

## Supplementary Information Appendix

### Diverse segments of the US public underestimate the environmental concerns of minority and low-income Americans

#### Methods.

**Participants.** The sample was drawn from GfK's KnowledgePanel®, an online panel of members drawn using probability sampling methods, and included an oversample of Hispanics/Latinos ( $n = 202$ ). Table S1 summarizes sample demographics. Participants from all 50 US states and the District of Columbia were included in the sample. Of the 1212 respondents who completed the survey, 61.1% identified as "White, non-Hispanic," 51.7% identified as male, and 10.2% completed the Spanish-language version of the survey. A majority (57%) reported a household annual income under \$75,000, 30.7% reported holding a Bachelor's degree equivalent or higher, and 58.6% reported being currently employed. Over half (54%) identified as a Democrat, 39.6% as Republican, and 6.4% as "Other" or refused. Protestants or Evangelical Christians (34.8%) and Catholics (30.1%) comprised the two largest religious groups, followed by non-religious (Atheists) (16.3%) and "Other" Christians (5.2%).

**Procedure.** Demographic information was collected in separate GfK panel interviews, prior to administering the survey. English and Spanish-language versions of the survey were made available and respondents completed the survey in exchange for points redeemable for entry into raffles for monetary rewards and other prizes.

For analyses examining respondent race/ethnicity, racial and ethnic respondent categories were created to provide non-overlapping sample estimates for the four largest US racial/ethnic demographic groups, which correspond to racial/ethnic categories also rated in the survey (see below): Hispanics/Latinos ( $n = 306$ ; 266 self-identified as White, 12 identified as Black/African American, 10 identified as American Indian or Alaska Native, 2 identified as Asian, 15 identified as two or more races, and 1 identified as Hawaiian/Pacific Islander), non-Hispanic Whites ( $n = 741$ ), non-Hispanic Blacks/African Americans ( $n = 86$ ), and non-Hispanic Asian/Asian-Americans ( $n = 40$ ). Given small sample sizes resulting in low-reliability estimates, non-Hispanic Native American ( $n = 4$ ) and non-Hispanic multi-racial ( $n = 35$ ) respondents were not included in analyses assessing effects of respondent race/ethnicity, but were included in all other reported analyses (e.g., mean US population ratings of different demographic groups' environmental concern, as shown in Fig. 1).

Deciles are reported for analyses for annual household income, with respondents in the bottom (< \$15,000) and top (> \$150,000) deciles used as comparison groups for "poor" and "wealthy" target categories, respectively. These correspond to a lower-income category that is below the federal poverty designation of \$16,020 for a 2-person household (<https://aspe.hhs.gov/computations-2016-poverty-guidelines>), and to an upper-income category more than double the US median household annual income and above the modal response (\$100,000) in open-ended surveys asking Americans to indicate the total annual income necessary for a family to be considered "wealthy" in their area (1). In all other cases (i.e., when included as a covariate), household income was treated as a 19-category continuous measure, as assessed in the survey, from "less than \$5000" to "\$175,000 or more." Demographic variables were weighted, post-survey, to match US Census Bureau population characteristics. Ideology was assessed on a 7-point scale (1 = extremely liberal, 2 = liberal, 3 = slightly liberal, 4 = moderate, middle of the road, 5 = slightly conservative, 6 = conservative, 7 = extremely conservative).

Participants were randomly assigned to one of two organization mission statements (Fig. S1). Both statements described a hypothetical US-based environmental organization. In the Diverse condition ( $n = 590$ ), the organization was described as one where "different perspectives are valued" and included an image showing a racially and ethnically diverse staff. The Non-Diverse condition ( $n = 622$ ) excluded this information. For additional information about this task and related measures, see "Organizational diversity treatment and judgment task," below.

