

Influences of the Exposure to Environmental Issues on Environmental Justice Engagement and Educational Trajectories of Vietnamese-American College Students

Nhu V. Nguyen

ABSTRACT

Since the end of the Vietnam War 1975, the legacy of environmental problems persisting in Vietnamese American immigrant communities has not been extensively documented nor disaggregated. After experiencing life-threatening situations during their journey to the United States, many Vietnamese Americans continue to face issues of socioenvironmental inequities after resettlement. Cyclically driving these issues are low rates of higher education attainment and high poverty rates in the community. In order to better understand the narrative of environmental issues affecting Vietnamese American communities and to seek avenues of change, I surveyed the Vietnamese American student community at the University of California, Berkeley. Evidently, 85.2% of respondents have experienced or were aware of environmental issues occurring in their hometowns, and they also recognize that those issues carry socioeconomic consequences. There is a strong belief among respondents that environmental issues are discriminately affecting Vietnamese American communities with less socioeconomic mobility, and that ways to bring forth progress include higher education attainment and environmental advocacy.

KEYWORDS

Vietnamese American, resettlement, immigration legacy, disaggregation, environmental racism, higher education, environmental justice

INTRODUCTION

The Asian American community in the United States is extremely diverse, comprising many different peoples differing in ethnicities, class, and backgrounds. However, this diversity is often under-explored in the field of environmental awareness and education research, leading to the underrepresentation and misrepresentation of certain groups within the Asian American community (Lee et al, 2017). Southeast Asian Americans, a group with immigration and resettlement legacies stemming from the end of the Vietnam War in 1975, differ from other Asian American ethnic groups in terms of their socioenvironmental history (Her, 2014). For the scope of my research, I will only be focusing on Vietnamese Americans; however, I do acknowledge that other Southeast Asian American groups (such as Laos, Hmong, and Cambodian Americans) also share a common diasporic history after the Vietnam War, leading them to similar resettlement realities (Takaki, 1989). Upon resettlement in the United States, Vietnamese immigrants are usually clustered in geographic areas and occupations with disproportionate exposures to hazardous environmental conditions and neighborhood stressors (Tran et al, 2013). Although multiple generations of Vietnamese Americans have now settled throughout the country, there has been little progress toward advancing community engagement on environmental issues (Tran et al, 2013). For this reason, this paper will describe the current environmental conditions perceived by Vietnamese American students college from participating communities, and looks at how those conditions propel higher education trajectories and paths toward action for environmental justice.

Unlike other Asian American ethnic groups that mass immigrated to the United States since the mid-1800s (e.g., Chinese, Japanese, and Korean Americans), most Vietnamese Americans fled to the United States in waves after the end of the Vietnam War in 1975 (Takaki, 1989). The majority of Vietnamese American people did not migrate to the United States voluntarily, but as refugees who fled their countries of origin to escape political persecution (Portes & Rumbaut, 1996). Consequently, many Vietnamese American refugees “faced life-threatening circumstances and traumatic experiences, including disease, starvation, rape, homicide, genocide, forced separation from family members, and inhumane living conditions in the refugee camps that they inhabited before coming to the United States” (Museus, 2013). Resettlement of these survivors and their children in the United States is often very rough as they work in jobs that often have high health risks (Bach, 1984) or live in neighborhoods where socioenvironmental issues are prevalent

(Tam and Freisthler, 2015). For example, in California, Vietnamese American women work in nail salons that have health, safety, and labor violations; even though the problem was exposed more than a decade ago, there is still a fight to educate and improve the health, safety, and rights of those workers to this day (Phan, 2016).

This ongoing reality is maintained by the low rates of higher education attainment in the community. Vietnamese American students face educational inequities that result from structural economic inequalities and environmental racism, leading to lower rates of college degree attainment, and, in turn, translates to lower lifetime earnings and higher poverty rates for the bigger community (Museus, 2013). Vietnamese American students are under and misrepresented in a lot of research before this decade. They were often aggregated with other ethnic groups under the Asian American umbrella and were presumed to be doing well in school as overachieving model minorities (Ngo, 2006). On the flip side, they were also stereotyped as deviant minorities who disproportionately drop out of school, are involved in gangs, and are on welfare (Ngo, 2006). This duality of stereotypes comes from their diasporic history. Therefore, a lot of Vietnamese Americans students in K-12 public education encounter cultural incongruence, conflict, and dissonance between their home cultures and the cultures of their educational institutions, which can ultimately hinder their educational success (Museus, 2008). The opportunities for Vietnamese Americans to go to college and come back to their communities are slim—slowing down the awareness and improvements of key issues in the community.

Motivated by my own experience with resettlement and environmental issues in my predominantly Vietnamese American hometown, I am interested in learning about similar experiences that other Vietnamese Americans students might have. My research focused on the environmental narratives of the Vietnamese American student community at the University of California, Berkeley. I pursued the question: How does exposure to environmental issues influence Vietnamese American college students' educational trajectories and environmental justice engagement? Particularly, I am interested in (1) how immigration legacies shaped Vietnamese American resettlement geographically, (2) the environmental issues that Vietnamese American students are aware about in their hometowns, and (3) the attitudes that Vietnamese American students have about the environment or environmental work during college and post-graduation.

Background

Disaggregated Data on Student Enrollment

The Regents of the University of California started collecting data on fall enrollments by disaggregated race/ethnicity in 1999 (Disaggregated data – University of California). At the University of California, Berkeley (UC Berkeley), this action expanded the “Asian” category to show seven ethnicity categories: “Chinese”, “Korean”, “Filipino”, “Vietnamese”, “Japanese”, “East Indian”, and “Other Asian” (Disaggregated data – University of California). After that set of disaggregated data was published, the visibility of certain misrepresentations under the aggregated “Asian” category was highlighted. The only Southeast Asian American group with disaggregated data was “Vietnamese” while other Southeast Asian American groups were not. Some ethnic groups had significantly more enrollments than other ethnic groups (e.g. there were 5,445 “Chinese” student enrollments, 1,660 “Korean” student enrollments, 1,059 “East Indian” student enrollments, 734 “Vietnamese” student enrollments, 699 “Filipino” student enrollments, 611 “Japanese” student enrollments, and 608 “Other Asian” student enrollments) (Disaggregated data – University of California). There has been a long history of data aggregation that misrepresents the education progress of the Vietnamese American student population at UC Berkeley. Over time, the number of student enrollments under the aggregated “Asian” category has increased, but the number of Vietnamese American student enrollments within the aggregated “Asian” category have remained relatively low. Aggregation of enrolment data at UC Berkeley has led to slower progress for Vietnamese American activism for educational attainment.

