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Homeownership and Environmental Attitudes

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Abstract

Homeownership is associated with financial stability, middle-class status, and the good life in the United States. On the national level, homeownership has been touted to improve social stability, generate wealth, and foster citizenship and solidarity. If true, expanding homeownership could help to solve the nation's social, political, and thus environmental challenges. However, despite the popular currency of these ideas, existing research has mixed findings on the political consequences of homeownership. While previous research has linked homeownership to conservative political orientation, there is reason to believe that this may not apply to environmental attitudes. The conservatizing hypothesis is supported primarily by research on homeowners' attitudes toward macroeconomic or local development policies, not environmental ones. The two mechanisms from the literature — social integration and locally dependent financial investment— can be expected to increase environmental concern among homeowners. Through six semi-structured interviews and a multivariate regression analysis using the General Social Survey 2021 Cross-section Study, this paper finds that homeowners tend to be more concerned about the environment than renters, especially if their neighborhood is highly exposed to environmental risks.

Author's Note

My research stems from a curiosity about the rhetoric and politics of homeownership in the U.S. As an urban studies and political science major who experiences profound climate anxiety, I wish to understand the socio-historical and spatial dynamics that underly public views on climate change. This project brings together my interest in political behavior, sustainability, and neighborhood politics to explore the relationship between homeownership and environmental attitudes.

Keywords: Homeownership, environmental attitudes, Risk exposure, Regression analysis

Introduction

When it comes to the American dream, nothing is more emblematic of it than the white picket fence and cookie-cutter home it encloses. In the United States, homeownership is associated with financial stability, middle-class status, and the good life. On the national level, homeownership has been touted to improve social stability, generate wealth, and foster citizenship and solidarity. In the words of Franklin D. Roosevelt, "a nation of homeowners, of people who own a real share in their land, is unconquerable." If true, expanding homeownership can help to solve the nation's social, political, and environmental challenges. However, despite the popular currency of these ideas, existing research has mixed findings on the political consequences of homeownership.

Purchasing a home is one of the biggest investments people make. After buying a home, people become emotionally and financially invested in a locality. This is thought to lead to changes in political values, attitudes, and behavior. Two main expectations exist within the literature: (1) homeownership increases civic engagement and participation, and (2) homeownership has a conservatizing effect on political orientation. This homeownership effect has been spun as both positive and negative; while it encourages informed and consistent voting (McCabe, 2013), it is also responsible for Not In My Backyard (NIMBY) behaviors and attitudes (Mable and Nall, 2021).

Given the pressing nature of climate change and the collective-action problem it poses, the impact of homeownership on environmental attitudes needs to be studied. Climate change impacts have been felt across the country: heatwaves and coastal flooding in the Northeast, water shortage in the Southeast and Caribbean, changing growing seasons in the Midwest, drought and wildfires in the Southwest, thawing permafrost in Alaska, and more (USGCRP, 2018). Existing research has examined the impact of education, income, religiosity, ideology, and party affiliation on environmental attitudes (*Nine Americas,* 2015). However, more studies need to be done on the relationship between homeownership and environmental attitudes. As of 2022, the homeownership rate in the United States was 65.9%, representing more than half of those surveyed in the census (U.S. Census Bureau, 2022). Homeownership was highest in the Midwest, followed by the South, Northeast and West at 70.1%, 66.7%, 63% and 62.6%, respectively (U.S. Census Bureau, 2022). Seeing that a significant portion of the population are homeowners, it is critical to understand how homeownership impacts peoples' views on environmental issues and policies.

Climate change poses a significant risk to the neighborhoods and properties homeowners wish to protect. According to a report by CoreLogic, natural catastrophes in 2021 affected 14,566,529 homes across the U.S. and resulted in a total of $56.92 billion in property damage (*2021 Climate Change Catastrophe Report,* 2022). This has had various consequences for homeowners. Beyond reconstruction costs, mortgage delinquency rates have risen, and homeowners in at-risk areas now have to pay higher written premiums to insurers (*2021 Climate Change Catastrophe Report*, 2022) Therefore, climate issues are of direct concern to homeowners.

In this paper, I evaluate whether and how homeownership affects environmental attitudes. I begin by surveying existing literature on the politics of homeownership and factors that influence environmental attitudes, bringing the two together to form a theory on how they interact. Then, using qualitative insights derived from six semi-structured interviews, I argue that homeowners are more knowledgeable and personally invested in the effectiveness of environmental policies than renters. Finally, using data from the 2021 General Social Survey, I have created a multi-scale index to measure homeowners' versus renters' level of environmental concern.

Literature Review

Theorizing on the political consequences of homeownership can be traced as far back as the mid and late 1800s. On a societal scale, homeownership was commonly thought to increase political

stability and aversion to radical change. This idea was central to Engel's theory on the embourgeoisement of the working class and its implications for socialism (Engels, 1935). Engels argued that homeownership creates a separate investor class, undermining solidarity among the proletariat through encouraging the adoption of bourgeois values and aspirations (Engels, 1935). Recent research has produced two dominant theories on possible mechanisms driving the politics of homeownership: social integration and locally dependent financial investments (McCabe, 2013). Both posit that investment in a community—either social or economic— gives homeowners a stake in actively protecting and maintaining the status quo.

One theory is that homeownership enables the creation of social networks and place-based attachments conducive to active political participation (McCabe, 2013; Hall and Yoder, 2019). Behaviors like participation in voluntary organizations and informal interaction with neighbors indicate the formation of social (Blum and Kingston, 1984). The increased residential, professional, and familial stability that homeownership brings improves people's ability to navigate administrative procedures and is correlated with the formation of clear partisan preferences (Plutzer, 2002). Homeownership overcomes initial inertia around civic engagement, transitioning from habitual non-voters to voters (Plutzer, 2002). In other words, homeownership lowers the associated costs of voting, encouraging greater political participation (McCabe, 2013, p. 941). Hence, homeownership is thought to make better citizens who are invested in their communities, have well-formed political preferences, and vote consistently.

Another theory posits that homeowners' political behaviors are guided by material incentives, specifically their interest in protecting local property value (McCabe, 2013; Marble and Nall, 2021; Hall and Yoder, 2019). In purchasing homes, people become investors who can be expected to favor a safe and stable investing environment. This is thought to translate into a preference for political arrangements that preserve the status quo. Researchers have supported this hypothesis through findings that homeowners are more likely to be economically conservative (Verberg, 2000), hold right-leaning political beliefs (Davidsson, 2018), reward and punish the incumbent more based on changes in local housing prices (Larsen et al., 2019), and support market-based solutions (Ansell, 2014). Furthermore, mortgage-related debt is thought to decrease people's appetite for increased taxes, while also serving as private insurance that eliminates the need for welfare state insurance (Ansell, 2014). Therefore, primarily when it comes to economic policies, homeowners have been found to support right-wing policies that advocate for deregulation, tax cuts, limited welfare, etc. Drawing from the literature on the wealth effect, researchers have also tried to measure whether homeowners' political participation varies based on the value of their homes. This hypothesis has been tentatively verified through findings that homeowners with more expensive homes tend to participate more in neighborhood groups (McCabe, 2013) and local elections (Hall and Yoder, 2019). These findings further reinforce the theory that the economic incentives and self-interested attitudes that arise from homeownership influence political behavior.

