: *Homeowner concern about home flooding after educational intervention*



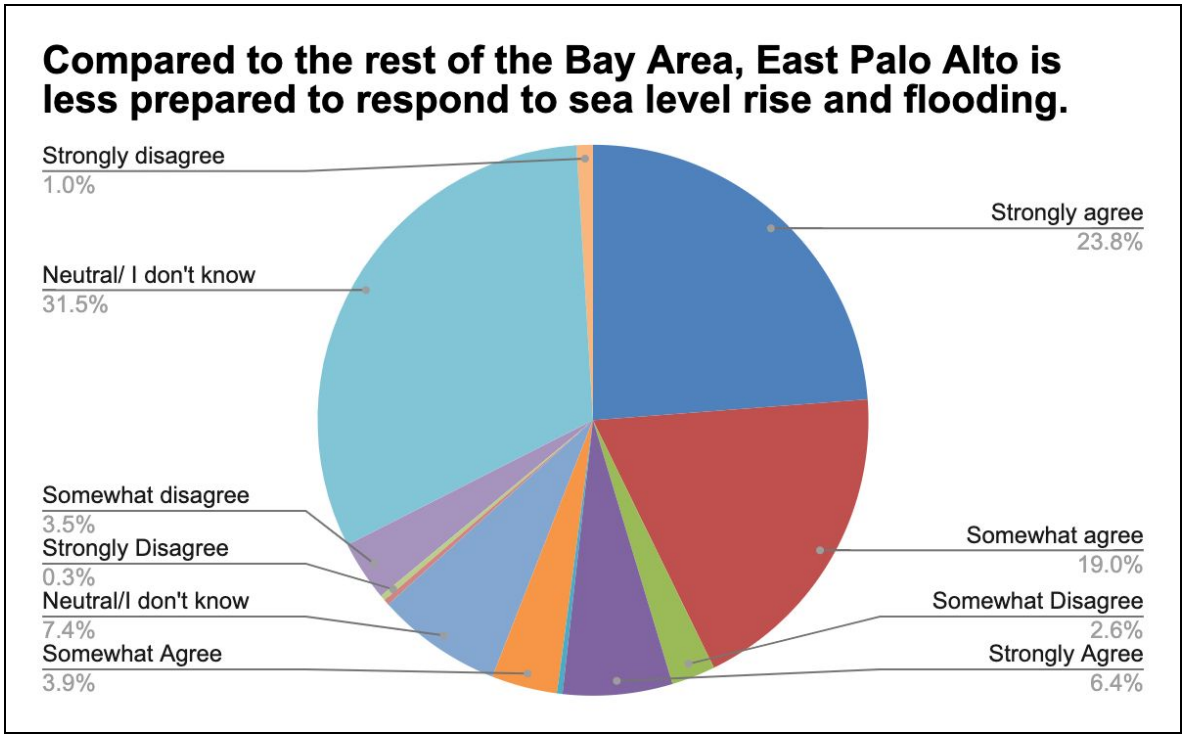
Appendix 25: *Homeowner concern about EPA flooding before educational intervention*



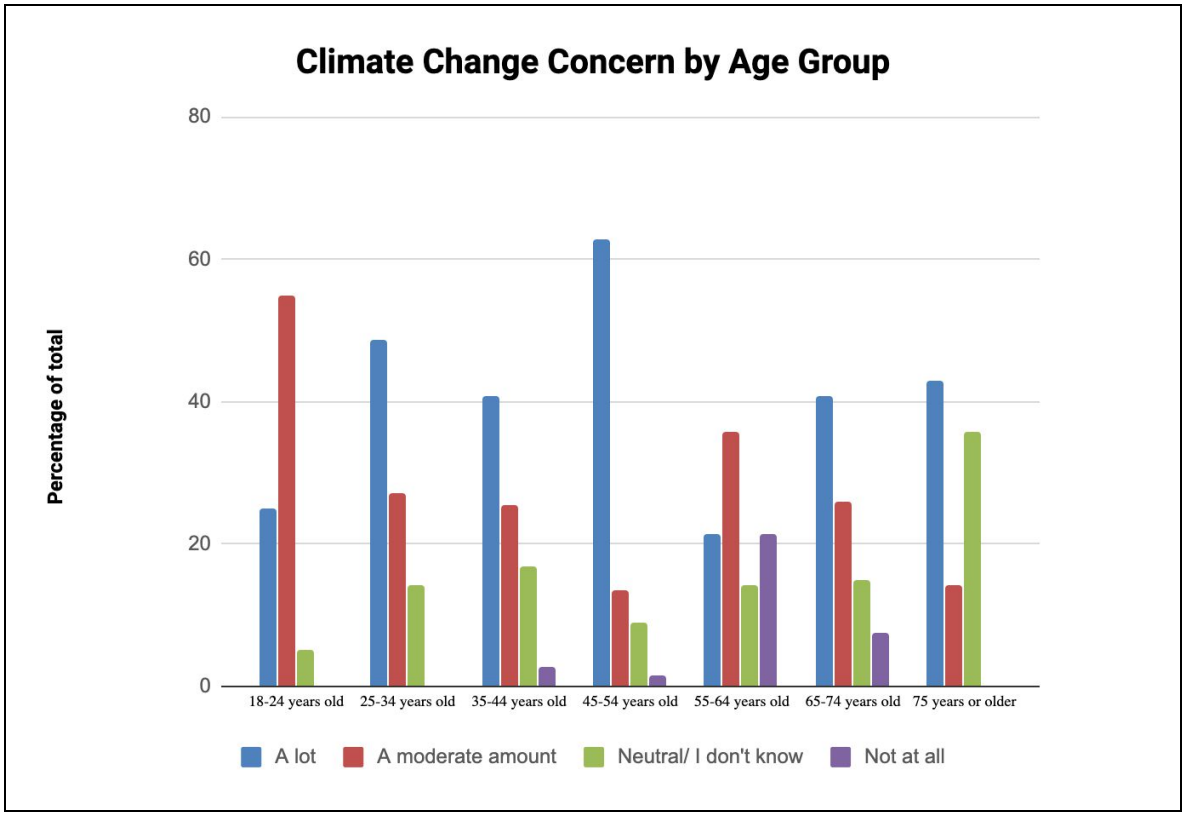
Appendix 26: *Homeowner concern about EPA flooding after educational intervention*