Education Attainment Levels of the Vietnamese American Community

Vietnamese American students at UC Berkeley, however, are interesting models of educational success for their communities. In a 2010 census by the U.S. Census Bureau’s American Community Survey (ACS), it was found that percentages of educational attainment of people aged 25 and over for Vietnamese Americans is lower than the “Asian Overall” for all categories (SEARAC, 2011). Notably, 85.9% of “Asian Overall” are high school graduates higher, while Vietnamese (69.8%) have lower percentages (SEARAC, 2011). Additionally, 48.9% of

“Asian Overall” holds a Bachelor's degree or higher, while Vietnamese (25.5%) have lower percentages (SEARAC, 2011). The Vietnamese American students at UC Berkeley default to being in a narrow group of Southeast Asian Americans that make it past high school and into college. Their journey to college might have looked different than other members coming from other Vietnamese American communities. These students vary in generational relations to the Vietnamese American refugees from the Vietnam War; meaning, they might have not faced the same educational issues as immediate Vietnamese American refugees did, but are possibly still facing the intergenerational repercussions of it. Getting into UC Berkeley is not the end of these students' paths, as they have to navigate the challenges of higher education. In order to assess how, if at all, environmental issues influence these students' educational trajectories, it is important to understand their plans while at UC Berkeley and their plans post-graduation.

Literature Review

Immigration Legacy of Vietnamese Americans

Before 1975, most Vietnamese Americans in the United States were wives and children to American men, or they were workers who had permits. Following the Fall of Saigon in 1975, it was three distinct waves of mass immigration that brought most of Vietnamese Americans to the United States (Takaki, 1989). The first wave was composed of Vietnamese immigrants who arrived in the U.S. between 1975 to 1977; they were evacuated right after the Fall of Saigon in 1975. They were mostly members of the educated elite, professionals, and there were those who were close with the U.S. Military (Ngo and Lee, 2007). The second wave was composed of Vietnamese immigrants who arrived in the U.S. between 1978 to mid-1980s. They were mostly refugees (“Boat People”), and many of them had to live in refugee camps before arriving in the United States. The third wave consists of Vietnamese immigrants who arrived in the U.S. from mid-1980s to present day. They are mostly family members of previous-wave immigrants, and many of them arrived in the United States through the Orderly Departure Program.

Upon arrival in the United States, Vietnamese Americans usually find communities to settle near the borders of the United States. Almost half of the Vietnamese American population resettled in California and now has multiple generations residing there (Ngo and Lee, 2007). They

formed community clusters that share postimmigration social, economic, educational, and environmental experiences (Ngo and Lee, 2007). Their environmental history since resettlement has not been extensively recorded or aggregated outside of the Asian American narrative (Sze, 2004). Literature on Vietnamese American engagement with the environment comprise largely of case studies and community-specific participatory research (Dao, 2015; Kang, 2018; Tran et al, 2013) with less emphasis on more structural solutions that would engender environmental activism in the general community. There is a need to examine the relationship between environmental and educational inequities within different Vietnamese American communities in order to bring forward more solutions.

Vietnamese Americans' Relationship with the Environment

Vietnamese American communities have been greatly shaped by their environment (sites where they live, work, and play). After the end of the Vietnam War in 1975, Vietnamese (American) refugees were displaced all over the world, and some of the environmental issues that they faced while escaping their countries of origin include health issues (disease), inhumane living conditions in refugee camps, and basic needs issues (starvation, lack of shelter, etc.) (Museus, 2013). Resettlement of Vietnamese (American) refugees in the United States was also a rough process, as they mostly resettled in impoverished neighborhoods. Vietnamese (American) refugees work in jobs that expose them to health hazards, live in areas that have disparate exposures to carcinogenic hazardous air pollutants (HAPs), and are affected by urban redevelopment issues (including housing and gentrification) (Grineski et al, 2017; Sze, 2004). Due to the aforementioned environmental issues affecting a lot of Vietnamese American communities, work that renders environmental justice for Vietnamese American communities is crucial in order to engender change. The root of starting environmental justice work for a community starts from the education and awareness of the environmental issues affecting that community. Especially, there is a need for young Vietnamese Americans to be educated about environmental issues affecting their communities, and a need for them to come back to the community and bring about these changes.

Vietnamese Americans' Relationship with K-12 Education

The literature on Vietnamese American's relationships with education is embedded within a larger body of literature on people of color (Ngo and Lee, 2007; Ahmad, 2019). A lot of education research on Vietnamese American students is not disaggregated with other disadvantaged groups, and so it has been difficult to extract specific literature pertaining to Vietnamese American students. The link between Vietnamese American students and education can be traced to the environment that they grew up in. Since Vietnamese American students are likely to be raised in under-resourced communities (Kiang, 2002), they navigate relatively under-resourced education systems (Lee, 2009; Teranishi, 2010). "Educational systems are based on and favor the cultural values, norms, and knowledge of the white middle class and, consequently, can function to limit racial minority and low-income students' access to resources" (Museus, 2013). These realities lead to the dual reality of lower rates of higher education attainment for Vietnamese American students, and the slow progress of addressing environmental issues in Vietnamese American communities.

Asian American and Environmental Activism

The Asian Pacific American environmental justice is different from the popular environmental movement because it is rooted in environmental justice and aims to tackle issues that are pertinent to the community (Sze, 2004). Low-income Asian immigrant and Asian American communities are subject to poorer living environments with issues ranging from bad housing, low-wage jobs, exposure to waste sites, etc. There are case studies on different communities fighting environmental injustice, especially on efforts in the San Francisco Bay Area, and they are united with different communities to fight injustice (Sze, 2004). However, there has not been sufficient and specific research done on Vietnamese American advocacy for environmental justice.

Methodology

This study will be conducted with qualitative research methods because the nature of the research question necessitates "the exploration of a topic or concept through the use of detailed

information” (Creswell, 1998). Since this study aimed to explain certain aspects of environmental awareness in the Vietnamese American community, it was appropriate to study a small population of Vietnamese Americans and gather detailed information from them. A detailed survey was the most ideal method for this study because it is a comprehensive mechanism that collected a lot of data from the participant. I drew from the protocols of “Unpacking the Complex and Multifaceted Nature of Parental Influences on Southeast Asian American College Students’ Educational Trajectories” to select my survey respondents and to analyze my survey results (Museus, 2013).