The two mechanisms— social integration and locally dependent financial investments —are not mutually exclusive and are likely related. However, literature on the impact of homeownership on political orientation tends to focus on financial investment and interests. As mentioned before, homeownership is suspected to have a conservatizing effect through increasing people's support for policies that maintain the status quo and protect local property value. While Kingston et al.'s influential multivariate analysis of the American National Election Study of 1976 found no significant correlation between homeownership and attitudes toward socioeconomic policy, others have since repeated and built on their work using updated data and refined indices (Kingston et al., 1984). The original study used a four-item scale that assessed attitudes toward employment, crime, racial integration, and minority groups (Kingston et al., 1984). More recent studies have broken down the scale to create detailed indices of attitudes toward specific policy issues such as racial integration and affordable housing (Jelen, 1990; Marble and Nall, 2021).

Using scales that measure attitudes toward specific policy issues rather than general political conservatism has generated new insights. When it comes to high-stakes local policies, as opposed to federal policies where costs are diffused, self-interest tied to homeownership has been found to trump ideology. Liberal homeowners tend to support redistributive housing policies but are barely more likely than their conservative counterparts to approve of dense housing development in their communities (Marble and Nall, 2021). Survey experiments have shown that even when liberal homeowners were prompted to think about the benefits of additional housing to low- and middle-income families, respondents still overwhelmingly prioritized self-interest over ideology (Marble and Nall, 2021). The likelihood of liberal homeowners supporting the construction of new housing becomes even lower when deregulation is prominent (Manville, 2021). These attitudes have had tangible impacts. For example, a study of the 2010 and 2016 elections in San Francisco found that precincts with higher rates of homeownership had significantly higher levels of support for anti-homeless measures (Amaral, 2021).

A similar methodology should be used to measure the impact of homeownership on environmental attitudes. This paper is informed by literature from psychology on appropriate ways to define and measure environmentalism. Firstly, attitudes are broadly defined as the "intensity of positive and negative affect", in this case, towards environmental issues (Cruz and Manata, 2020). Secondly, attitudes are connected to but distinct from beliefs, intentions, and behaviors (Cruz and Manata, 2020). Specifically, attitudes are narrower in scope and more concrete than beliefs, and though attitudes can shape intentions and behaviors, they do not always do so (Cruz and Manata, 2020).

A variety of measures have been developed to assess environmental attitudes, with most employing Lickert-type scales that measure verbal commitment to pro-environment behaviors, feelings toward ecological issues, the degree to which people value the environment and believe climate change to be anthropogenic, opinions on preservation and utilization, and evaluations of a range of environmental topics (McIntyre and Milfont, 2016). Drawing on past literature, this paper defines an attitude as a specific, concrete value judgement about a policy and/or course of action.

Few have directly studied the impact of homeownership on environmental attitudes. However, there is a significant body of literature on the relationship between environmentalism and other demographic and attitudinal variables. While environmentalism was previously considered a primarily white phenomenon, recent research has found growing concern among minority groups for climate issues proximate to their communities (Whittaker et al., 2005). Personal experiences with adverse environmental effects and post-material values tend to increase support for environmental protection (Rohrschneider, 1988). Additionally, environmental concern is positively correlated with spirituality but not religious fundamentalism (Preston and Shin, 2022), inversely related to faith in technology (Kilbourne et al., 2002) and age (Lorenzini et al., 2021), and directly related to education, income, and metropolitanism (Arcury, 1990).

Studies have also found a strong partisan divide in attitudes toward climate change. Left-leaning individuals are more likely than right-leaning individuals to prioritize environmental protection over economic growth, believe that the Green movement is effective, and self-report pro-environmental behaviors (Neumayer, 2004). The majority of adults in the United States agree that the environment should be protected. However, Democrats and Republicans tend to disagree on the causes of climate change and the types of policies that should be adopted (Pew Research Center, 2019; Holian and Kahn, 2014). In terms of causes, Democrats are more likely than Republicans to believe that human activity contributes to climate change (Pew Research Center, 2019). Attitudes toward climate policies are similarly split, with liberal Democrats believing that they produce net benefits for the environment and conservative Republicans being more skeptical and concerned about the impacts of policies on the economy (Pew Research Center, 2019).

Some research has been conducted on homeowners' environmental behaviors. Homeowners are more likely to adopt environmentally friendly practices across a variety of possible home improvements. A study of household energy consumption in Germany found that homeowners demand and spend less on utilities and heating than renters (Rehdanz, 2007). However, it is unclear whether this is due to concern for the environment or the fact that homeowners have an economic incentive to upgrade their heating systems and have more energy-efficient homes. Research on rooftop solar has found that adoption rates are higher among homeowners and residents who have high scores on place attachment indicators (Corbett et al., 2022). The importance of place attachment has similarly been found in a study on Seattle homeowners. Homeowners who manage their properties in environmentally conscious ways reported motivations such as the protection of in-group well-being, personal stability and security, and connection with nature (Neverisky, 2017). However, these observed behaviors are hyper-local and do not reflect wider attitudes toward national climate policies and debates. Furthermore, environmental behaviors should be considered distinct from attitudes and could be motivated by economic interest rather than environmental concern. Therefore, research specific to environmental attitudes needs to be conducted.

While previous research has linked homeownership to conservative political orientation, there is reason to believe that this may not apply to environmental attitudes. The conservatizing hypothesis is supported primarily by research on homeowners' attitudes toward macroeconomic or local development policies, and not environmental ones. The two mechanisms from the literature—social integration and locally dependent financial investment—can be expected to increase environmental concern among homeowners. More specifically, individuals who are homeowners are expected to agree more strongly that human activity is the primary cause of climate change, value environmental protection over economic growth, and report greater support for existing climate policies. This is because natural catastrophes tied to climate change pose significant risks to homeowners and their properties. In 2021, wildfires, severe weather, hurricanes, and winter storms resulted in $1.46 billion, $7.46 billion, $33 billion, and $15 billion worth of property damage in the U.S., respectively (*2021 Climate Change Catastrophe Report,* 2022). Therefore, given that homeowners' political orientations are organized around feelings of place attachment and economic interests, they should be expected to evaluate aggressive climate strategies positively to align with their stake in protecting their neighborhoods and homes.

Interview Method

Semi-structured interviews were conducted to test whether homeowners and renters vary in terms of environmental attitudes. Separate protocols were used for homeowners and renters. Both groups were asked questions about their attitudes toward environmental policies, level of social and financial investment in their communities, and feelings of environmental concern. All questions were informed by existing literature and aimed at exploring not only the research hypothesis but also theorized mechanisms. Between the two groups, most questions were kept the same and wording was only adjusted for particular questions. For example, homeowners were asked how closely they keep track of fluctuations in property value whereas renters were asked about fluctuations in rent. These discrepancies were necessary in order to ensure the relevancy of questions to interviewees. For each interview, the order of questions was adjusted and follow-ups were asked in response to answers provided by interviewees. Interviews lasted between 10 to 20 minutes and covered between 8 and 10 questions. All interviews were conducted virtually over phone calls, recorded, and transcribed using free online AI audio transcription services. Verbal consent was obtained at the start of every interview and can be found in the recordings. Transcribed interviews were then manually coded to identify common themes and patterns.

Convenience sampling was used and all interviewees were recruited through reaching out to friends and acquaintances. Demographic questions were asked at the beginning of every interview to gather the age, gender, race, education, and neighborhood income level of participants. Three renters

and three homeowners were selected to represent the perspectives of both groups of the independent variable. The table below shows the sample demographics for this study.

Table 1: Sample Demographics

	Age	**Gender**	**Race**	**Education**	**Neighborhood Income Level**
Renter 1	51	Female	Asian	Bachelor's	High
Renter 2	22	Male	Hispanic/Latino	Bachelor's	Middle
Renter 3	23	Male	Hispanic/Latino	Associate's	Lower Middle
Homeowner 1	65	Female	White	Master's	Upper Middle
Homeowner 2	51	Female	Asian	Master's	Upper Middle
Homeowner 3	53	Male	Asian	Master's	Upper Middle

As seen in Table 1, the ages of participants cluster around the early 20s and 50s. An equal number of men and women were interviewed. Asian, White, and Hispanic/Latino participants were included in the study. All participants have a post-secondary degree and all homeowners interviewed have a master's degree. Self-reported neighborhood income levels range from lower middle to high income.