To assess age and class associations with the term “environmentalist,” participants were instructed to “*Please take a moment to imagine the kind of person that comes to mind when you think of an ‘environmentalist’...When you think of this person, they appear to be...*” Participants then indicated, on 5-point scales, age (1= very young, 3 = neutral, 5 = very old) and class (1= very poor, 3 = neutral, 5 = very rich; and 1= very uneducated, 5 = very educated) associations with the term “environmentalist” (item order randomized per participant). To assess racial/ethnic stereotypic associations, participants were asked, “*Which of the following groups come to mind when you think of ‘Environmentalists’?*” and indicated the strength of association on a 5-point scale (1 = not at all, 5 = very much) for each of the following groups: Whites/Caucasians, Asians/Asian-Americans, Hispanics/Latinos/Latina, Blacks/African-Americans, and Native Americans (item order randomized per participants). Consistent with previous analyses, we report associations with the four largest Census categories (Whites, Blacks, Latinos, and Asians) in Figures 3a and S6-7.

To assess participants’ perceptions of other Americans’ environmental attitudes across demographic groups, participants were given the following prompt: “*We are interested in your views about the concerns of other Americans. In your opinion, how much is each of the following groups in the United States concerned about the environment [climate change]?*” The issue frame was experimentally varied to assess participants’ estimates of different groups’ concern about “the environment” (referred to as “environmental concern” in the analyses below;  $n = 589$ ) or “climate change” (referred to as “climate change concern” in the analyses below;  $n = 623$ ), varied between-subjects to avoid biasing response estimates by prompting relative or comparative judgments of concern between different issue frames. Participants then rated the level of concern on a 5-point scale (1 = not at all concerned, 2 = somewhat concerned, 3 = moderately concerned, 4 = very concerned, 5 = extremely concerned) for each of the following groups (order randomized per participant): Whites/Caucasians, Asian/Asian-Americans, Hispanics/Latinos, Blacks/African-Americans, Native Americans, Older Americans, Younger Americans, Religious Americans, Wealthy Americans, Poor Americans, Women, Men. Additional survey measures assessing participants’ beliefs about climate change and policy recommendations were included in the survey but were not the focus of the present study and are, thus, not reported here.

**Analytic approach.** Unadjusted (raw) estimates and analyses, aggregated across diversity treatment conditions and excluding covariates, are reported in the main text. This SI Appendix summarizes the analyses reported in the main text when including statistical controls, as described below. Statistical analyses were conducted using SPSS version 25. Additionally, we report results and both unadjusted and covariate-adjusted estimates for ancillary analyses that are referenced but not fully reported in the main text (see Figures S3 and S4), as well as means reported in Figures 1 and 2 of the main text disaggregating estimates across diversity treatment conditions (Figures S10 and S11).

Consistent with previous work examining effects of racial/ethnic group membership on environmental outcomes (2), for all non-subgroup statistical analyses reported below, we report covariate-adjusted results and means controlling for political ideology, gender, educational attainment, and annual household income, and the organizational diversity manipulation. For respondent subgroup analyses (e.g., testing effects of respondent race/ethnicity or socioeconomic status), we include only political ideology as a covariate, selected a priori, to minimize the number of model parameters and minimize bias in parameter estimates, and to limit the potential for inflated standard errors and reduced statistical power, given the relatively small sample sizes for some groups (3). However, for descriptive purposes, we also include figures showing marginal estimates adjusting for all five covariates, which show similar patterns as those showing unadjusted means. Analyses for the organizational diversity manipulation and comparisons between native (US-born) and non-native samples are reported separately (see “*Organizational diversity treatment and judgment task*,” and “*Responses of native (US)-born versus non-native-born individuals*,” respectively, below).

General linear models were estimated to obtain marginal means for continuous variables, and estimated marginal proportions for categorical variables were obtained through multinomial logistic regression. All covariates were mean-centered in analyses. For analyses comparing White and non-White

respondents (aggregated across Latino, Black, and Asian respondents), respondent race/ethnicity was contrast-coded -1 = Non-Hispanic Whites, +1 = Non-Whites.

Below, we report results described in the main text when adjusting for covariates, as described above, as well as results of additional analyses referenced in the main text.

