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The building blocks of community participation in local climate meetings

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To make greater strides in reducing city-level greenhouse gas emissions, more collaboration between civil society and local governments is necessary. Participation in neighborhood and town meetings about climate change sets the stage for enduring community involvement in resiliency and mitigation planning. This study examines the correlates of individual interest in attending local climate meetings. The work is based on a random sample of 1950 registered voters in Fresno, California (the fifth-largest city in the state). The findings suggest that those individuals with ties to capacity-building organizations in the labor and community sectors were the most willing to attend meetings about climate change. The types of civic engagement activities encouraged by labor unions and community-based organizations (CBOs) were also associated with a greater willingness to participate in gatherings about global warming. Increasing public participation in local climate programs may be enhanced by investing in the types of civic organizations that specialize in mobilizing residents to engage in municipal initiatives.

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INTRODUCTION

Beyond mobilization in the streets over climate issues, a quieter form of institutional activism is taking place that often leads to direct policy change in reducing greenhouse gas emissions at the local level. These municipal-level initiatives include the development of climate action plans, greenhouse gas inventories, renewable energy programs, and workforce transitions to a green economy[1]. Environmental justice advocates, community-based organizations (CBOs), and labor unions also have pushed for such climate and environmental policies to incorporate equity and to broaden the scope of community participation[2,3]. These same civic organizations advocate for increased public involvement in less privileged regions that lack extensive sustainability goals[4]. Building civic capacity at the community level provides an organizational infrastructure to bring the general public into municipal policy meetings to actively learn about and engage in climate resilience and mitigation strategies. Without extensive public participation in achieving climate goals, program implementation and effectiveness become less tenable[5]. This study addresses the building blocks of bringing community residents into local meetings aimed at reducing greenhouse gas emissions and developing adaptation plans, drawing on the experience of registered voters in Fresno, California, in the year 2020.

Civic engagement on climate action

In California, new programs have institutionalized governmental investments in climate resiliency and environmental justice (e.g., SB 1000, SB 535, SB 162 (CERF), AB 1550, AB 617, AB 398, and AB 2722). Such legislation requires or encourages local community participation in developing policies to adapt to global warming. Understanding the mechanisms of increasing civic participation in climate programs is critical to constructing long-term strategies for mitigation and equity[6]. Indeed, cities control or regulate many of the investments in transportation, construction, and land use. Cities are the largest contributors to greenhouse gas emissions[7]. Residents can join forces with city and regional governments to create low-carbon communities to adapt to climate change[8] and "the success of efficiency programs is actually enhanced by citizen engagement"[9]. Collective action scholarship finds that relatively favorable environmental policies likely occur when civic groups partner with state agencies and elected officials[10,11]. Major national and international networks and initiatives that focus on greenhouse gas reductions at the municipal level such as ICLEI, The Covenant of Mayors, and C40 cities, also call for local community participation in developing their mitigation strategies[12,13].

Much of our knowledge of civic engagement comes from the social movement literature. Those most likely to attend a local meeting about pressing social, economic, and environmental issues maintain different profiles than those less likely to participate[14,15]. Understanding the correlates of individual civic engagement can assist climate advocates and local officials in developing strategies to increase local participation in addressing climate-related problems. Previous scholarship has identified several predictors of which individuals are most inclined to participate in civic and social movement-type activities. These include demographic characteristics/biographical availability, organizational membership in civic organizations, and previous experience in civic engagement actions[16,17]. We review each briefly here.

Demographic characteristics/biographic availability. Demographic characteristics include race, gender, age, education, and income. Biographic availability refers to the time and resource constraints of individuals to join in collective action[18,19]. Depending on the type of civic engagement, different attributes may be more influential. In the United States, empirical cases report women exhibiting environmental values and beliefs more than men[20]. Youth and young adults have led participation in the climate

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movement over older adults[21]. Higher-income and education have been associated with participation in traditional environmental organizations (such as the Group of 10 in North America)[22], while working-class groups and racial minorities constitute the mass base of participants in the environmental justice movement[23].

Civic organizations. We know less about civic participation on issues dealing with the accelerating climate crisis beyond the street protests of groups and movements such as Fridays For Future, 350.org, the Sunrise Movement, and Extinction Rebellion[24–26]. In addition, a closer examination is needed of the kinds of civic organizations and past civic behaviors that may be the most relevant to initiating environmental action at the local level, including participation in climate resiliency programs. The *type of civic organization* one has experience in participating may increase the likelihood of involvement in other issues, including global warming. Prior experience in *capacity-building* civic organizations, such as those that focus on community organizing and public outreach, would most likely create the type of skill set to bring one into environmental action. Community organizing is often *multi-issue*, preparing those involved to participate in a wide range of concerns in the community[27,28].