Results

Responses were coded under four major themes: attitudes toward environmental policies, social integration, financial investment, and environmental concern. In line with the research hypothesis, homeowners were more knowledgeable about local environmental policies and held stronger opinions—both positive and negative—regarding their effectiveness than renters. In terms of community attachment, there was no consistent relationship between homeownership and feelings of emotional connection to neighbors. However, all homeowners reported being part of local social networks —either informal or formal— whereas renters did not. In relation to the financial investment mechanism, homeowners were significantly more concerned about changes in local property value and the financial costs associated with climate change. Finally, the study found no obvious relationship between local vulnerability to climate risk and environmental concern.

Attitudes Toward Environmental Policies

Overall, homeowners tended to be both more critical and specific in their evaluations of existing environmental policies than renters. While no interviewees mentioned specific federal policies, homeowners were more knowledgeable than renters regarding policies on the neighborhood scale. Interestingly, while both Renter 2 and 3 admitted to having little knowledge of local environmental policies, the former interpreted his lack of awareness as a positive indicator that "laws that are in place are, at least from my perspective, doing a fairly consistent job" while the latter spun it negatively as a sign that no effective change has been made. Homeowners, on the other hand, talked about local and neighborhood-level policies related to solar energy, building regulations, water preservation, lawn management, and waste disposal.

Homeowners in the sample referenced the recycling, gardening, and energy usage behaviors of neighbors in their evaluations of the effectiveness of local policies. All three homeowners mentioned local waste disposal and the recycling habits of their neighbors. In the excerpt below, Homeowner 1 critiques the amount of trash generated by neighboring homes: "Oftentimes I see my neighbors, houses with 2-3 people, carrying out huge black trash bags and *I truly don't understand how they're able to produce so*

much trash. In my house, me and my daughter, we don't produce nearly as much trash." Similarly, Homeowner 3 noted that it is "very hard to enforce whether every household is composting their bio waste or recycling their products [and] plastics…since it is all run by an association [in his neighborhood]" and called for stronger federal policies. Homeowner 2 also reflected on trash disposal in her community, but unlike the others regards neighborhood regulations to be highly effective: "Community is good because. . .*they follow the rules and regulations*…they want us to keep it in the recycling bin…*they will take care of the environment.* Yeah. Not throwing here and there." These insights suggest that homeowners think about the ways their neighbors manage their properties when they evaluate the effectiveness of local and federal environmental policies. Renter 3 also alludes to issues of waste disposal but contrastingly uses rat infestation—an issue less tied to individual behavior and property management—as his primary point of reference.

Homeowners were also more attentive to energy-related policies. All three homeowners mentioned the importance of renewable energy, whereas only one renter did. Policies mentioned include solar enrollment, green roofs, and gas and electricity usage. Homeowner 3 spoke extensively on the impact of energy policies from the perspective of a homeowner:

> Buying a home definitely is a big responsibility. There are lots of *hidden costs*, for instance, energy. So if you see in the last 20 years that I've owned this home, *the energy prices have at least gone up five, six times the monthly bills*…So the cost of gas and electric used to be less than a hundred. Now it is about $800 per month. So the kind of increase, what that really means is there is no proper audit of how the energy is consumed in every home, gas versus electric. …As a homeowner…*[it's not] enough maintaining the home, running the home efficiently, but at the same time, are looking at environment-friendly options* [rather] than just burning natural gas and consuming a lot of electricity during peak hours.

He stressed both the economic consequences he faces as a homeowner as a result of ineffective energy policies as well as the added responsibility homeowners have to run their homes in energy-efficient and environmentally friendly ways. These two beliefs inform his opinion that in order for policies to be effective, they "should be at the city and state level and not at the homeowner level". This suggests that homeowners' greater sense of economic and moral burden in relation to energy consumption may lead to greater support for stronger environmental policies.

Mechanism 1: Social Integration

While there were mixed results on whether homeowners or renters tended to have closer informal relationships with their immediate neighbors, homeowners were consistently more involved in neighborhood affairs. When describing their current living situations, renters tended to emphasize perks like independence, flexibility, and convenience, whereas homeowners used terms such as discipline, responsibility, stability, and security. This speaks to the idea of residential, professional, and familial stability in the literature that enhances people's ability to navigate political bureaucracies and procedures. As per existing literature, homeowners described having access to formalized forms of neighborhood participation that allow them to regularly exercise civic engagement. Homeowners 2 and 3 are both part of local homeowners associations:

> It's called the Karika Association, where there is a president that is elected by the homeowners and there is a committee that decides that *meets at least once a month* discussing issues in the communities… I have not held a position in the association because of my job demands. Because I was on travel a lot of time. I *don't have a lot of time to spend on the community issues*, but… *through digital messaging and other mediums and email, I contribute a lot in terms of providing ideas and support from the outside*….There was one issue where I was actively involved some years ago about a common gate between our community and the neighborhood community where *I basically*

> *went to the city council to give a memo* which got passed…to keep that gate closed for the safety of our community.

Despite having a busy work schedule and traveling often, Homeowner 3 described being actively involved in his neighborhood's Homeowners Association (HOA). He mentioned various forms of participation, ranging from providing suggestions through emails to presenting a memo to the city council. Although he reported not having a "very close integrated community" because "people are busy", the Karika Association appears to act as a formalized social network that has facilitated his ability to navigate procedures necessary for political participation. Homeowner 2, however, described being frustrated with neighborhood politics, suggesting variation in the quality of HOAs:

> Because not all the people goes for the annual meetings… [those] who [participate in] the voting system they will get [what they want]. …One thing is [that] in our community…*some people they can speak, some people they can't speak there, and some people they're not interested to go to the meetings,* so that's why a mix of people are there.

In the excerpt above, Homeowner 2 talks about the ways in which local power dynamics affect the accessibility of HOAs. This, in her opinion, has meant that only certain subgroups within the community —specifically retired homeowners— can participate fully and meaningfully, giving them disproportionate sway over neighborhood policies.

Homeowners were not found to consistently have stronger informal bonds with their neighbors than renters. Those who did not feel connected to their communities listed reasons such as living in an area for a short time, busy jobs, lack of organized events, and demographic heterogeneity. Renter 3 spoke about how a lack of community events in his neighborhood has prevented him from forming a strong social network:

> At the moment, would say I do not feel connected to my neighbors or the people around me. I feel like there hasn't been much opportunity or chance to really meet or connect with people around me. There's *not a lot of events or things happening near me* that like would allow me to grow that like sense of community with people around me.

When asked whether he would consider initiating any events, he replied that "there's no reason for me to really talk to them", indicating a lack of place-based attachment. In contrast, those who reported feeling strongly connected to their communities cited reasons such as living around like-minded people, regularly interacting with neighbors indoors and outdoors, and future plans to continue staying in the same place:

> Well, I know all of my neighbors on a first and last-name basis. *I also hosted yoga and zumba classes during covid.* I really enjoy going on walks and talking to people in my community. I feel like I have created strong roots and *I plan on staying here for the next 5-10 years*. Some of my neighbors have been here for longer than I have so I definitely think we have a strong community here.

Homeowner 2 described how living in her neighborhood for a long time has given her the chance to get to know her neighbors. She also mentioned personally hosting classes in her backyard during the pandemic, demonstrating strong emotional investment in her neighborhood.