METHODS

Participant Selection

The respondents selected through sampling for maximum variation for this study are Vietnamese American undergraduates at UC Berkeley. Maximum variation sampling seeks representatives through a wide range of extremes (Vietnamese Americans in higher education at UC Berkeley), and it was used to gather survey data. This sampling method is used for survey data, as opposed to random sampling because there is not enough disaggregated information available on the small population of Vietnamese American undergraduates at UC Berkeley. I pooled survey respondents from Cal Vietnamese Student Association – a registered student organization on campus. As a cabinet member in the organization, I have access to over 300+ emails from the organization’s listserv. I was given permission from the organization’s president to send out my anonymous survey to the listserv from my personal email, and I incentivized the respondents with a chance to win a \$25 gift card.

The final sample consisted of 61 Vietnamese American undergraduate students. Among the survey respondents, 13 identified as freshmen, 14 identified as sophomores, 16 identified as juniors, 17 identified as seniors, and 1 identified as a fifth year in college. The respondents were all full-time students and spanned across different colleges at UC Berkeley: 43 students in College of Letters and Sciences, 12 in College of Natural Resources, 5 in College of Environmental Design, 4 in Haas School of Business, 2 in College of Engineering, and 1 in College of Chemistry.

Data Collection

My anonymous survey titled “Vietnamese-American College Students and Environmental Justice” asks a variety of questions ranging from multiple choice to short answer questions (Appendix A). Due to the length and comprehensiveness of the survey, further interviews were not necessary. Survey data were collected in four categories: (1) demographics, (2) engagement with environmental issues (3) current education, and (4) post-graduation plans for environmental justice engagement.

The *demographics* section built the background image for my study’s respondents by collecting data on their socioeconomic backgrounds and ethnic legacy (family’s migration to the United States). The *engagement with environmental issues* section aimed to assess how knowledgeable a participant was on the environmental issues (or lack of issues) in their hometown. Respondents who express knowledge about environmental issues in their hometown are prompted to answer questions about those issues’ socioeconomic impacts. The section also aimed to assess their families’ and community’s engagement with environmental issues awareness and advocacy. The *current education* section aimed to explore the participant’s current educational trajectory and whether or not it relates to the environment. This section also aimed to explore the exposures to environmental justice that respondents might have had since attending UC Berkeley. The last section on *post-graduation plans* aimed to track the respondents’ plans after they are done with college, specifically, gauging whether or not they will be involved with some kind of environmental work with their community after college.

Data Analysis

Survey responses were analyzed in a quantitative and qualitative manner. Multiple-choice and geospatial results from the survey were compiled into a spreadsheet where necessary charts and maps were generated. Short-answer results from the survey were coded for different themes on a word document. I utilized constant comparative methods, so the survey data was collected and analyzed simultaneously and alternately. Since data analysis occurred throughout the data collection process, it helped me know when I have reached saturation for my data collection sooner. As I gathered survey responses, I compiled and coded the data into emerging categories.

Coding of survey responses were done in an open and axial manner. In open coding, I labeled concepts, defined and developed categories based on their attributes. In axial coding, I related those categories to each other. In my investigation, I collected survey responses until no new data emerged and theoretical saturation was reached.

RESULTS

Immigration Legacies and Vietnamese American Resettlement

All of the respondents' hometowns are in California. There is a clustering of hometowns in the East Bay Area and a more distant spread of hometowns in Southern California.

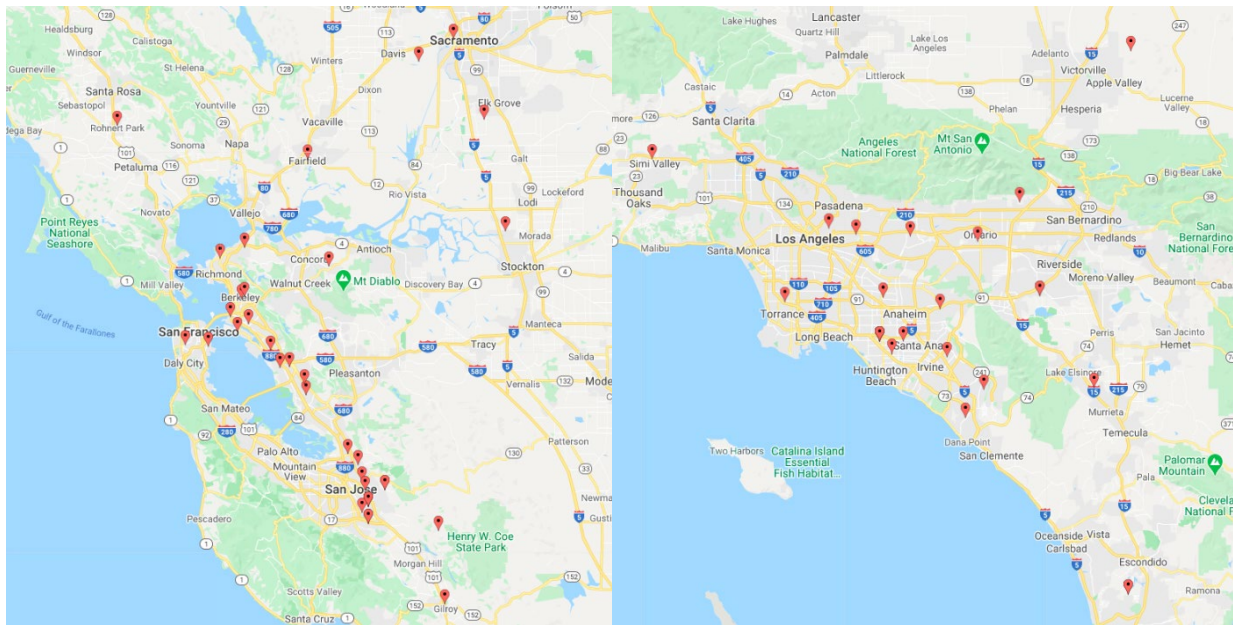


Figure 1. All of the respondents' hometowns mapped by zip codes in Northern California (left) and Southern California (right)

The array of hometowns in Figure 1 can be attributed to multiple reasons. Most (60.3%) respondents cited that they or their family first resettled in their current hometown because “they had other family members already living there”. Respondents also cited reasons such as “there were other ethnic communities that they or their family had identified with” (36.5%), “there were jobs available” (22.2%), or “that housing was available” (19%). These reasons led to the formation

of Vietnamese American enclaves in certain geographical areas of California, where people are exposed to similar environmental conditions.

Within these enclaves, a lot of Vietnamese American families work in jobs that do not pay very well. 55.6% of respondents answered that their family’s gross annual income falls under \$75,000 – which is under California’s median household income level of \$75,200 (Source). There is a relationship between the first immigrant wave of the respondents’ family and their family’s gross annual income. Most respondents whose family came to the United States before 1975 or in the First Wave are making more income than respondents whose family came in the Second or Third Wave.