In California, civic capacity-oriented community organizing is largely conducted by labor unions, local nonprofit and community-based organizations, youth civic associations, and neighborhood committees. Civic capacity organizations focus on building the skills of their constituents to participate in local democratic decision-making and mobilize additional groups outside their base[29]. Such civic skill enhancement includes organizing people for community meetings, workshops on engaging city council and elected officials, and voter registration[30]. Labor unions train their membership in a variety of political skills and outreach, including canvassing door-to-door, tabling at public events, phone banking, role playing encounters with local residents, campaigning for elections, meeting with state and elected officials, and joining in coalitions with community-based organizations over a wide range of issues[31], including environmental justice. Greater national levels of labor unionization have been found to correlate with carbon-emission reduction among nations in the global North[2,32].

At the micro-level, union membership has been associated with more climate-friendly policy preferences in cross-national empirical work[33]. The growing interest of unions since the 2010s in just transitions and high-road employment opportunities (i.e., high-paying jobs with benefits) in the shift to more carbon-neutral economies, including California state policies[34,35], may partially explain this emerging pattern, in contrast to previous conflicts over industrial growth and environmental regulation[36–38]. We test at the individual level on how labor unions may contribute to reducing carbon emissions. Youth and nonprofit organizations also engage in civic capacity-building activities. In contrast, community organizations and institutions focusing on more inward issues and less on capacity building, such as sports, addiction recovery, church, or parent-teacher associations (PTAs) would likely have less experience in mobilizing people for local action (with the exception of faith-based CBOs).

Civic engagement experience. Beyond organizational membership, individuals also vary in the amount of actual civic engagement in which they have participated. The experience of past participation in civic activities provides one with the strategic capacity and know-how to participate again in the present[39]. This would likely especially hold for those who have engaged in municipal-level gatherings from volunteering in the community and attending town halls to participating in collective action such as rallies. The skill sets from both organizational membership in capacity-building associations and actual past civic engagement experience provide a sense of efficacy for individuals to continue to participate in community events and invite others to join[40].

RESULTS

Multivariate analysis

Table 1 presents the descriptive statistics. One-third of all respondents were willing to attend a climate meeting. Table 2 provides the results of a multivariate logistic regression predicting participation in local climate meetings. Past or current membership in capacity-building organizations such as labor unions, nonprofit organizations, and youth associations increases the interest in participating in a community gathering to discuss global warming. Other less capacity-building-oriented organizations such as addiction recovery/self-help and religious organizations were not associated with an expressed interest in attending a meeting on climate change. Past civic engagement—including attending local meetings about quality-of-life issues, volunteering in the community, contacting elected officials, and social movement-type participation in rallies and strikes—was also associated with a willingness to attend a local meeting to address climate change. These are the same types of civic activities encouraged by labor unions and community-based organizations. Women and young adults were also more willing to engage in local climate issues than men and older adults. The findings on gender and age are consistent with the existing literature on social movement participation in climate-related activities[26,41].

Predicted probabilities of local climate participation

Figure 1 provides measures of the influence of the statistically significant covariates in terms of the increase in the probability of one's willingness to attend a local meeting about climate change.

Table 1. Descriptive statistics.

	Mean	sd	Min	Max
Willingness to attend climate change meeting	0.33	0.47	0	1
Civic organization				
Labor union	0.14	0.34	0	1
Nonprofit	0.27	0.45	0	1
Youth	0.20	0.40	0	1
Neighborhood	0.12	0.33	0	1
Religious	0.47	0.50	0	1
Sports	0.26	0.44	0	1
Recovery	0.09	0.29	0	1
School volunteer	0.23	0.42	0	1
Civic engagement				
Attended to a local meeting	0.19	0.39	0	1
Met with local elected official	0.25	0.43	0	1
Attended a rally	0.29	0.46	0	1
Strike participation	0.10	0.30	0	1
Volunteered in community	0.46	0.50	0	1
Environmental threat				
Temperature above normal	2.84	5.99	−11.3	12.7
Demographic controls				
Gender (Woman = 1)	0.55	0.50	0	1
Age	44.76	17.47	21.5	71.5
Income	1.34	0.99	0	3
Education	3.96	1.04	0	6
White/Nonwhite (Nonwhite = 1)	0.61	0.49	0	1

Table 2. Multivariate logistic regression model predicting willingness to participate in local climate meetings ($n = 1950$).