Mechanism 2: Financial Investment

In alignment with expectations from the literature, homeowners were much more attentive to changes in local property value than renters. All three renters expressed knowing little about rent fluctuations in their area, citing it as a "waste [of] time" and " not…a priority". In contrast, homeowners were able to report changes in property value in great detail and speculated on potential

causes. The causes mentioned include changes in neighborhood demographics, establishment of nearby companies, quality of surrounding schools, advertisements, changing consumer preferences, and rising HOA dues.

> We see the property values grow in the neighborhood only because there are a lot of *brand-name companies* that established themselves around our neighborhood. …So I keep track of the *macro trend*s going on, see what keeps the property values up, or whether *who are the residents*, *are the residents giving away the property for rents and moving on, or are there enough children in the community that are dependent on good schools* in the neighborhood…Overall, when you look at a long period of time, the properties hold values primarily because of the *quality of the schools*…in the neighborhood.

In the excerpt above, Homeowner 3 mentions both locally-dependent factors and macroeconomic trends that affect the housing market. These findings support the theory that homeowners' greater attentiveness to local and national policies stems, at least in part, from having a greater financial stake. Furthermore, in contrast to the nonchalant attitudes of renters, Homeowner 2 expressed reported deep anxiety around drops in property value. "After two years or three years…it came down drastically down. …*We are very, very worried about the home*…I mean psychologically…we bought [it at] this much…and it went down. …200,000 that time." These affective indicators further reinforce the theory that for homeowners, their properties are regarded as financial investments that need to be protected.

Homeowners were also more attentive to costs associated with climate risk than renters. Renters in the sample mentioned general concern about flooding, water, pollution, and increasing wind speeds. Homeowners, however, were able to quantify the impact that environmental changes have had on them through listing associated costs. Specifically, Homeowners 2 and 3 spoke on how HOA dues and energy prices have increased over time. This suggests that homeowners—as a result of being more directly affected by environmental costs through their properties—are more concerned than renters about the economic impact of climate change.

While the literature expects homeowners to favor political arrangements that protect their financial investments by preserving the status quo, there were mixed results regarding whether homeowners tended to prefer liberal or conservative policies as compared to renters. Notably, both Homeowner 1 and Renter 3 spoke on recent housing development. While Homeowner 1 framed developers' interest in her neighborhood in a positive way, Renter 3 positioned affordable housing projects in his area as antithetical to both environmental protection and true housing equity. Homeowner 1 does not see the work of developers in her neighborhood as a threat to her property, but as a positive development that will help to increase property value in the area:

> I think there has been quicker resident turnover and new people are moving in. The developers, they keep coming out here with signs, 2-3 times a week, asking me if I want to sell my property. *Its flattering*, you know, and *I guess good in a way that the property is so in demand,* but for now I'm good. I don't want to sell and I do plan on continuing to live here.

As the literature on the financial investment mechanism predicts, Homeowner 1's perspective is primarily informed by self-interest to see property value in the area increase. In contrast, Renter 3 critiqued affordable housing projects in his neighborhood:

> It's good to have more affordable housing, of course, especially in California, but *they end up destroying the natural environment*…Right now they're in the works of developing more affordable housing [air quote]… in my area. In order to do so they're taking a huge chunk of land that looks like a beautiful scenery and [the] hills area that separates the Pittsburgh area from the Concord and *I feel like that's just taking the opportunity away from preserving that area*…In the Bay Area, *affordable housing doesn't necessarily mean affordable housing for everybody*…[it] means affordable

> housing for people who are new to the area who maybe have a tech job who make like six figures, that's affordable housing to them, like million dollar homes.

Unlike Homeowner 1, Renter 3 was less excited about the prospect of increased resident turnover and skyrocketing housing prices. As a renter, he does not stand to benefit from increases in property value in the area and believes environmental preservation to be a worthier cause than the creation of "affordable" homes for young elite professionals.

Environmental Concern and Local Vulnerability to Climate Risks

Respondents reported varying degrees of concern regarding the impact of climate change on their homes and local communities. Given that previous research has found a positive correlation between personal experiences with adverse environmental impacts and environmental concern (Rohrschneider, 1988), local vulnerability to climate risk is theorized to be an important moderating variable. Table 2 shows renters and homeowners, estimated levels of climate risk, and interviewees' evaluations of local environmental risks. During the interview process, zip codes were collected and later run through city-data.com to identify their associated counties. This information was used to identify climate risk by county for each interviewee using data from the American Communities Project (ACP). Measured risks include sea level rise, hurricanes and typhoons, extreme rainfall, water stress, and heat stress on a risk scale ranging from no risk, low, medium, high, to red flag (Pinkus, 2021). The ACP defines each of the risk categories as follows: sea level rise measures population-weighted exposure to coastal flooding; hurricanes and typhoons represent geographical exposure to high wind velocities and tropical cyclones; extreme rainfall combines historical and projected indicators to estimate the likelihood of floods and heavy rainfall; water stress tracks changes in water supply and demand; and heat stress records the frequency and severity of hot days (Pinkus, 2021). An additional total risk index value was calculated by averaging scores across risk categories, with no risk, low, medium, high, and red flags quantified as 0, 1, 2, 3, and 4, respectively.

Table 2: Environmental Concern and Local Vulnerability to Climate Risks

	Climate Risk by County	**Evaluation of Local Environmental Risks**
Renter 1	**Sea Level Rise:** Medium **Hurricanes and Typhoons:** High **Extreme Rainfall:** Medium **Water Stress:** High **Heat Stress:** Low **Total Risk Index:** 2.2/4	"I think the most vulnerable ones could be that because it's very *close to the sea*. The …*wind speed is very high*. So it's sometimes even hard to walk around in a normal condition…I'm *not too worried* about it."
Renter 2	**Sea Level Rise:** High **Hurricanes and Typhoons:** High **Extreme Rainfall:** Low **Water Stress:** High **Heat Stress:** Medium **Total Risk Index:** 3/4	"Changes to the environment… *not particularly* that I know of that would be on a disproportionate to perhaps other neighborhoods"
Renter 3	**Sea Level Rise:** Medium **Hurricanes and Typhoons:** No risk **Extreme Rainfall:** Medium **Water Stress:** High **Heat Stress:** Medium **Total Risk Index** 1.8/4	"I would say probably *flooding*. I do live right next to the to the bay…there's been a lot of flooding, especially near this area, or …one area code farther. *There's definitely [an] increase*… before it was forest fires now, all of a sudden, we're getting flooding."

Homeowner 1	**Sea Level Rise:** No risk **Hurricanes and Typhoons:** High **Extreme Rainfall:** Low **Water Stress:** Medium **Heat Stress:** Medium **Total Risk Index:** 1.6/4	"*Not particularly [worried]*. We've had more *flooding* and that has affected our basement and we've had to do some repairs… [and] *temperature changes* have been affecting my garden. Daffodils are coming and going quicker."
Homeowner 2	**Sea Level Rise:** Medium **Hurricanes and Typhoons:** No risk **Extreme Rainfall:** High **Water Stress:** Low **Heat Stress:** Low **Total Risk Index:** 1.4/4	"One thing we are concerned [about] is that the *soil*, not my house, but …the far left side homes,…is sliding…when [there are] *heavy rains*…because it's a gated community… so we have to pay the HOA, we have to pay together… couple payments we did on top of our due, so *that's a big amount we paid*"
Homeowner 3	**Sea Level Rise:** Low **Hurricanes and Typhoons:** No risk **Extreme Rainfall:** Medium **Water Stress:** High **Heat Stress:** Low **Total Risk Index**: 1.4/4	"See, no one can say… we're not prone to environmental risk…California is known to have these *random fires*. In fact, the last time a major fire outbreak happened, it came *as close as of 15, 20 miles from my home*."