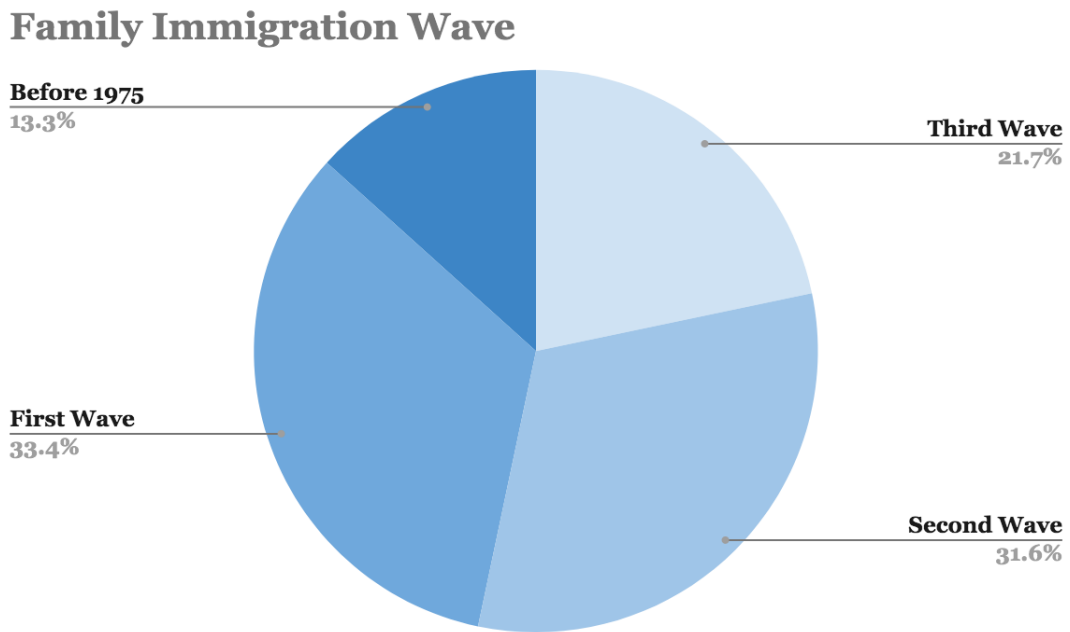


Figure 2. Percentage of respondents’ family’s first wave of arrival in the United States

Parent(s)/Guardian(s) Annual Income

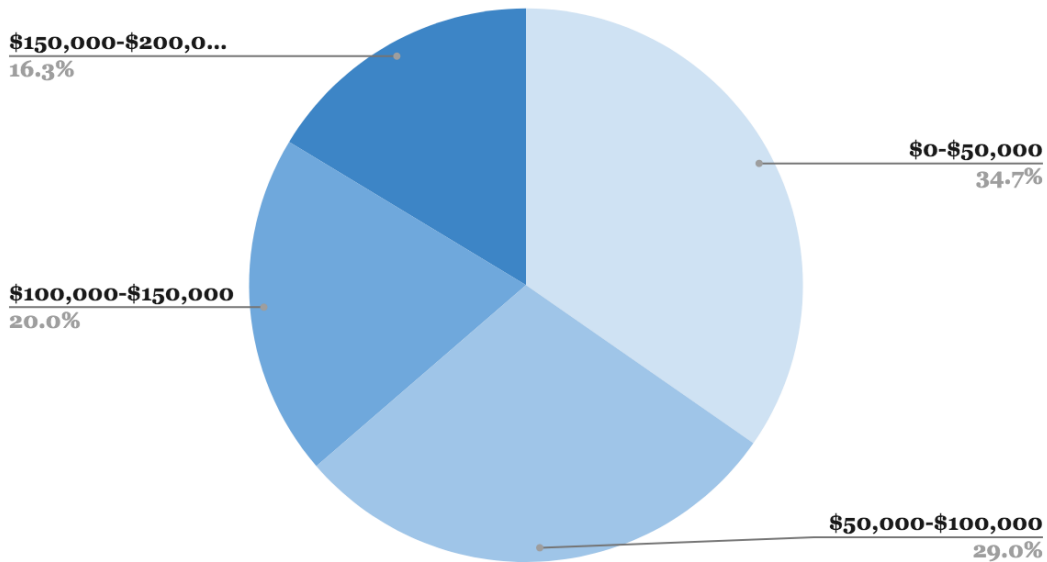


Figure 3. Percentage of respondents' parent(s)/guardian(s)'s reported gross annual income

Environmental Engagement and Awareness of Environmental Issues

Respondents vary in levels of engagement with environmental topics at home, at their high schools, and in their hometown/greater community. Over half (52.4%) of respondents answered that they never or very rarely have conversations or discussions about environment issues at home. Other respondents answered that they have environmental conversations or discussions at home monthly (23.8%), weekly (20.6%), and daily (3.2%). In regards to environmental engagement at their high schools, 81% of respondents answered that they have at least some interaction with environmental education: 31.7% have taken AP Environmental Science, 66.7% have had an environmental component in another course, and 7.9% have taken an environmental elective or have been involved with an environmental extracurricular activity. When asked about the frequency of community involvement or community engagement activities on environmental issues occurring in their hometowns, 6.3% answered daily, 6.3% answered weekly, 33.4% answered monthly, 9.5% answered yearly, and 7.9% answered never. Quite a few (36.5%) of respondents answered that they don't know or aren't aware of the community involvement activities on environmental issues happening in their hometown.

When assessing environmental risk amongst the survey respondents, six main themes emerged from respondents who answered *yes*, *maybe/unsure*, and *no*. The first four themes came from the majority (63.9%) of respondents stating that their hometown was more at risk for environmental issues. Those respondents most commonly cited *lack of education and resources in their community*, *living in neighborhoods at risk of environmental toxins*, *community members working in hazardous jobs*, and *seeing that most residents are low-income* as the four main reasons leading their hometown to be more at risk.

1. Lack of Education and Resources in Their Community

Vietnamese American communities are often under-resourced and informed on environmental issues that are prevalent in the community. Respondents often cited this reason since lack of education hinders a greater sense of environmental awareness in the community and delays environmental call-to-actions. A respondent explains:

“Yes, because the language barrier and lack of common information related to environmental issues are not prevalent or understood in our communities. Personally, I feel like students are the ones to educate their parents/grandparents, but many times there are other issues that get in the way of that conversation (ie. family issues, other pressing matters). I mention the language barrier because many environmental propaganda and information is shared in English; I honestly can't remember the last time (if ever) I saw an ad, announcement, or other media that informed Vietnamese-speaking/reading individuals to be aware of their carbon footprint.”