	Willing to attend local climate change meeting
Type of civic organization	
Labor union	0.463** (0.147)
Nonprofit	0.333** (0.122)
Youth	0.316* (0.136)
Neighborhood	0.126 (0.158)
Religious	−0.035 (0.109)
Sports	−0.183 (0.132)
Recovery	0.159 (0.178)
School volunteer	0.111 (0.127)
Civic engagement	
Attended a local meeting	0.279* (0.136)
Met with an elected official	0.489*** (0.124)
Attended a rally	0.564*** (0.113)
Strike participation	0.297t (0.174)
Volunteered in community	0.249* (0.111)
Environmental threat	
Temperature above normal	0.002 (0.009)
Demographic controls	
Gender (Woman = 1)	0.207* (0.106)
Age	−0.016*** (0.003)
Income	0.074 (0.058)
Education	−0.040 (0.058)
Nonwhite/White	0.164 (0.116)
Constant	−0.911** (0.292)

$^{t}p \le 0.10$, $^{*}p \le 0.05$, $^{**}p \le 0.01$, $^{***}p \le 0.001$ (two-tailed tests) (Robust Standard Errors in Parentheses).

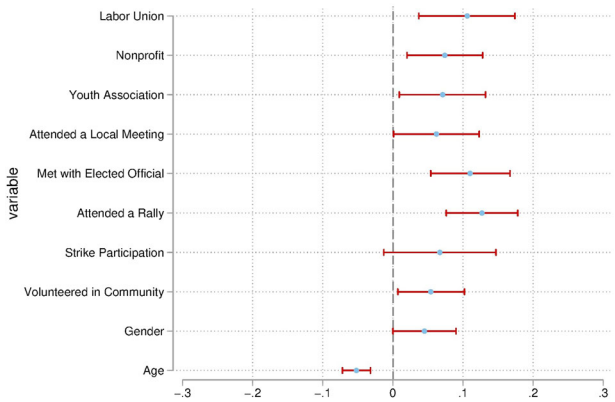

Fig. 1 Change in predicted probabilities in climate meeting attendance.

The figure represents the change in the predicted probability of joining a climate meeting for a one-unit change in the independent variable (holding all other independent variables at their means). The most influential type of organizational membership for attending a climate meeting was being affiliated with a labor organization. Affiliation with a labor union increases the probability of one's willingness to attend a climate meeting by 0.11 (from a probability of 0.30 to 0.41). In terms of past civic engagement, both meeting with an elected official and attending a rally were the most influential. Those who made contact with an elected official had a 0.11 increase in the probability of attending a climate meeting. Respondents reporting that they attended a rally in the past increased their probability of attending a climate meeting by .13 versus those who have never attended a rally (moving from a probability of 0.28 to 0.41). Participating in a labor union and past collective action experience in rallies had the largest overall predicted probabilities with each having a 41 percent chance of attending a local climate gathering.

DISCUSSION

For states and local governments to implement long-term climate planning, civic participation, and community buy-in are necessary conditions. Bringing the public into local meetings and assemblies about a range of climate resiliency programs, such as green jobs, renewable energy, clean transportation, and climate action plans, is the starting point for developing equitable and just transition strategies to reduce greenhouse gas emissions at the community level. Those affiliated with labor and nonprofit organizations were more willing to attend a climate meeting. These are the kinds of front-line organizations that may canvass door-to-door, phone-bank, table, and meet with state and local officials. Such actions and public engagement build civic skills and trust in the localities they were undertaken. In the city of Fresno, an alliance between the Central Labor Council (CLC) and community and environmental justice organizations formed initially in 2012, called the Central Valley Partnership (CVP). Coalitions such as the CVP may have contributed to increasing labor union awareness of environmental issues in the region, as past research on environmental-labor movement coalitions has shown[37,42]. The Central Labor Council also formed a grassroots organization in 2018 to work on civic capacity and voter registration in the region, called Valley Forward. At the same time, the Executive Director of the CVP was also on the executive committee of the local Sierra Club chapter making direct labor ties to environmental issues. Future work would benefit from incorporating qualitative methods of interviews and ethnography to better understand the everyday processes that motivate members of labor and community-based organizations (CBOs) to participate in local civic gatherings around environmental issues[43]. Future work would also benefit from residential address-based sampling frames that capture wider swathes of the population beyond registered voters, especially immigrant communities in California and elsewhere.

Also, recent funding by the California Workforce Development Agency in programs transitioning to high-road green economic employment acts as an incentive for the labor movement to encourage members' participation in climate initiatives[34]. Nonetheless, the implementation of local climate programs faces many obstacles, including counter-campaigns of backlash and misinformation[16], lack of familiarity with mitigation strategies, apathy, and the public's available time. States, local governments, and philanthropic foundations may overcome some of these impediments by increasing investments in capacity-building groups such as labor and community-based organizations to expand and sustain public participation in climate resiliency and greenhouse gas (GHG) reduction plans[39]. For example, Levine[44] found such investments as an empowering force for community groups to participate in economic development efforts in Boston. The challenge would be for granting agencies and state programs to identify the most promising capacity-building type organizations within communities. As international scientific bodies have reached scholarly consensus on the anthropogenic drivers of atmospheric warming, state and municipal governments, local civic and labor groups, and residents have a critical role to play in reducing carbon emissions and addressing climate change impacts.