Based on the interviews, neither renters' nor homeowners' levels of concern regarding local environmental risks appear to be correlated with the calculated total risk indices for their respective counties. Renters in the interview sample live in counties that average higher risk indices than those of homeowners. The interviewees who live in areas with the highest total risk indices—namely Renter 1 and 2—expressed low levels of concern. Notably, Renter 1 was the only interviewee who did not identify any local environmental risks despite living in the county with the highest total risk index. Those who reported the highest level of concern—Renter 3, Homeowner 2, and Homeowner 3—live in counties with relatively low total risk indices.

What is perhaps more interesting is the way that renters and homeowners framed local environmental risks. Renters tended to describe environmental risks on the scale of the neighborhood or general "area", whereas homeowners cited impacts on their own and nearby properties. While renters mentioned experiences of high winds while walking and flooding in nearby areas, homeowners described instances of flooded basements, shifting growing seasons in their gardens, and fires and soil sliding that impacted neighboring homes. Homeowner 3 stated that environmental risks have not directly affected his home, but still framed his concerns in a way that centered his own property. For example, he specified that a recent fire outbreak occurred "15, 20 miles from [his] home", suggesting a tendency among homeowners to think about local environmental risks in relation to their homes.

Homeowners also listed specific incidents whereas renters stopped at identifying relevant environmental risks. Homeowners were able to recall details such as when and where environmental incidents occurred, measures that have since been taken to mitigate them, as well the economic consequences they faced:

> The soil slides when there are heavy rains…one bad thing is because it's a gated community…we have to pay the HOA, we have to pay together. So even though it's affecting their home…they divided [the cost] among 56 homes. …*it's a four, 5,000 we paid*…towards taking care of that place, that area, they put big rocks and I mean they don't want more sliding.

A potential reason for this discrepancy is that homeowners are disproportionately burdened by preventative and damage-related costs associated with environmental risks. Furthermore, two out of the three homeowners interviewed mentioned being a part of homeowner associations. This explains why

they were able to provide details about how environmental incidents have affected not only their own homes but their neighbors' as well.

Limitations

Given that convenience sampling was used to select interviewees, the demographic makeup of the three renters and homeowners in this study is not representative of the general US population. Overrepresented demographics include upper-middle-class residents on the West and East Coast. Perspectives missing from the picture include those of Black and Native American residents, people in their 30s and 40s, and those without postsecondary education. Notably, no long-term tenants were interviewed, and all renters emphasized the temporariness of their current living situations. This is a significant blindspot because long-term tenants may be more socially and financially invested in their neighborhoods than short-term renters, causing them to act more like homeowners than renters. Further research is needed to explore the perspectives of demographics underrepresented in this study.

While no relationship was found in this study between local vulnerability to climate risk and environmental concern, it is possible that the county-level estimations of risk used were not the most appropriate scale or measurement for risk exposure. Environmental conditions may vary too greatly within counties, making the indicators used unrepresentative of conditions on the ground. For future studies, a measure that accounts for both physical climate vulnerability and human/system vulnerability as well as adaptive capacity could be a more accurate measure of how climate change is affecting different neighborhoods.

Questions used for the interviews did not cover all types of environmental attitudes. The responses gathered focused mainly on evaluations of local environmental policies and few respondents commented on national and international environmental regulations. Some interviewees asked for examples of environmental problems and policies to prompt their thinking. The examples provided could have skewed their responses, limiting them to only speaking on topics mentioned by the interviewer. Future studies should ask more targeted questions about specific federal policies and who respondents believe to be responsible for causing and mitigating climate change.

The interviews conducted support the hypothesis that homeowners are more knowledgeable and personally invested in the effectiveness of environmental policies than renters. The mechanisms investigated show that homeowners tend to frame environmental risks and associated costs in relation to their properties and be more actively involved in shaping neighborhood policies. On the flip side, renters expressed knowing little about local environmental policies and having no desire or direct means to affect local conditions beyond adjusting individual behavior. While no relationship was found in this study between local vulnerability to environmental risks and environmental concern among homeowners and renters, future studies should revisit this question using more refined measures of vulnerability and environmental concern.

Quantitative Data and Method

Data from the General Social Survey (GSS) 2021 Cross-section Study were used to test whether homeowners and renters differ in terms of environmental attitudes. The GSS is administered nationwide and collects information through interviews on the opinions, attitudes, and behaviors of the American public. It is important to note that the 2021 survey was conducted during the pandemic and that necessary methodological adjustments were made by the GSS. A weighted t-test, weighted bivariate regression, and weighted multivariate regressions were applied to the data to test the hypothesis that homeowners are more concerned about the environment than renters. The variables that were used are dwelown, grntaxes, grnprice, grnsol, naturdev, clmtcaus, grecon, educ, race, sexnow1, rincom16, polviews, airpollu, wtrpollu, exweathr, and wtssnrps.

Homeownership status was determined using dwelown and recoded into a homeownership factor and homeownership dummy, with 1 representing homeowners and 0 being renters. An additive index was created for environmental attitudes that include grntaxes, grnprice, grnsol, grncon, naturdev, clmtcaus, and grnecon. Grntaxes, grnprice, and grnsol assess how willing respondents are to pay much higher taxes, pay much higher prices, and accept cuts in standard of living to protect the environment on a 5-degree scale between very willing and very unwilling. The three variables were recoded so that those more willing to accept the tradeoffs have higher scores. The variables grncon, naturdev, clmtcaus, and grnecon were kept as is. Grncon measures general environmental concern, ranging from 1-not at all concerned to 5-very concerned. Naturdev asks how willing respondents are to accept a reduction of America's protected nature areas to open them up to economic development, ranging from on a 1-very willing to 5-very unwilling. Clmtcaus assesses what people believe to be the cause of climate change, ranging from 1- the climate is not changing to 4- the climate has been changing mostly due to human activity. Grnecon asks for agreement with the statement: we worry too much about the future of the environment and not enough about prices and jobs today, ranging from 1-strongly agree to 5-strongly disagree. The final environmental attitudes index ranges between 7 and 34, with higher values representing greater environmental concern.

The remaining variables were included as controls that were used in the multivariate regressions. For nominal independent variables — gender, race, and political ideology —dummies were created to allow for interpretations consistent with real-world applications. Using sexnow1, race, and polviews, dummy variables were coded for homeowners, female, black, other (race), liberal, and conservative respondents. The referent categories are renters, male, white, white, moderate, and moderate, respectively. Educ and rincom16 were kept as discrete variables, representing education in years and personal income (2019/2020) on a scale ranging from 0-No income to 26-$170,000+. An additive index was created for neighborhood environmental risk exposure using the variables airpollu, wtrpollu, and exweathr. These variables represent the extent to which respondents' neighborhoods have been affected in the last 12 months by air pollution, water pollution, and extreme weather, respectively. Each of these variables is measured on a scale ranging from 1 (not at all) to 5 (to a very great extent). The resulting neighborhood environmental risk exposure index ranges between 3 and 15, with higher values representing greater exposure. Finally, wtssnrps is the survey's non-response adjusted weights that account for known population totals. The table below contains summary statistics for each of the variables.