This statement reflects the sentiments that many respondents had in regards to environmental awareness in their hometowns: the lack of environmental information accessibility creates a culture of ignorance around environmental issues.

2. Living in Neighborhoods at Risk of Environmental Toxins

Many respondents stated that their hometowns were sites vulnerable to pollution from environmental toxins. A respondent answers:

“I think refugees like my father were more likely to live in poor housing and live in neighborhoods that are targeted by polluting institutions due to the lack of neighborhood's political power.”

Respondents who cited this reason believe that Vietnamese Americans are living in areas more at risk for environmental issues due to environmentally discriminate policies.

3. Community Members Working in Hazardous Jobs

Most respondents cited this reason because they or someone they know in their hometown have had candid experiences working in hazardous jobs. A respondent provides the following example:

“My mom's side of the family mostly works in salons 7 days a week. In that way, they're exposed to harmful chemicals on a daily basis.”

To this day, Vietnamese Americans still operate a lot of low-paying and hazardous jobs. Respondents citing this reason often talk about how their parents or other family members work similar jobs – being from the same area. This reason makes respondents' hometowns more at risk since people tend to work the same jobs in certain areas.

4. Most Residents are Low-income

Most low-income Vietnamese Americans tend to cluster in the same communities, exposing them to the same environmental risks. A respondent states:

“Yes, I think coming from a low-income community, there is not much emphasis on being ‘environmentally friendly’ due to socioeconomic factors.”

Respondents made a lot of associations between “low-income community” and “environmental issues” in their responses. There is a strong belief that being from a low-income community increases the environmental risks that one experiences.

The fifth theme came from 21.3% of respondents who stated that they were unsure if their hometown was more at risk. Those respondents answered that *they are aware of environmental issues, but have not personally experienced the ramifications of those issues* as the reason.

5. Aware but Inexperienced

Respondents who cited this reason often echoed this following statement from a respondent:

“I grew up in a very middle class area. Many people are comfortable enough that they don't recognize the effects of environmental issues because they are so minor. I don't believe my community is at risk of like devastation, but I do know that rising gas prices affect everyone in the

suburbs and that, south of my community in Tijuana (which many ppl in my community have half a foot in), climate change leads to flooding due to poorly made streets.”

The sixth theme came from the remaining 14.8% of respondents who stated that their hometown was not at risk from environmental issues. These respondents were from *affluent neighborhoods*, and cited that as the reason why they are not affected by environmental issues.

6. *Affluent Neighborhoods*

Respondents living in more suburban and affluent neighborhoods do not believe that their hometowns are more at risk due to the community’s care for environmental impacts. The following account from a respondent is representative of these responses:

“Not much, due to the fact that Rancho Cucamonga is an affluent suburban area with less focus on commerce and more on leisure.”

Overall, the majority of respondents that were aware of environmental issues occurring in their hometowns have pointed out that those issues carry socioeconomic consequences. The reasons that respondents have cited for playing a role in making their hometown more at risk are all social issues – discriminately affecting Vietnamese American communities with less socioeconomic mobility.

The respondents who were aware of environmental issues in their hometowns also provided more concrete examples in order to highlight the main environmental concerns that are affecting Vietnamese American communities. A respondent from San Jose, CA describes:

“Since San Jose is the city with the largest Vietnamese American population in the U.S., there are a lot of occupational health issues with Vietnamese women working in the nail salon. It’s estimated that two out of three nail salon workers are Vietnamese in California, but in Santa Clara County, where San Jose is the county seat, that number balloons to every nine out of ten.”

Occupational health issues are cited by many respondents to be the main environmental concern affecting people in their hometown. Since many Vietnamese Americans work in hazardous jobs, these issues are most easily spotted since they harbor long term effects on the community’s health. Respondents also mention outdoor pollution being a main concern. This is an example from a respondent from Sacramento, CA:

“The biggest environmental issue that my hometown faces is air quality. We live in a valley surrounded by areas prone to wildfires. Every year, during wildfire season, the smoke and ash falls upon the valley, making the skies orange and cloudy and the air hard to breathe. Schools and other extracurricular activities continue with caution. Another issue we face is major droughts. Within

the past two decades, the Sacramento and American River water levels have dropped significantly, as well as the Folsom Lake. This affected wildlife and our water supply.”

Living in higher-risk areas is a common theme amongst more socioeconomically disadvantaged Vietnamese Americans. This ties in with the last main environmental concern on socially-driven environmental issues affecting the community. This account comes from a respondent from San Francisco, CA:

“I think one of the biggest issues San Francisco is currently facing is gentrification. With the tech industry rapidly growing within our city, land prices continue to rise at exponential rates, which pushes out workers who do necessary but low paying jobs. It then displaces their culture and community, or commoditized it for others' capital gain (i.e. Mission Thrift, a famously low cost thrifting option shutting down as higher tier small thrift boutiques pop up everywhere).”

Most respondents believe that children and seniors, people of color (especially Vietnamese, Latinx), and low-income households are the most impacted by the environmental issues outlined above. Indeed, environmental issues are discriminately affecting certain populations moreover others. A lot of these responses echo the findings of literature on Asian American and environmental issues exposure. The Vietnamese American community continues to be at risk to more environmental issues due to lack of education attainment and environmental justice.

Environmental Engagement and Educational Trajectories

It was found that 61.9% of respondents answered that their field is directly related to the environment, has a concentration in the environment, or that they are taking environmental classes.

The respondent's field of study is...