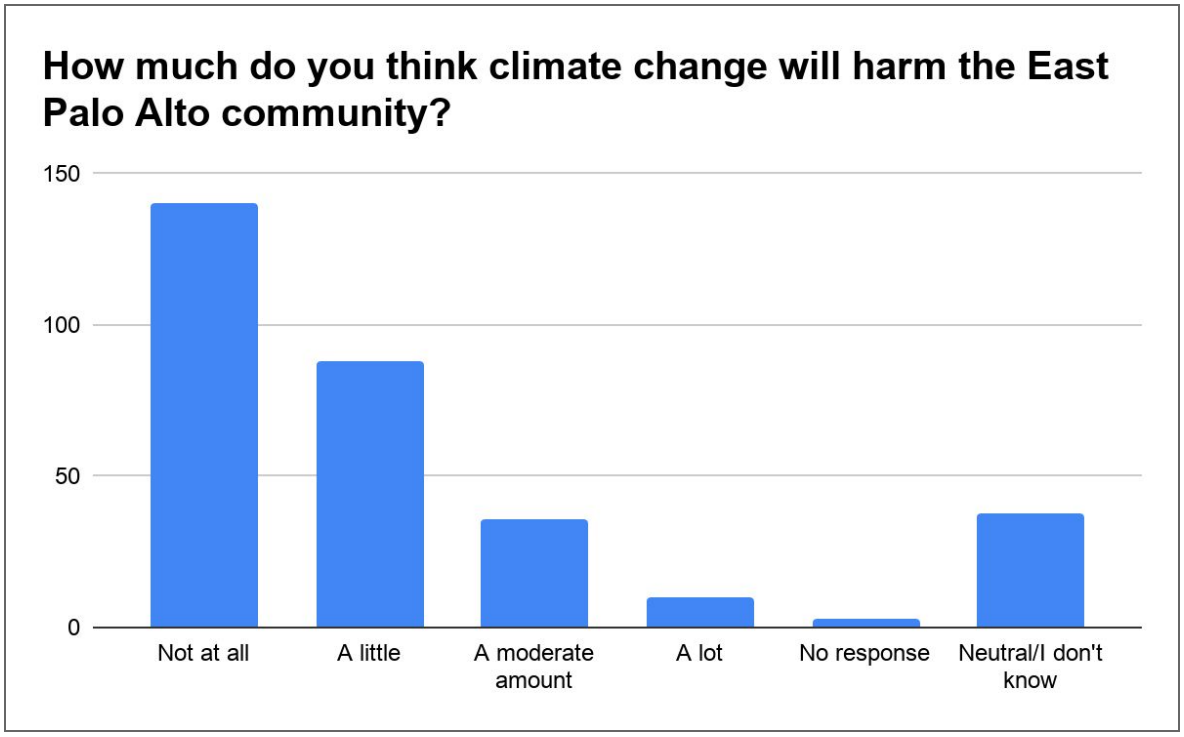
Appendix 27: *Responses to the question "Compared to the rest of the Bay Area, East Palo Alto is less prepared to respond to sea level rise and flooding" (all responses)*



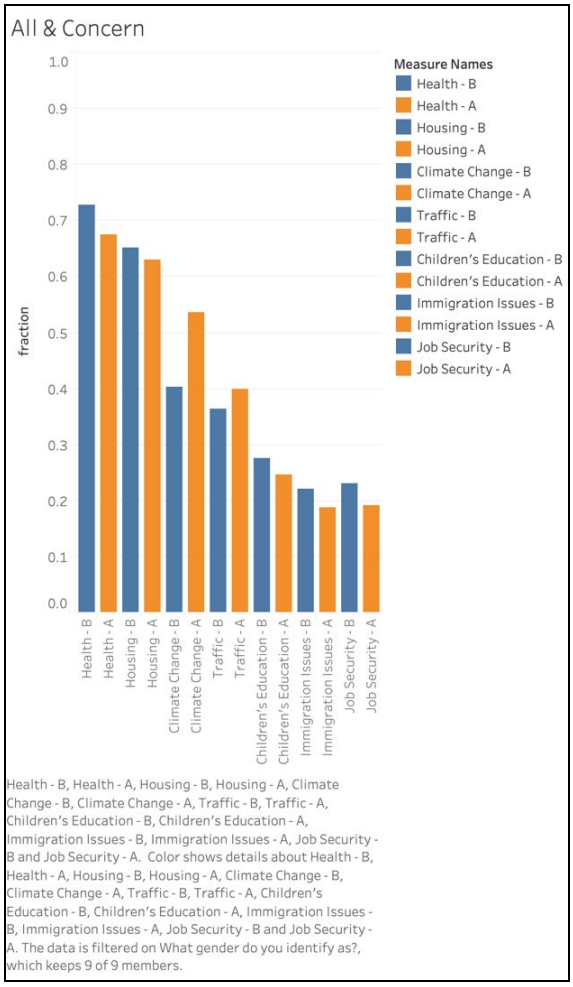
Appendix 28: *Concern by age group: 45 - 54 year olds are the most concerned age group*

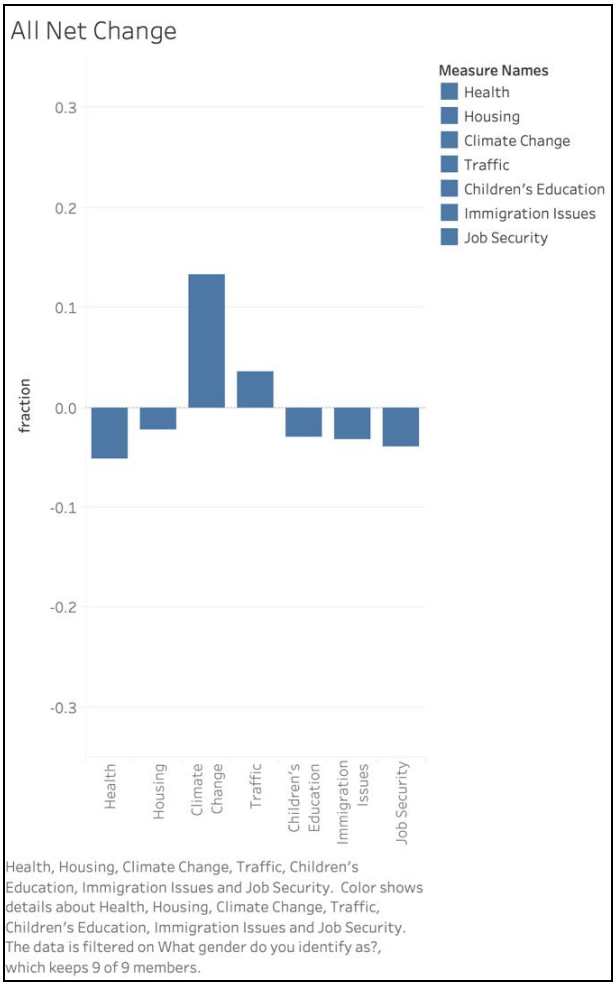


Appendix 29: *Answers to "How much do you think climate change will harm the East Palo Alto community?"*