METHODS

Representative sampling and data collection

The study is based on a stratified random sample of registered voters in the city of Fresno. Each of Fresno's seven city council districts was randomly sampled for a complete geographic representation of the city. The sampling frame came from a list of all registered voters in the city as of July 2020 available from Political Data Incorporated (PDI). Between August 18 and September 14, 2020, the Fresno County Civic Engagement Table (FCCET), in partnership with the University of California-Merced Community and Labor Center, conducted a random phone survey of registered voters with landlines and cell phones. 1,950 surveys were completed for this study. The survey protocol and sample design were approved by the University IRB with the participants giving verbal consent to survey participation at the beginning of phone contact. Fresno is the fifth largest city in the state of California. In 2019, it had an estimated population of 531,576 residents. The median household income is $13,000 less than the US median household income and $25,000 less than the California median income; nearly 70 percent of residents are nonwhite[45]. The city is in the San Joaquin Valley of California, a region highly vulnerable to multiple manifestations of climate change including drought, wildfire smoke, flooding, and extreme heat waves, with especially dire impacts for outdoor workers in agriculture and construction[46,47]. The most pronounced climate-related problems for Fresno city residents include air pollution from agriculture, transportation/vehicle exhaust, and wildfires as well as heat exposure in the summer months. The city does not have a registered climate action plan and is not a member of a community choice renewable energy program.

Survey design and measures

The survey asked several questions regarding civic engagement and demographic background characteristics. The dependent variable in the study is expressed willingness to participate in climate change meetings. The variable was measured in a dichotomous format asking respondents if they would be willing (yes/no) to participate in a local meeting about climate change/global warming, a response of yes was coded 1 and no was coded 0. The independent variables include a range of civic organizations, civic engagement, and demographic items. Respondents were queried about which types of civic organizations they were affiliated with as a binary measure of no affiliation (coded as 0) or affiliated (coded as 1). The question asked, are you currently or have you previously been involved in any of the following local organizations? The local organizations included: Labor Union, Nonprofit, Youth, Neighborhood, Religious, Sports, Self-Help/Recovery, and School Volunteer.

Another set of questions asked about past civic engagement experience. Respondents reported yes (coded 1) or no (coded 0) if they participated in the following civic activities: attended a local meeting about quality-of-life issues, Met with or contacted an elected official, Attended a rally, Participated in a strike, or Volunteered in the community. An additional co-variate incorporated external environmental threat conditions[48], measured as the degrees in Fahrenheit the temperature was below or above normal the day before the survey interview.

A set of demographic questions inquired about gender, age, income, education, and race. Gender was measured in a non-binary fashion with options for male, female, or other. Because less than .05 percent reported other, we coded gender as 1 for female and 0 for male. Age was measured as an ordinal variable with the following age classifications: Age 18–25, Age 26–35, Age 36–45, Age 46–55, Age 56–65, and Age Over 65. To more precisely estimate the effects of age on local climate participation, we recoded the age cohorts at their midpoints of 21.5, 30.5, 40.5, 50.5, 60.5, and 71.5. Income was measured as a four-category ordinal variable at the current household level as $0–24,999 (0), $25,000–49,999 (1), $50,000–74,999 (2), $75,000 and above (3). For education a seven-level ordinal classification was used for the highest level of education completed: None/incomplete primary (0), Primary/elementary (1), Junior High/Middle School (2), High School (3), AA/Community College (4), Bachelor's Degree (5), Masters degree or more (6). Race was measured as a dummy variable with those identifying as non-Hispanic white coded 0 and those identifying as nonwhite 1.

As the dependent variable is dichotomous, a multivariate logistic regression model was used to predict the likelihood of Fresno residents' willingness to participate in a local climate meeting (Table 2). The results are presented as logit coefficients (Table 2). Figure 1 shows predicted probabilities in order to interpret the influence of the statistically significant covariates on local participation in climate gatherings.

DATA AVAILABILITY

As agreed with the University of California Institutional Review Board (IRB) for this study with human subjects, data is protected and anonymized files used for the analysis can be made available by contacting the corresponding author.

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AUTHOR CONTRIBUTIONS

P.A.: writing, survey and sampling design, and data analysis. L.R.G.: data cleaning, data analysis, data visualization. E.O.F.: survey design, data collection. V.C.: survey design, data collection. A.P.: survey design, data collection.

COMPETING INTERESTS

The authors declare no competing interests.

CONSENT FOR PUBLICATION

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ADDITIONAL INFORMATION

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