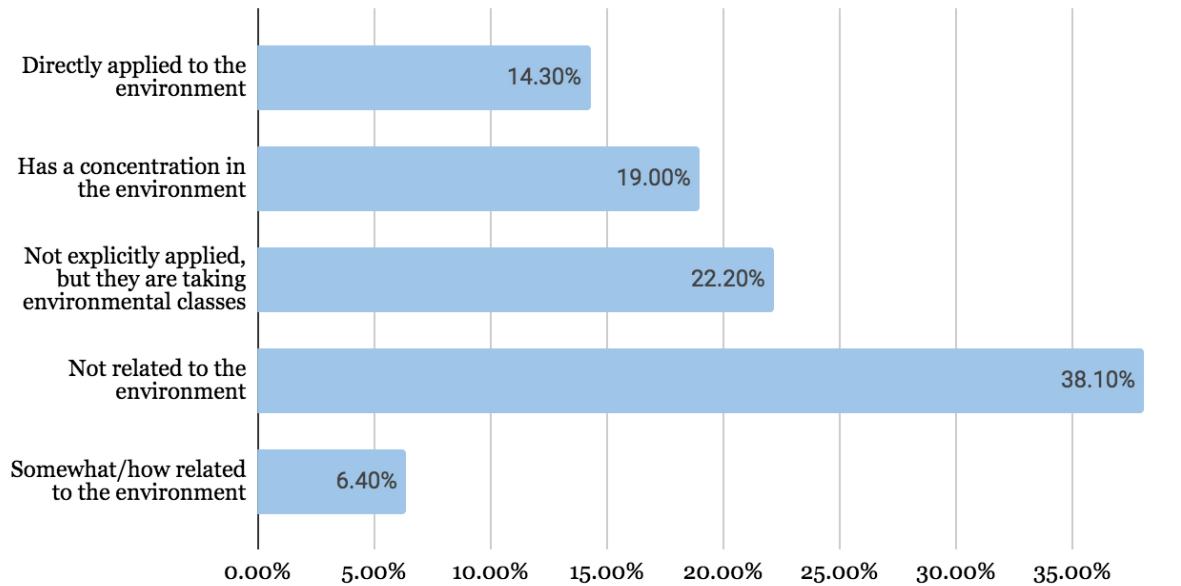


Figure 4. Respondents’ fields of study

Attainment of higher education suggests to be effective in breaking some of the barriers of environmental awareness, since 74.6% of respondents answered that they have become more aware of the environmental issues in their hometowns.

Since attending UC Berkeley, the respondent has...

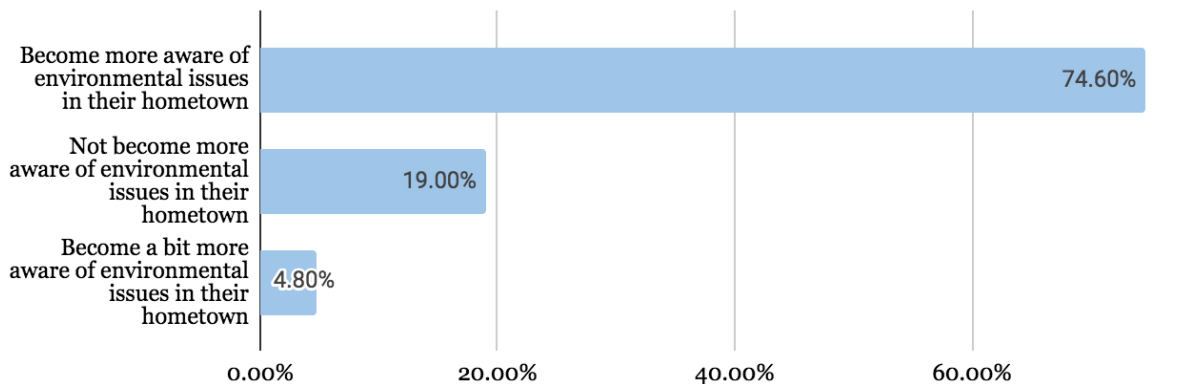


Figure 5. Respondents’ environmental awareness since attending UC Berkeley

Many of the respondents who are pursuing a field in the environment see the intersection between the issues in their community and the natural world. Although there are quite a few of respondents who are not pursuing something related to the environment in their undergraduate career, they still recognize the environmental issues in their community.

Post-Graduation Plans

Post-graduation, 47.6% of respondents answered that they plan on volunteering or doing work that will further environmental justice in their hometown. Respondents plan to do work ranging from performing social work, educating the community, starting sustainable businesses, conducting research, and volunteering. The remaining 52.4% of respondents answered that do not plan on engaging in such work, and cited reasons such as: (1) they are unsure of their post-graduation plans, (2) they won't be returning to their hometown, (3) they are not familiar with the environmental justice efforts in their hometown, (4) they have other concerns more urgent than environmental issues, and (5) they are not interested in environmental justice work.

DISCUSSION

Immigration Legacy and Environmental Reality

The legacies of immigration have facilitated the formation of contemporary Vietnamese American enclaves. Most respondents with families immigrating to the United States in the Second and Third Wave have less socioeconomic capital than most respondents with families immigrating before 1975 and in the First Wave since they were mostly refugees who came later and had no previous connections to the area. The large concentration of Vietnamese Americans in the East Bay Area and in Southern California can be attributed to the reason why 60.3% of respondents' family first resettled – Vietnamese immigrants tend to settle in areas with ethnic familiarity. Vietnamese American homemaking is a multigenerational custom, and it is a way to feel whole and reunited despite the many Vietnamese Americans' history of forced relocation (Mazumdar and Mazumdar, 2016). These immigrant families were able to build new communities in the spaces that they resettled in due to ethnic solidarity and socioeconomic feasibility of those spaces. However, due to these immigration legacies, a lot of Vietnamese American families are leading similar lifestyles since their resettlement in the United States and are living in similar environments that are more at-risk to environmental exposures (Tran et al, 2013). The majority of respondents

believe that their hometowns are vulnerable to environmental racism, as many of them have cited race-based differential exposure to environmental hazards in their Vietnamese American communities. The environmental issues that the majority of respondents have cited are all issues targeted toward poor and uneducated communities of color. By dissecting the layers of these different issues, there is more visibility brought out to the complexity and intensity of the relationship that Vietnamese Americans have with their environment.

Environmental Education and Advocacy: The Missing Link

Even though there was an almost collective agreement amongst respondents on the existence of environmental issues in their hometown, not a lot of respondents have had exposure to environmental advocacy. Many respondents did not speak about environmental issues in their homes, and only a few have had extensive environmental education prior to college. This calls for more and better access to environmental resources in Vietnamese American communities. Those students who make it onto higher education, especially at UC Berkeley, have more exposure and opportunity to spread environmental awareness and engender action in their community. Although empowering future generations of Vietnamese American Students through higher education is a good start in creating ripples of environmental change across Vietnamese American communities, there needs to be a greater collective action on transforming environmental attitudes in those communities. The high percentages of respondents reporting environmental issues in their communities and the lower percentages of respondents planning to perform environmental work post-graduation presents a missing link between environmental education and environmental action. There is a strong possibility of other factors being involved in the cultivation of environmental attitudes in Vietnamese American communities outside the scope of this study; acculturation levels, cultural ideologies, and more personal factors can play important roles in the hindrance or progression of environmental justice work. It is important to different generations in the Vietnamese American community to open up dialogue about the issues that are affecting them so that there is a more sustainable pathway from higher education to community action.