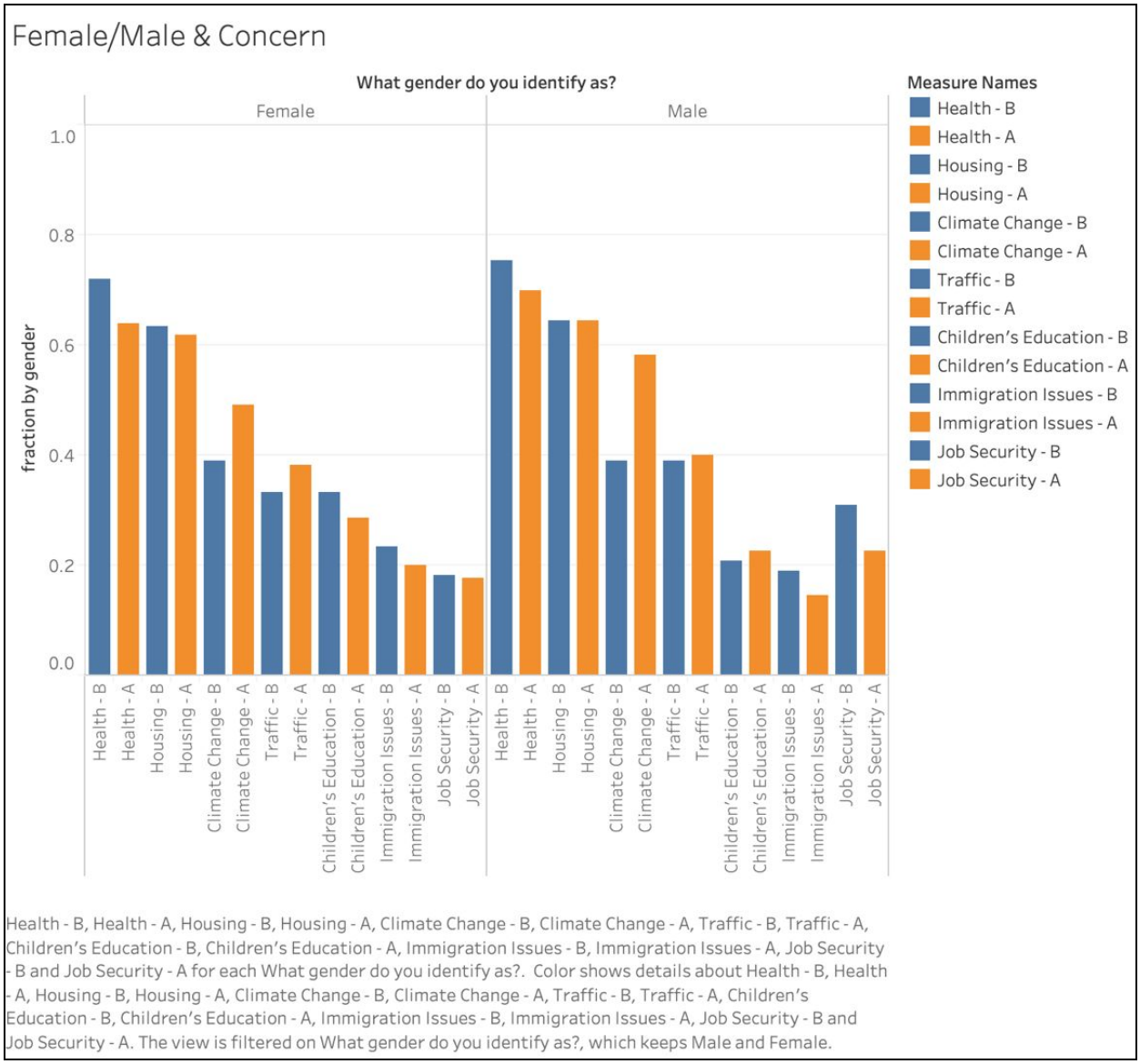


Appendix 30: *Fraction of total respondents who chose a particular issue as concerning before (B) and after (A) an educational intervention (left graph) and the net change between the before (B) and after (A) responses (right graph)*