Table 3: Summary statistics

Summary Statistics

Variable	N	Mean	Median	Min.	Max.
Dummy: Homeowner	1372	0.75	1	0	1
Environmental Concern	1372	24	24	7	34
Neighborhood Environmental Risk Exposure	1372	6.3	6	3	15
Dummy: Female	1365	0.53	1	0	1
Dummy: Black	1372	0.096	0	0	1
Dummy: Other (Race)	1372	0.09	0	0	1
Dummy: Liberal	1372	0.37	0	0	1
Dummy: Conservative	1372	0.33	0	0	1
Age (Years)	1372	53	55	19	89
Personal Income Bracket	1372	12.02	15	0	26
Education (Years)	1372	15	16	0	20

The count for all the variables is 1,372 except for Dummy: Female. This is because 7 respondents reported being transgender or other in the survey and were recorded as NA. Given the way that the dummies are coded, their means can be interpreted as the percentage of respondents that are in the 1 category. Notably, 75% of respondents are homeowners as compared to renters, and only 9% and 9.6% of respondents in the sample are Black and other (race), respectively. For the personal income variable, its mean of 12.02, median of 15, and max of 26 translate approximately to incomes of $17,500-$19,999, $25,000-$29,999, and $170,000+, respectively. Importantly, due to the way the additive indices were coded, environmental concern ranges between 7-34 and neighborhood environmental risk exposure is between 3-15.

A one-tailed weighted t-test was used to determine whether there is a statistically significant difference between the mean environmental concern of homeowners and renters. Separate data frames were created for homeowners and renters, both of which include the additive index for environmental concern and non-response adjusted weights. In alignment with the hypothesis that homeowners are more concerned about the environment than renters, a code was set up to test whether the mean for homeowners (x) is greater than the mean for renters (y). H0 signifies that the mean environmental concern of homeowners is not statistically significantly greater than the mean environmental concern of renters. Ha signifies that the mean environmental concern of homeowners is statistically significantly greater than the mean environmental concern of renters. The p-value was then used to determine whether the null hypothesis can be rejected.

Regression tests were used to examine the relationship between homeownership status and environmental concern. First, a weighted bivariate regression was conducted using the homeownership dummy, environmental concern index, and wtssnrps weights variable.

Second, a weighted multivariate regression was conducted using additional control variables. The dependent variables in the model are homeowner dummy, neighborhood environmental risk exposure, female dummy, Black (race) dummy, other (race) dummy, liberal dummy, conservative dummy, age (years), personal income, and education (years). Based on existing literature, those who have been directly impacted by adverse environmental impacts are expected to be more concerned about the environment (Whittaker et al., 2005). While the interview section of this paper did not find a consistent relationship between climate risk by county and respondents' evaluations of local environmental risks, the neighborhood environmental risk exposure index derived from the survey is likely a more accurate measure of direct risk exposure. Women are expected to express greater concern for the environment as compared to men due to greater perceived vulnerability to risk (Bord and O'Connor, 1997). People of color–represented by those in the Black and other (race) category in this survey–have been found to be more invested in environmental justice and are expected to express greater environmental concern as opposed to White respondents (Lazri and Konisky, 2019). Liberal and conservative respondents are expected to be more and less concerned, respectively, about the environment as compared to moderates (Neumayer, 2004; Holian and Kahn, 2014). Finally, environmental concern is expected to increase with education and decrease with age and personal income.

Third, an interaction was added to the previous weighted multivariate regression model. Neighborhood environmental risk exposure was selected as a moderating variable. It is hypothesized that the effect of homeownership on environmental concern depends on individuals' neighborhood exposure to environmental risks. This is because social and financial consequences—such as property damage, preventative hikes in maintenance costs, and increased energy prices—that differentiate the perspectives of homeowners and renters only materialize if individuals' neighborhoods are directly exposed to environmental risks. In other words, homeowners' levels of environmental concern are hypothesized to be more sensitive to increased levels of neighborhood environmental risk exposure than those of renters. The test was conducted twice—once with a renter dummy and another with a homeowner dummy—to find the slopes, standard errors, and p-values for both homeowners and

renters. The regression tabled below only shows the result from the test that used a homeowner dummy, with homeowners coded as 1 and renters as 0.

Results

Mixed results were found across the various tests performed. Counter to the hypothesis, the weighted t-test and bivariate regression found that renters are more concerned about the environment than homeowners. However, the addition of control variables in the weighted multivariate models flipped the sign of the coefficient, meaning that homeowners are estimated to have higher environmental concern scores than renters. Furthermore, a statistically significant interaction effect was found for neighborhood environmental risk exposure on the environmental attitudes of homeowners and renters.

The results of the weighted t-test did not allow for the null hypothesis to be rejected. Contrary to expectations, the mean environmental concern of homeowners is lower than that of renters, measuring 23.076 and 23.816, respectively. The calculated p-value is 0.991 and greater than 0.05, meaning that homeowners are not more concerned about the environment than renters in a statistically significant way. Considering these results, the test was flipped to see whether renters express greater environmental concern than homeowners such that H0 signifies that the mean environmental concern of renters is not statistically significantly greater than the mean environmental concern of homeowners and Ha signifies that the mean environmental concern of renters is statistically significantly greater than the mean environmental concern of homeowners. The resulting p-value is 0.009 and less than 0.05, meaning that the null hypothesis should be rejected. Therefore, the mean environmental concern of renters is statistically significantly greater than that of homeowners. This suggests that not only are homeowners from the sample not more concerned about the environment than renters, but the opposite appears to be true. However, this may be due to other variables that are not controlled for in this test such as neighborhood environmental risk exposure, gender, race, political ideology, age, personal income, and education.

The table below shows the results of three weighted regression tests (1) bivariate (2) multivariate (3) multivariate with an interaction effect.

Table 4: Regression results

	Dependent variable: Environmental Concern		
	(1)	(2)	(3)
Dummy: Homeowner	-0.927***	0.677**	-0.776
	(0.352)	(0.299)	(0.791)
Neighborhood Environmental Risk Exposure		0.536***	0.388***
		(0.052)	(0.092)
Dummy: Female		0.340	0.352
		(0.251)	(0.251)
Dummy: Black		-0.665	-0.639
		(0.421)	(0.421)
Dummy: Other (Race)		0.992**	1.030***
		(0.396)	(0.396)

Dummy: Liberal		3.384***	3.363***
		(0.304)	(0.304)
Dummy: Conservative		-3.989***	-3.967***
		(0.304)	(0.304)
Age (Years)		-0.023***	-0.024***
		(0.008)	(0.008)
Personal Income		-0.055***	-0.056***
		(0.015)	(0.015)
Education (Years)		0.300***	0.296***
		(0.044)	(0.044)
Interaction (Homeownership * Neighborhood Environmental Risk Exposure)			0.219**
			(0.110)
Constant	24.077***	16.983***	18.089***
	(0.299)	(0.829)	(0.998)
Observations	1,372	1,365	1,365
R^2	0.005	0.427	0.429
Adjusted R^2	0.004	0.423	0.424
Residual Std. Error	5.672	4.320	4.316
F Statistic	6.915***	100.942***	92.323***
Note:	*p**p***p<0.01		

Bivariate Regression

The weighted bivariate regression tests the correlation between homeownership status and environmental concern. Contrary to the hypothesis and consistent with the results of the weighted t-test, the regression found that relative to renters, homeowners are estimated to score 0.927 points lower than renters on the environmental concern scale. Furthermore, this relationship is statistically significant.