Limitations and Future Directions

This study was limited in representing the greater Vietnamese American population due to concentrated age group and education background of the survey respondents. The nature of the study's survey was vulnerable to voluntary response bias, as Vietnamese American college students at UC Berkeley may have more knowledge or interest on environmental issues than others. Also, additional interviews from some of the survey respondents could have given me better explanations for the relationships between socioeconomic status, education, and educational trajectory relating to the environment. Given these limitations, there are many directions of research that would help engender environmental awareness and action in the future. I would like to explore topics of culturally relevant pedagogy in conjunction with environmental justice, Vietnamese American attitudes toward climate change and environmental activism, and language barriers to environmental awareness. There is a need for more participant-based research in Vietnamese American communities in order to better gauge the resources that they need, and the materials that they're comfortable engaging with.

Broader Implications

Although this study is limited, the stories uncovered from it are valuable in the stream of disaggregated research on environmental issues faced by Vietnamese American communities. Higher rates and levels of education attainment amongst Vietnamese Americans are crucial in catalyzing the development of leaders for environmental justice. The Vietnamese American community is still facing the legacies of resettlement that cyclically drive issues of lower-income, lower levels of education attainment, and higher-risk for environmental issues. There is still a fight to educate and improve the environmental health, safety, and rights of Vietnamese Americans to this day; however, there is solace in knowing that there are people willing to step up and take on that fight.

ACKNOWLEDGEMENTS

I would love to thank the ESPM 175 team, especially my mentors Samuel Evans, Roxy Cruz, and Jessica Heiges, for their relentless support and guidance throughout my research and writing process. I also thank my dearest environmental science friends and peer editing team, Tiffany Lwin, Dara Sengchanthavong, Angelica Santos, and Lena Kondrashova, for their encouragement and solidarity. I am grateful to the Cal Vietnamese Student Association for connecting me with the respondents for my survey, and the respondents themselves for their time and stories. Lastly, I want to thank my community members, family, friends, and partner for giving me the strength and motivation I needed throughout this journey.

REFERENCES

- Ahmad, N.B., 2019. Mask off - the Coloniality of Environmental Justice. *Widener L. Rev.*, 25: 195-200.
- Bach, R. L. (1984). Labor Force Participation and Employment of Southeast Asian Refugees in the United States.
- Cal Vietnamese Student Association. Retrieved from: <https://vsa.berkeley.edu>
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage Publications.
- Dao, L. T. (2015). Making My Path by Walking: Using Community Based Participatory Research in Vietnamese American Studies. *Journal of Southeast Asian American Education and Advancement*, 10(2), 6.
- EEOC. (2005). New Gallup Poll on Employment Discrimination Show Progress, Problems 40 Years after Founding of EEOC. Retrieved 2019.
- Grineski, S. E., Collins, T. W., & Morales, D. X. (2017). Asian Americans and disproportionate exposure to carcinogenic hazardous air pollutants: A national study. *Social Science & Medicine*, 185, 71-80.
- Her, C. S. (2014). Ready or not: The academic college readiness of Southeast Asian Americans. *Multicultural Perspectives*, 16(1), 35-42.

- Kang, S. (2018). States of Emergence/Y: Coastal Restoration and the Future of Louisiana's Vietnamese/American Commercial Fisherfolk. *Open Rivers: Rethinking Water, Place, & Community*, 10.
- Kiang, P. N. (2002). Stories and structures of persistence: Ethnographic learning through research and practice in Asian American Studies. in Y. Zou & H. T. Trueba (Eds.), *Advances in ethnographic research: From our theoretical and methodological roots to post-modern critical ethnography* (pp. 223–255). Lanham, MD: Rowman & Littlefield.
- Lee, S. J. (2009). *Unraveling the model minority stereotype: Listening to Asian American Youth* (2nd ed.). New York: Teachers College Press.
- Lee, D. M., Duesbery, L., Han, P. P., Tashi, T., Her, C. S., & Ooka Pang, V. (2017). Academic needs and family factors in the education of Southeast Asian American students: Dismantling the model minority myth. *Journal of Southeast Asian American Education and Advancement*, 12(2), 2.
- Mazumdar, S., & Mazumdar, S. (2016). Interiors and Homemaking in Displacement: A Study of Vietnamese Americans in Southern California. *Journal of Interior Design*, 41(2), 23-37.
- Museum, S. D. (2008). Focusing on Institutional Fabric: Using Campus Culture Assessments to Enhance Cross-cultural Engagement. In S. R. Harper (Ed.), *Creating Inclusive Environments for Cross-cultural Learning and Engagement in Higher Education* (pp. 205–234). Washington, DC: National Association of Student Personnel Administrators.
- Museum, S.D., 2013. Unpacking the complex and multifaceted nature of parental influences on Southeast Asian American college students' educational trajectories. *The Journal of Higher Education*, 84(5): 708-738.
- Ngo, B. (2006). Learning from the Margins: Southeast and South Asian Education in Context. *Race, Ethnicity and Education*, 9(1), 51–65.
- Ngo, B. and Lee, S.J., 2007. Complicating the image of model minority success: A review of Southeast Asian American education. *Review of educational research* 77(4): 415-453.
- Phan, D. T. (2016). Unpretty Nails: Addressing Workers Rights Violation within the Vietnamese Nail Salon Industry. *UCLA Asian Pac. Am. LJ*, 21, 81.
- Portes, A., & Rumbaut, K. G. (1996). *Immigrant America: A portrait* (2nd ed.). Berkeley: University of California Press.
- SEARAC. 2011. Southeast Asian Americans At A Glance: Statistics on Southeast Asians adapted from the American Community Survey
- Sze, J. (2004). Asian American activism for environmental justice. *Peace Review*, 16(2), 149-156.

- Takaki, R. (1989). *Strangers from a Different Shore: A History of Asian Americans*. New York: Penguin.
- Tam, C., & Freisthler, B. (2015). An exploratory analysis of linguistic acculturation, neighborhood, and risk behaviors among children of Southeast Asian immigrants. *Child and Adolescent Social Work Journal*, 32(4), 383-393.
- Teranishi, R. T. (2010). *Asians In The Ivory Tower: Dilemmas Of Racial Inequality In American Higher Education*. New York: Teachers College Press.
- Tran, T. D., Tran, J., Tong, M., Fu, L., Reynolds, P., Luu, V., & Quach, T. (2013). Engaging Vietnamese American communities in California in environmental health and awareness. *AAPI Nexus: Policy, Practice and Community*, 11(1-2), 111-137.
- University of California. 2019. Disaggregated data: Fall Duplicated Enrollments by Disaggregated Race/Ethnicity.

Appendix A: Survey Questions

Demographics

This section collects data pertaining to your (and your family's) background. Data from this section is used to understand your socioeconomic background and ethnic legacy (family migration history).