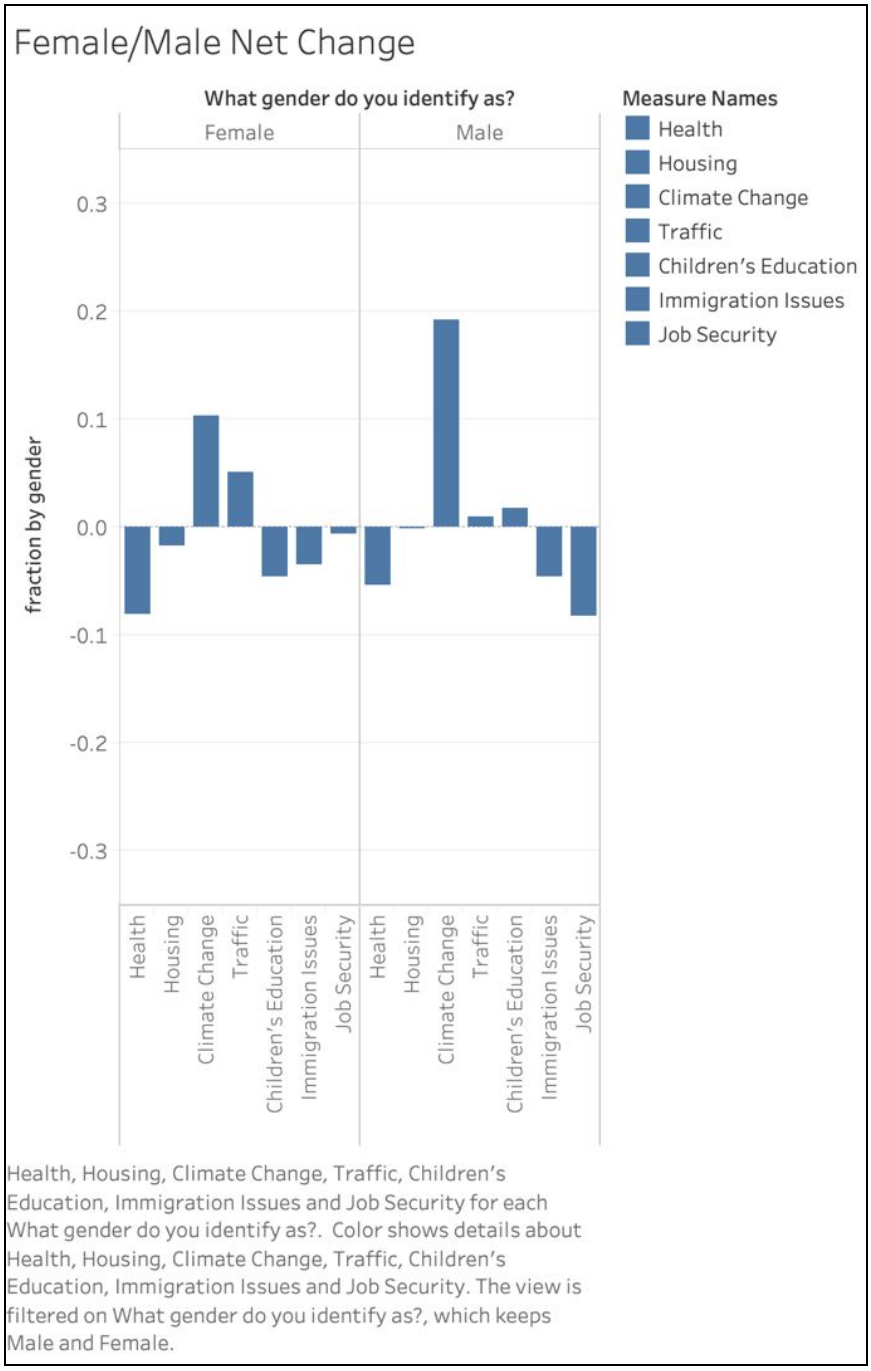




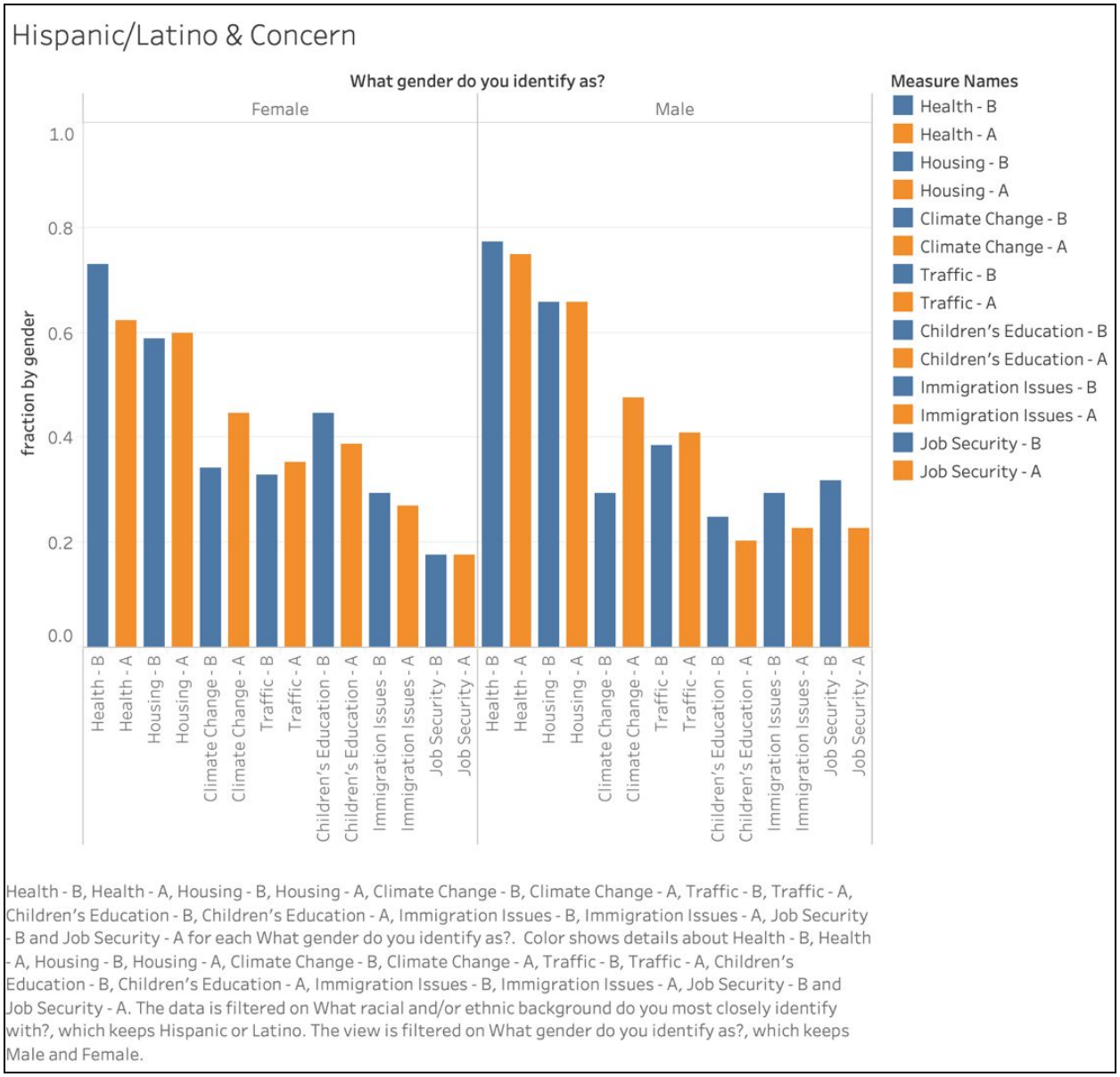
Appendix 31: *Fraction of total respondents who chose a particular issue as concerning before (B) and after (A) an educational intervention broken up by gender*