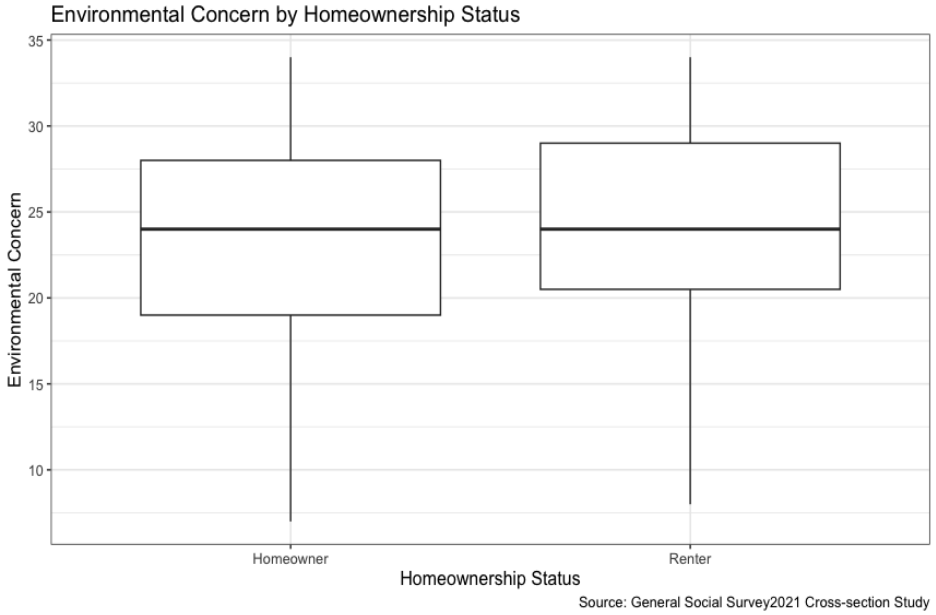

Figure 1: Boxplot of environmental concern by homeownership status.

Figure 1 shows the mean level of environmental concern for homeowners and renters. The difference in means between the two groups is difficult to see visually because of how close they are. Therefore, while the results are statistically significant, they may not hold substantive significance.

Multivariate regression

The addition of control variables in the weighted multivariate model found a statistically significant relationship between homeownership and increased environmental concern. This runs counter to the results from the bivariate regression. Relative to renters, homeowners are estimated to score 0.677 points higher on the environmental concern index, holding all other variables constant. Furthermore, the p-value is less than 0.05, indicating a statistically significant relationship. This aligns with the hypothesis that homeowners are more concerned about the environment than renters.

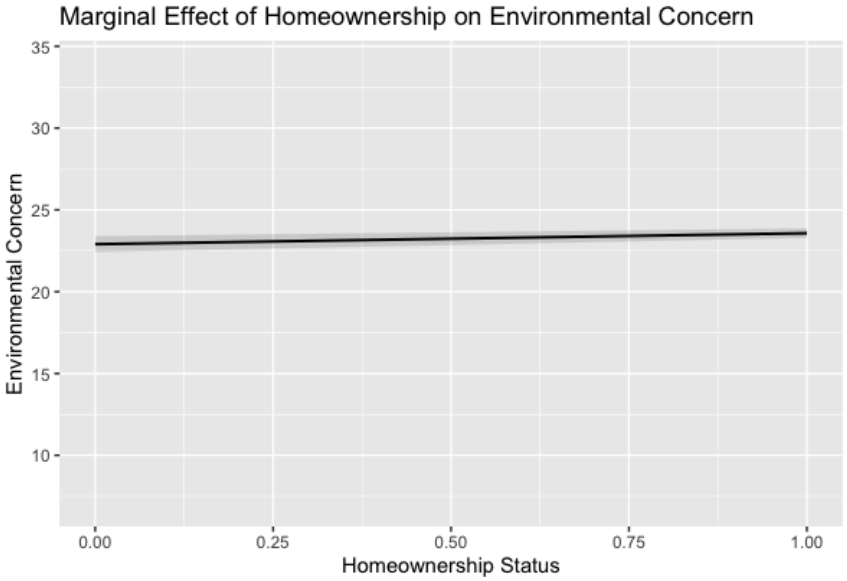

Figure 2: Marginal effects.

The marginal effects graph visualizes the effect that being a homeowner has on one's level of environmental concern. Its upward positive slope shows that relative to renters (0), homeowners (1) are

estimated to score slightly higher on the environmental concern index, holding all other variables constant.

Statistically significant independent effects were found between environmental concern and seven of the added control variables. The figure below shows the estimated impact of each of the independent variables on environmental concern.

Holding all other variables constant, a one-point increase in neighborhood environmental risk exposure is associated with a 0.536-point increase in environmental concern. Relative to White respondents, those who reported being in the other (race) category are estimated to score 0.992 points higher on the environmental concern scale. Relative to moderates, liberals and conservatives are estimated to score 3.384 points higher and 3.989 points lower on the environmental concern scale, respectively. Every one-year increase in age is associated with a 0.023-point decrease in environmental concern. Every one-unit increase in personal income is associated with a 0.055-point decrease in environmental concern. Finally, every one-year increase in education is associated with a 0.300-point increase in environmental concern. For all the variables above, the p-value is smaller than 0.05, indicating statistically significant independent effects. All the control variables moved in ways consistent with the theory. The two variables that do not have an impact on environmental concern are the female dummy and the Black dummy. This means that Black respondents do not feel differently about the environment relative to whites, and female respondents are not more or less concerned about the environment relative to male respondents. The R^2 value and adjusted R^2 for the test are 0.427 and 0.423, respectively, indicating that the model accounts for approximately 42% of the variance in the dependent variable.

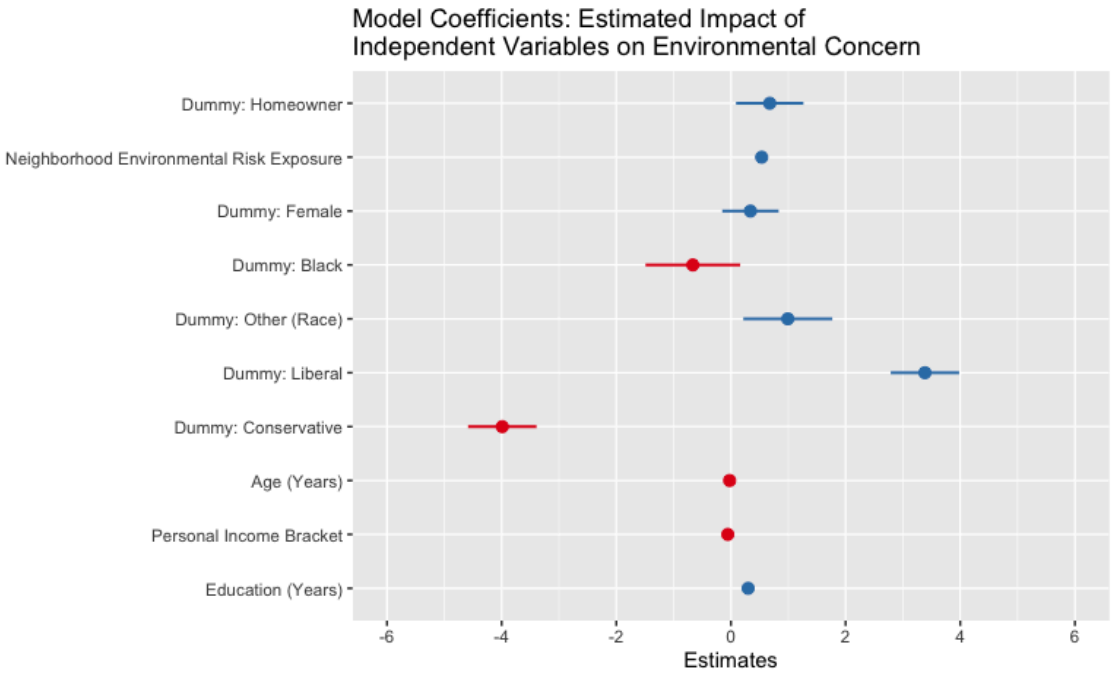

Figure 3: Model coefficients.