1. Gender
 - a. Female
 - b. Male
 - c. Non-binary
 - d. Prefer not to say
2. Year in College
 - a. Freshmen
 - b. Sophomore
 - c. Junior
 - d. Senior
 - e. Fifth+ Year
3. Hometown (Zipcode)

Economic Background

4. Parent(s)/Guardian(s) Gross Income Level
 - a. \$0 to \$25,000
 - b. \$25,000 to \$50,000
 - c. \$50,000 to \$75,000
 - d. \$75,000 to \$100,000
 - e. \$100,000 to \$150,000
 - f. \$150,000 to \$200,000
 - g. \$200,000+
5. At what point in your K-12 educational experience did you receive free/reduced lunch? (Check all that apply)
 - a. Elementary School (K-6)
 - b. Middle School (7-8)
 - c. High School (9-12)
 - d. None
6. Are you currently employed? If yes, are you working part-time or full-time?
 - a. Not employed
 - b. Employed part-time (<40 hrs a week)
 - c. Employed full-time (40+ hrs a week)
7. Are you receiving any of the following form(s) of financial aid/scholarships? (Check all that apply)
 - a. Federal Pell Grant
 - b. Cal Grant A/B
 - c. Work-Study Award
 - d. None

Ethnic Legacy (Family Migration Background)

Please use the following definitions to answer questions about your and your family's ethnic legacy.

Vietnamese-immigrant Generation Definitions:

- First-Generation Immigrant: foreign-born individual who has relocated to the U.S. and become a citizen, or permanent resident
- Second-Generation Immigrant: U.S.-born individuals with at least one foreign-born parent
- Third-Generation Immigrant: U.S.-born individuals with two U.S.-born parents but at least one foreign-born grandparent

Vietnamese-immigrant Waves Definitions:

- Before 1975: Vietnamese immigrants who arrived in the U.S. to work between 1950 to 1974
- First Wave: Vietnamese immigrants who arrived in the U.S. between 1975 to 1977 (evacuated right after the Fall of Saigon in 1975)
- Second Wave: Vietnamese immigrants who arrived in the U.S. between 1978 to mid-1980s (mostly "Boat People")
- Third Wave: Vietnamese immigrants who arrived in the U.S. from mid-1980s to present day (mostly Orderly Departure Program)

8. What Vietnamese-immigrant generation are you?
 - a. First-Generation Immigrant
 - b. Second-Generation Immigrant
 - c. Third-Generation Immigrant
9. When was the earliest wave of immigration that you, your parents, or grandparents came into the United States?
 - a. Before 1975
 - b. First Wave
 - c. Second Wave
 - d. Third Wave
10. Where did you and/or your family first resettle in the United States? (Zip Code or Closest City, State)
11. Why did you and/or family first resettle there? (Check all that apply)
 - a. Housing was affordable
 - b. There were jobs available
 - c. Other family members lived there
 - d. Other ethnic communities that you/your family identifies with lived there
 - e. Other

Engagement with Environmental Issues

This section gauges your engagement with environmental issues before you entered college. This will help me further understand the environment that you grew up in. Questions will pertain to you (individual), to your household (people you live with), and to your hometown/community (those living in your geographical zip code).

Environmental Engagement

1. What sort of environmental education did you engage with at your high school? (Check all that apply)
 - a. AP Environmental Science
 - b. Environmental Science/Studies Elective
 - c. Environmental component in another science class e.g. Biology, Chemistry, Physics, etc.
 - d. None
 - e. Other
2. How often do you have conversations/discussions about environment issues at home?
 - a. Daily
 - b. Weekly
 - c. Monthly
 - d. Never
 - e. Other
3. How often does your hometown have community involvement/community engagement activities on environmental issues? (i.e. environmental rallies, town halls, school projects, etc)
 - a. Daily
 - b. Weekly
 - c. Monthly
 - d. Yearly
 - e. Never
 - f. Don't Know/Aren't Aware
 - g. Other

Environmental Issues in Your Hometown and Their Social impacts

Environmental issues can heavily impact the communities that are exposed to them. I want to understand how local environmental issues affect a certain racialized demographic (since I am studying members in Vietnamese American community). Environmental racism is environmental injustice that occurs in practice and in policy within a racialized context i.e. Vietnamese-American women immigrants are more likely to be exposed to carcinogenic chemicals in the nail salons that they work at.

4. Do you feel that your community is more at risk for environmental issues? Please explain in 1-3 sentences.
5. Does your hometown face any of the following broad environmental issues? (Check all that apply)
 - a. Air pollution (e.g. from industries, automobiles, indoor air pollution, etc.)
 - b. Water pollution (e.g. industrial/agricultural run-off, waste dumping, etc.)
 - c. Land pollution (e.g. development projects, gentrification, toxic waste sites, etc.)
 - d. None
 - e. Other

6. What are some local environmental issues that your hometown face? Please provide examples.
7. Who in your community do you think are the most impacted by local environmental issues? Please explain in 1-3 sentences.

Current Education

This section gauges your current engagement with environmental issues in order to understand how your environmental background has shaped your current educational trajectory.

1. What UC Berkeley school/colleges do you plan on getting your major undergraduate degree(s) in?
 - a. College of Chemistry
 - b. College of Engineering
 - c. College of Environmental Design
 - d. College of Letters & Science
 - e. College of Natural Resources
 - f. Haas School of Business
2. What are your major(s)/minor(s)?
3. Is your field of study related to the studying of the environment?
 - a. My field of study is directly applied to the environment
 - b. My field of study has a concentration in the environment
 - c. My field of study is not explicitly applied/concentrated in the environment, but I am taking environmental classes
 - d. My field of study is not related to the environment
4. Are you involved in an organization on campus that does work related to the environment? Please provide examples.
5. Since attending UC Berkeley, have you become more aware of more environmental issues in your hometown?
 - a. Yes
 - b. No
 - c. Other

Post-Graduation Plans for Environmental Justice Engagement

Tying in your environmental background and current education, I want to gauge your future plans to see how it might contribute toward environmental justice work in your hometown. Environmental justice is defined as the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Environmental justice work is multi-faceted and interdisciplinary.

1. Do you plan to move back to your hometown after graduating? How soon?
2. Do you plan on volunteering/doing work that will further environmental justice in your hometown?
 - a. Yes

- b. No
- 3. If yes, then what?
- 4. If no, why?

Further Interviews

A survey is great to understand a wide range of experiences, but I am also looking to capture more in depth stories about how your environmental history relates to your future endeavors. If you are interested and willing to participate in an additional interview, please leave your email below.