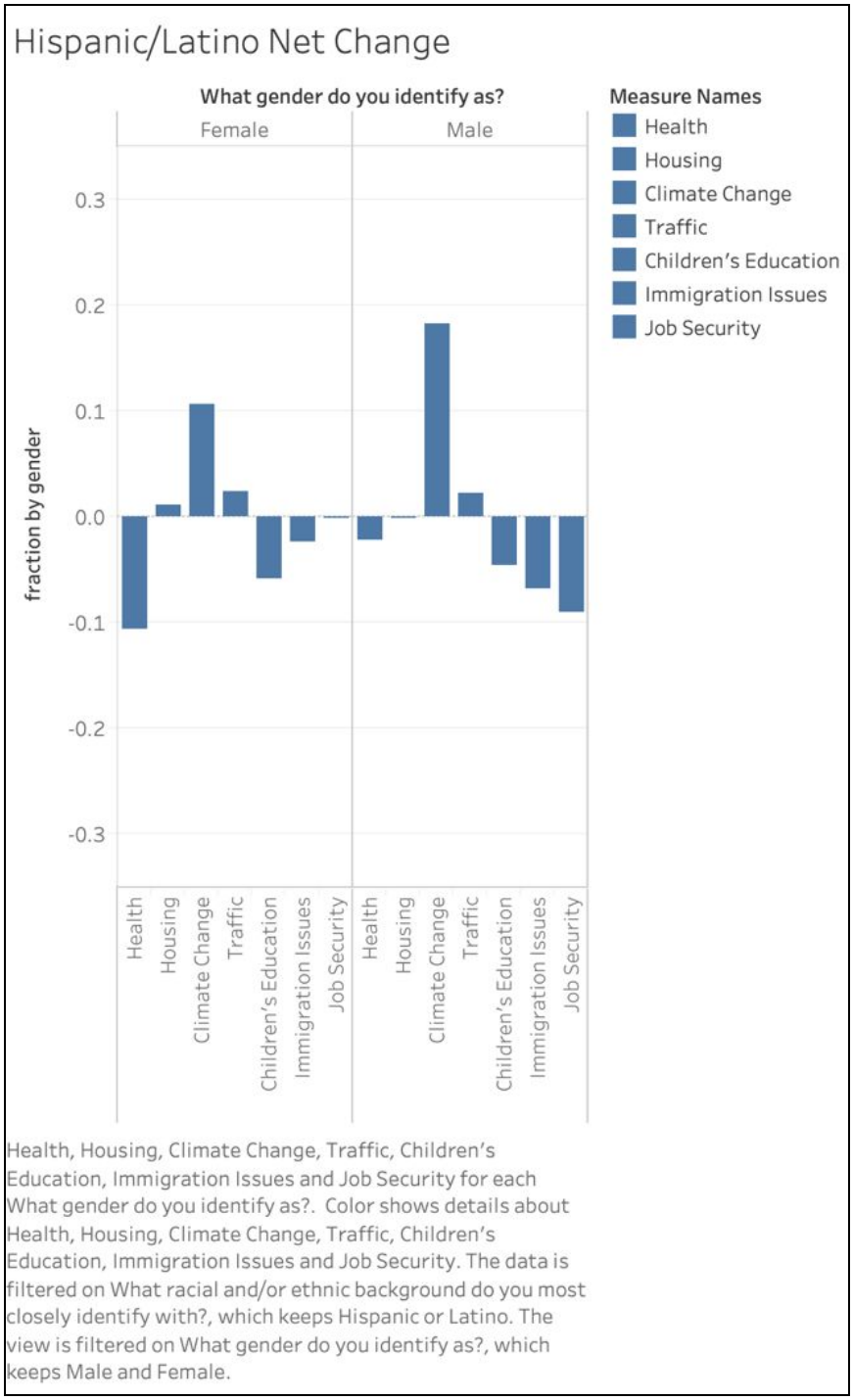
Appendix 32: *The net change between fraction of respondent whose chose an issue as concerning before (B) and after (A) an educational intervention broken up by gender*



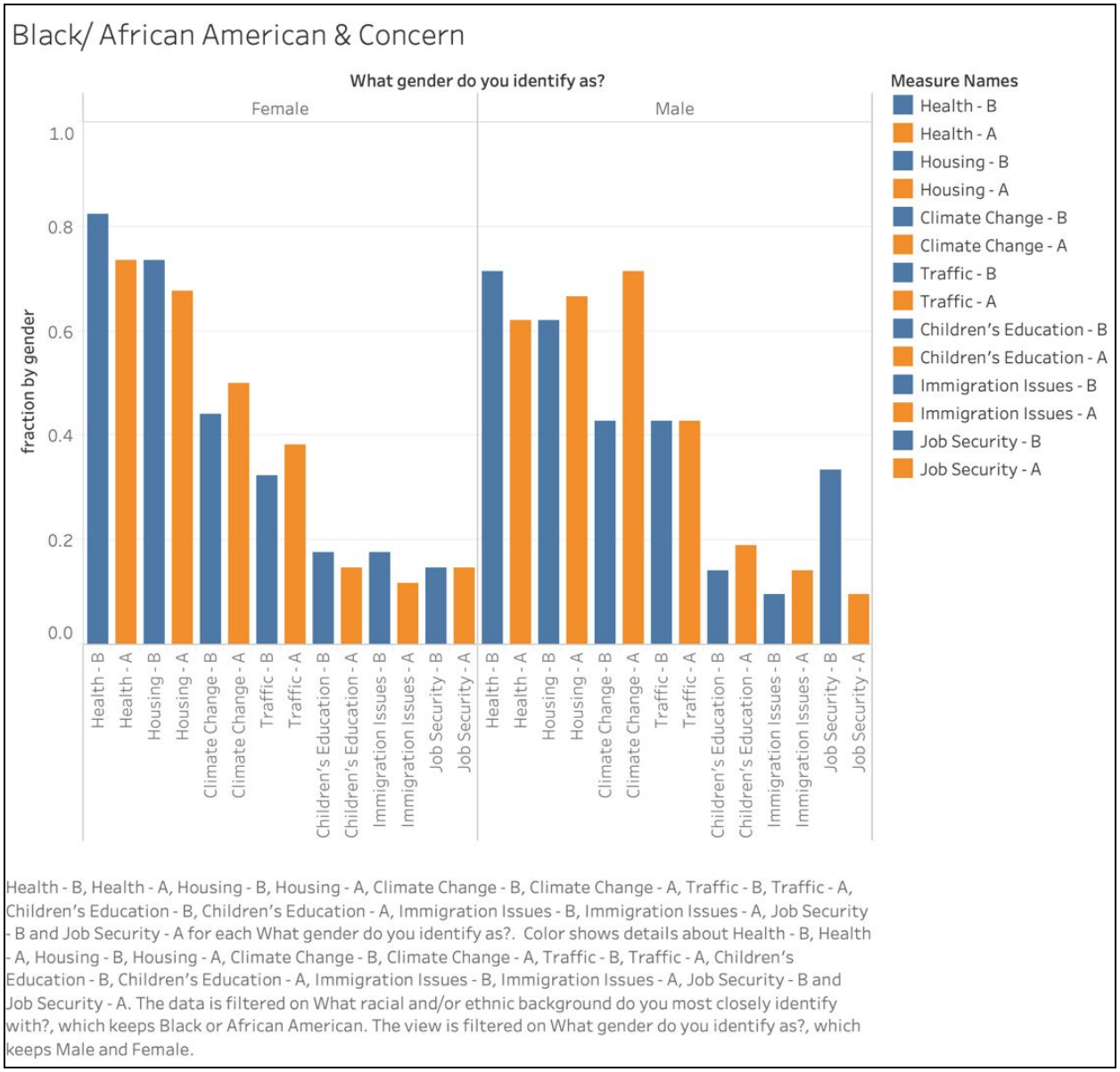
Appendix 33: *Fraction of total respondents who chose a particular issue as concerning before (B) and after (A) an educational intervention broken up by gender for the hispanic/latino category*