Multivariate regression with an interaction effect

Homeowners' levels of environmental concern were hypothesized to be more sensitive to changes in neighborhood environmental risk exposure than those of renters. For expositional purposes, the scatterplot below visualizes how environmental concern for all respondents—both renters and homeowners— is related to neighborhood environmental risk exposure.

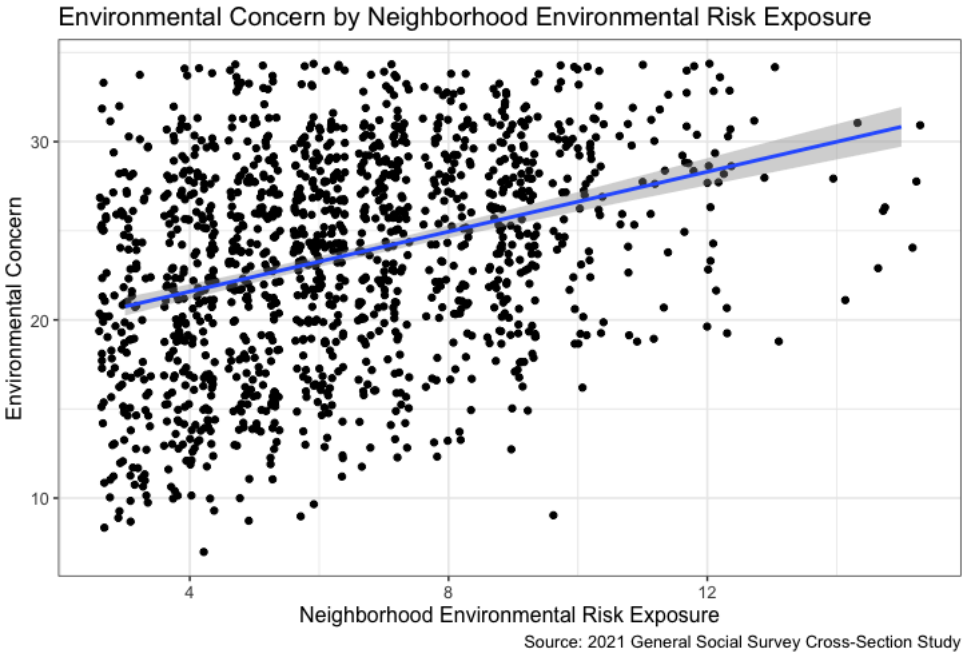

Figure 4: Relationship between environmental concern and neighborhood environmental risk exposure.

The graph shows a positive correlation between environmental concern and neighborhood environmental risk exposure. As neighborhood environmental risk exposure increases, environmental concern scores increasingly cluster around higher values.

The weighted multivariate regression test with an interaction effect found a statistically significant difference between how neighborhood environmental risk exposure affects renters' versus homeowners' levels of environmental concern. The slope differential between the two groups is 0.219 with a p value less than 0.05. Furthermore, risk exposure is a statistically significant indicator of environmental concern for both renters and homeowners. The slope for renters is 0.388 with a standard error of 0.092 and a p-value less than 0.05. Therefore, for renters, every unit increase in risk exposure is associated with a 0.388 unit increase in environmental concern. The slope for homeowners is 0.606 with a standard error of 0.063 and a p-value less than 0.05. This indicates that for homeowners, every unit increase in risk exposure is associated with a 0.606 unit increase in environmental concern. The R^2 value and adjusted R^2 for the test are 0.429 and 0.424, respectively, indicating that the model accounts for between 42% and 43% of the variance in the dependent variable.

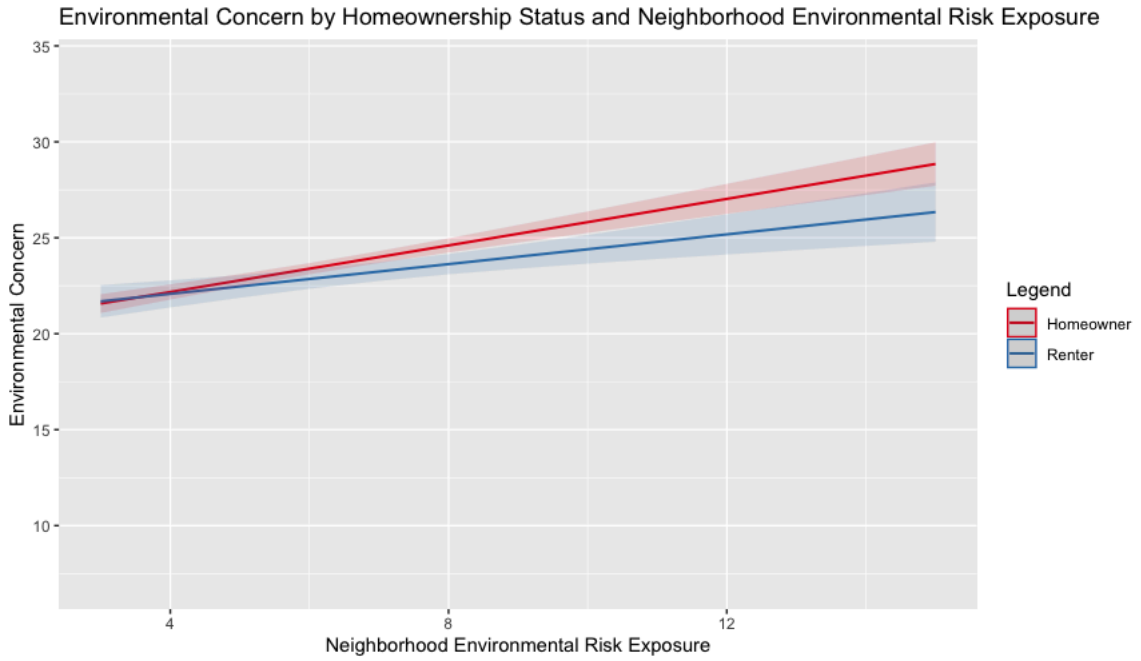

Figure 5: Interaction effect.

As can be seen from the graph below, the slope for homeowners is steeper than that of renters above an environmental risk exposure level of 4. This supports the hypothesis that homeowners' level of environmental concern is more sensitive to risk exposure than that of renters. In summary, environmental risk exposure is a predictor of environmental concern for both renters and homeowners, and the effect that exposure has on the two groups is different in a statistically significant way.

Conclusion

This paper tested the hypothesis that homeowners are more concerned about the environment and likely to support aggressive climate policies than renters. Both interviews and quantitative tests found homeowners to be more concerned about the environment than renters. While interviews failed to identify direct environmental risk exposure as a moderating variable in the relationship between homeownership status and environmental concern, quantitative tests did find a statistically significant interaction effect. A limitation of the general approach was that short-term renters were not differentiated from long-term tenants. This is potentially significant because long-term tenants may think and behave more like homeowners than short-term renters. Additionally, only a limited selection of indicators for environmental concern were tested. Being more intentional with the variables chosen and the specific types of concerns assessed could yield additional insights. Future studies should find ways to account for differences between the perspectives of short-term renters and long-term. Furthermore, researchers might consider distinguishing between what is considered classical environmentalism and environmental human rights and testing homeowners' and renters' attitudes toward values associated with each (Rajan 2011). It may also be productive to focus on environmental behaviors rather than attitudes. Additionally, age is likely also a moderating variable and its relationship to homeownership and environmental concern should be further investigated. In summary, results from both qualitative and quantitative methods used in this study support the hypothesis that homeowners are more concerned about the environment than renters. Tests performed on data from the 2021 General Social Survey found statistically significant differences between the environmental attitudes of homeowners and renters and interviews revealed distinct ways of framing environmental risks.

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