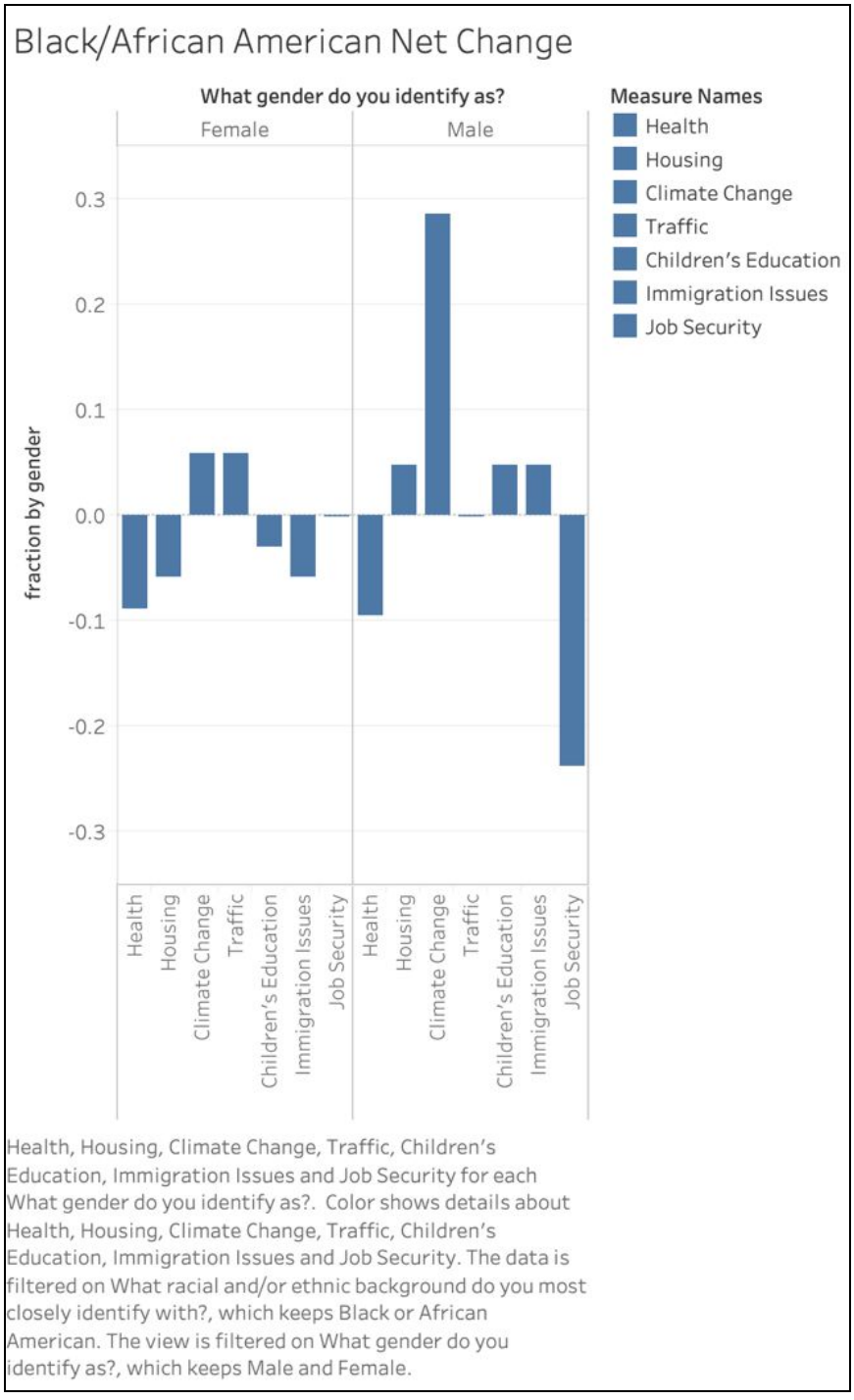
Appendix 34: *The net change between fraction of respondent whose chose an issue as concerning before (B) and after (A) an educational intervention broken up by gender for the hispanic/latino category*



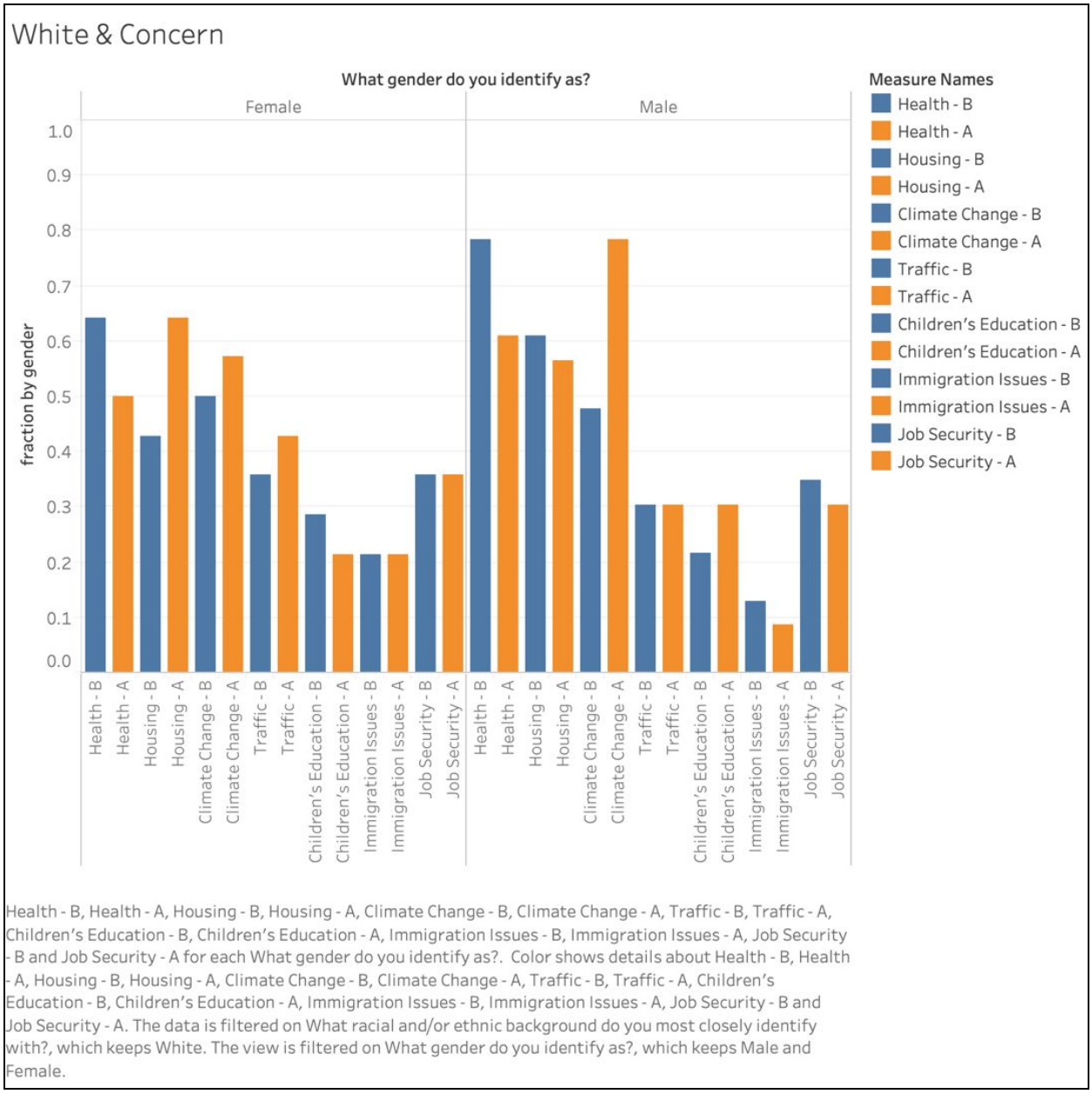
Appendix 35: *Fraction of total respondents who chose a particular issue as concerning before (B) and after (A) an educational intervention broken up by gender for the black/african american category*



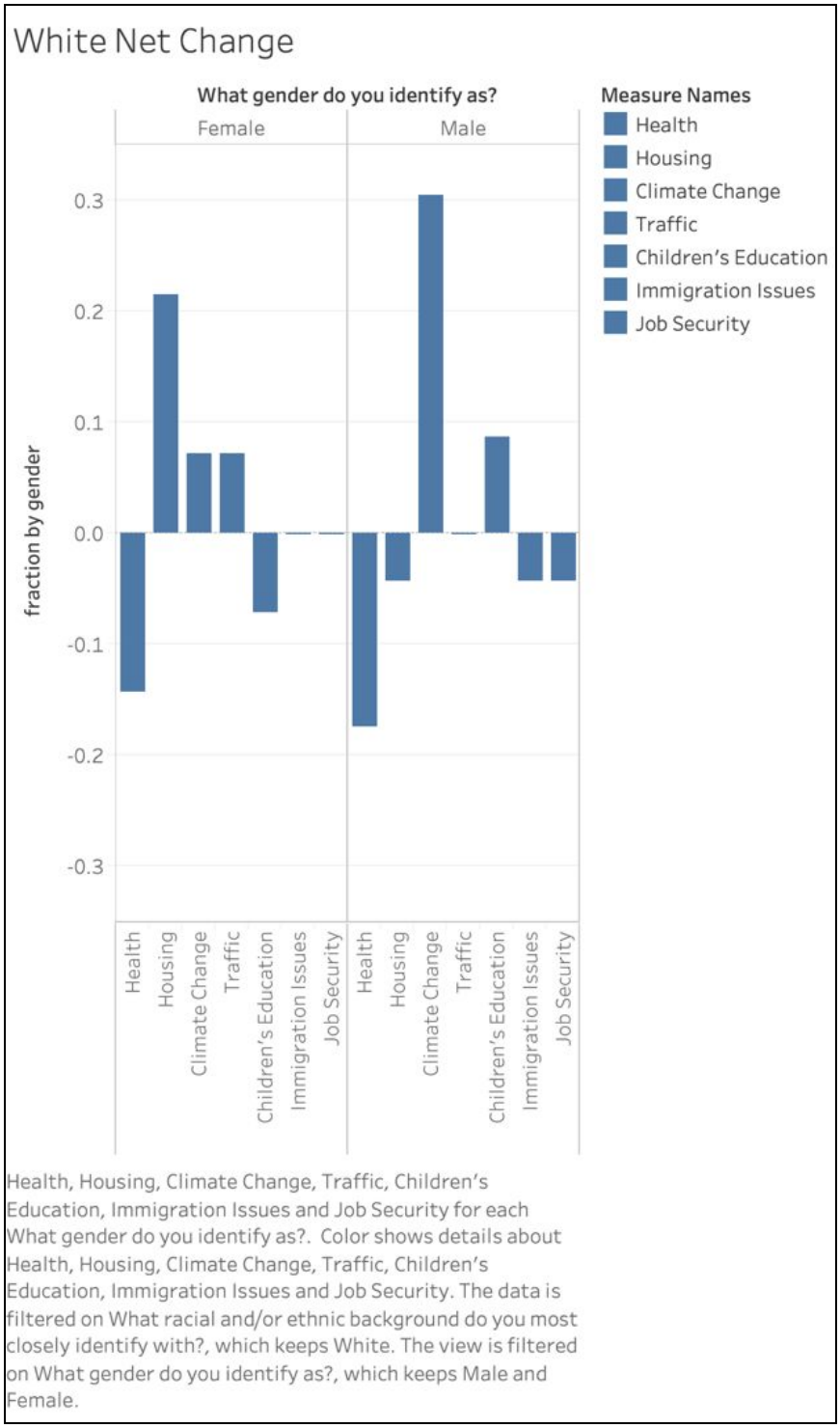
Appendix 36: *The net change between fraction of respondent whose chose an issue as concerning before (B) and after (A) an educational intervention broken up by gender for the black/african american category*



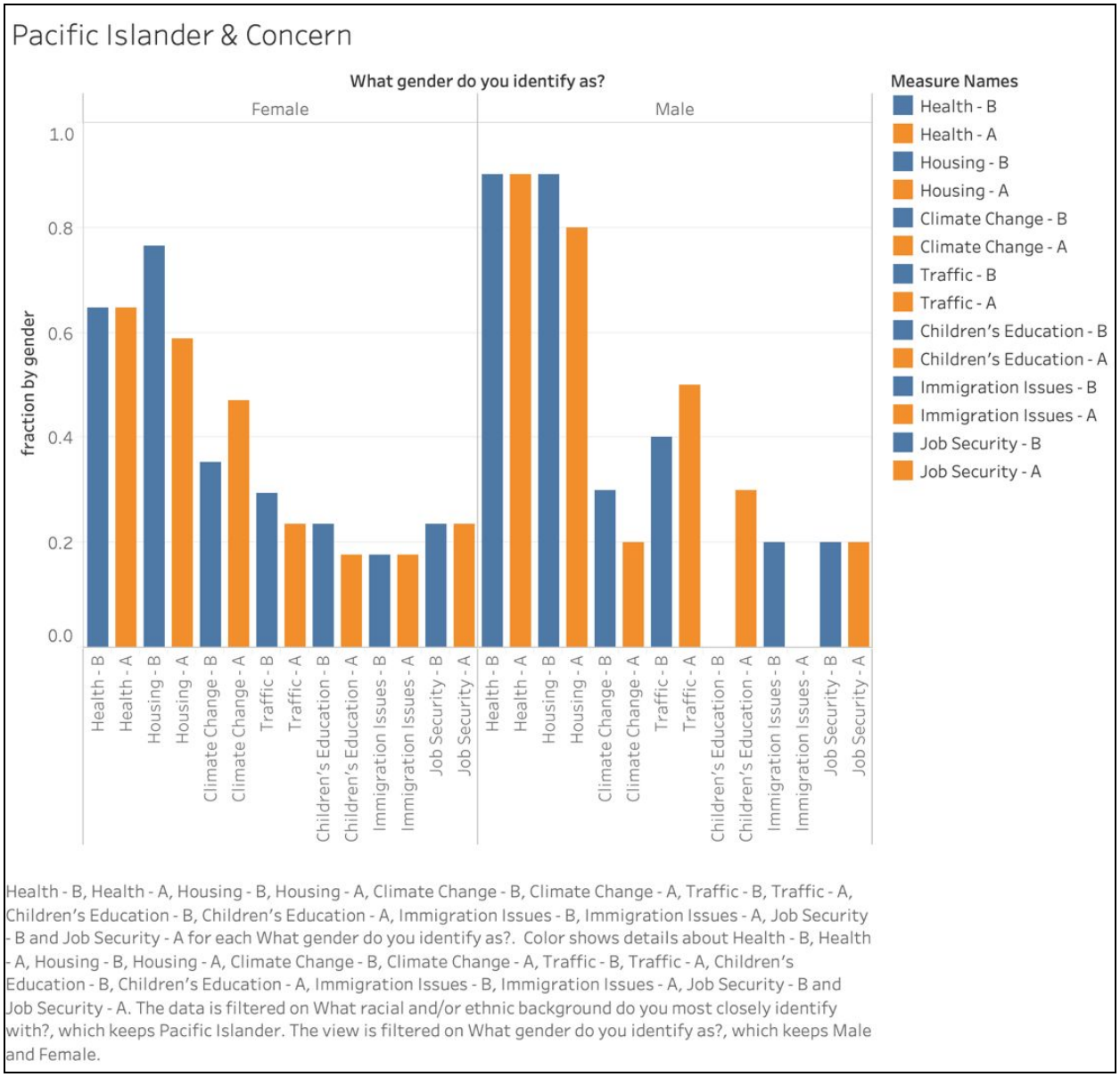
Appendix 37: *Fraction of total respondents who chose a particular issue as concerning before (B) and after (A) an educational intervention broken up by gender for the white category*



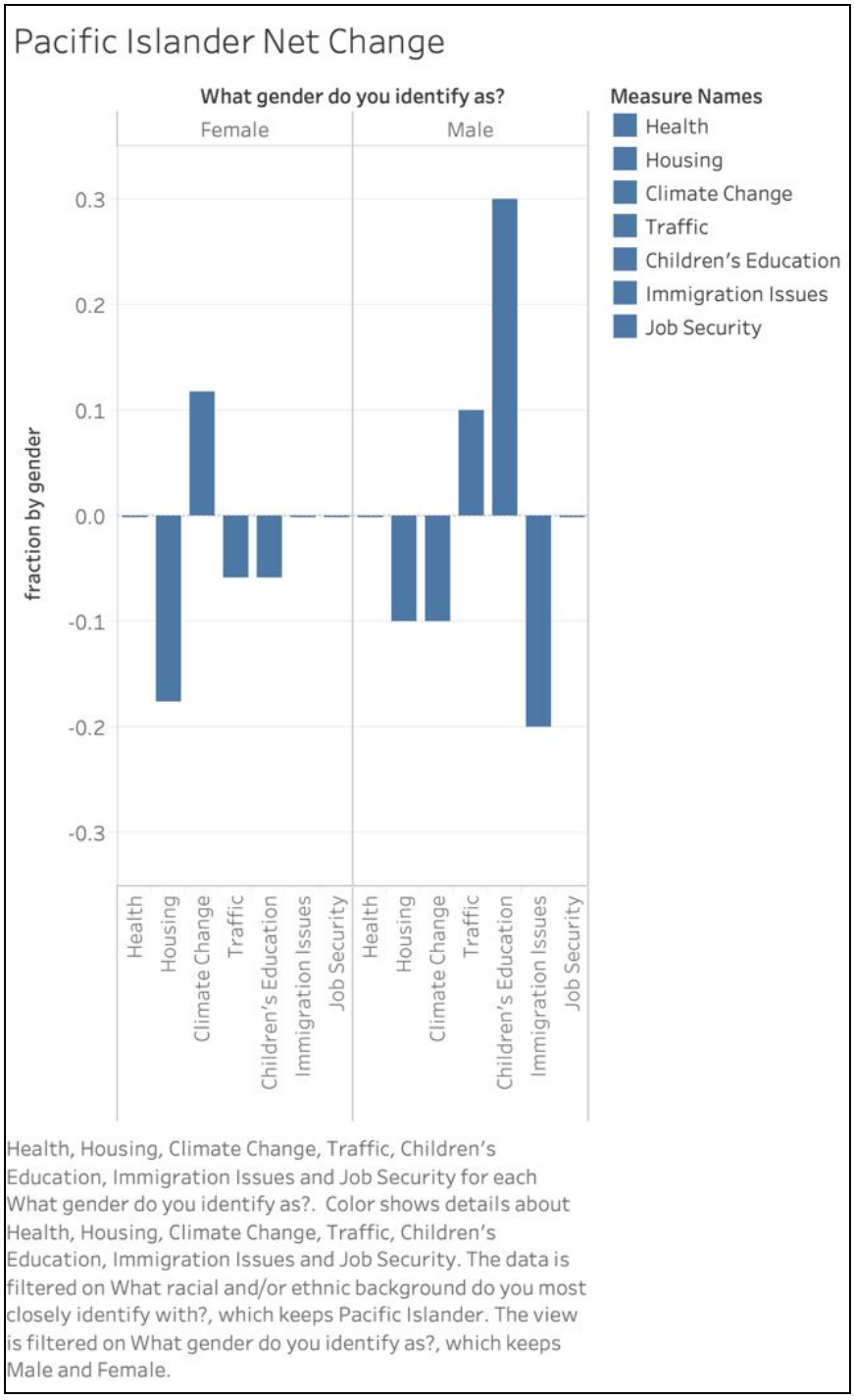
Appendix 38: *The net change between fraction of respondent whose chose an issue as concerning before (B) and after (A) an educational intervention broken up by gender for the white category*



Appendix 39: *Fraction of total respondents who chose a particular issue as concerning before (B) and after (A) an educational intervention broken up by gender for the pacific islander category*



Appendix 40: *The net change between fraction of respondent whose chose an issue as concerning before (B) and after (A) an educational intervention broken up by gender for the pacific islander category*



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