## Results.

**Environmental concern.** Figure S2 shows respondents' covariate-adjusted perceptions of different demographic groups' environmental concern relative to each respective group's mean self-reported concern. To test for accuracy in perceptions relative to respondents' self-reports, an accuracy index (the average self-reported concern of each group subtracted from respondents' perception of that group's environmental concern) was computed for each respondent for each rated demographic group and was entered as an outcome variable in separate multiple regression models. Intercept tests in these analyses indicated whether (mis)perceptions of each group were significantly different from zero, with positive scores indicating overestimation and negative scores indicating underestimation of a target groups' level of environmental concern. For analyses comparing respondents' perceptions of Whites relative to non-Whites, responses were aggregated across non-White minority target groups (Latinos, Blacks, and Asians).

On average, participants significantly underestimated all rated demographic groups' level of environmental concern, relative to each group's average self-report rating,  $t_s < -2.37$   $P_s < 0.05$ , except for the groups Younger Americans,  $t = -1.17$ ,  $P = 0.244$ , and Whites. Respondents significantly *overestimated* Whites' level of environmental concern relative to Whites' self-reported concern,  $t = 3.30$ ,  $P = 0.001$ . Additionally, all groups were rated significantly below the scale midpoint of "moderately concerned," all  $t_s < -3.62$ ,  $P_s < 0.001$ , except for Younger Americans and Whites, who were both rated significantly above the scale midpoint,  $t_s > 2.38$ ,  $P_s < 0.05$ , and Women,  $t = 1.96$ ,  $P = 0.05$ , who were similarly rated above the scale midpoint.

These patterns were similar when specifically comparing White male respondents to all other demographic groups (i.e., Non White-male respondents). Controlling for political ideology, White males significantly underestimated the environmental concern of all target groups relative to the mean self-reported concern of each group (all  $t_s < -3.32$ ,  $P_s < 0.01$ ), except for Younger Americans,  $t = 1.13$ ,  $P = 0.26$ , and Whites, for whom White males overestimated concern,  $t = 1.92$ ,  $P = 0.057$ . White males' underestimation of Women was marginally significant,  $t = -1.96$ ,  $P = 0.05$ . Non White-male respondents showed a similar pattern, underestimating the concern of all target groups,  $t_s < -2.56$ ,  $P_s < 0.05$ , except for Younger Americans, for whom they underestimated concern,  $t = -2.12$ ,  $P = 0.035$ , and Whites, for whom they similarly overestimated concern,  $t = 2.56$ ,  $P = 0.011$ . Non White-male respondents' estimation of Women's environmental concern was relatively accurate,  $t = -1.59$ ,  $P = 0.11$ . However, the magnitude of concern underestimation was significantly larger for White male respondents compared to other respondents when rating Blacks,  $F = 5.92$ ,  $P = 0.015$ , Latinos,  $F = 12.84$ ,  $P < 0.001$ , and Poor Americans,  $F = 9.84$ ,  $P = 0.002$ .

In contrast to these perceptions, analyses of covariance indicated that non-Whites (aggregated across Latino, Black, and Asian respondents) reported significantly greater concern about the environment than Whites,  $F(1, 1153) = 21.03$ ,  $p < 0.001$ . Comparing the self-reported concern of White respondents to those of each non-White minority group, reveals that whereas Latinos reported significantly greater concern than Whites,  $F(1, 953) = 44.03$ ,  $P < 0.001$ , Black respondents,  $F(1, 912) = 0.01$   $P = 0.915$ , and Asian respondents,  $F(1, 857) = 2.53$ ,  $P = 0.112$ , reported similar levels of environmental concern as Whites. Non-Whites' self-reported environmental concern, on average (aggregated across minority groups), was significantly above the scale midpoint,  $t = 6.29$ ,  $P < 0.001$ . Additional analyses revealed that the self-reported environmental concern of Latinos,  $t = 6.51$ ,  $P < 0.001$ , and Asians,  $t = 2.26$ ,  $P = 0.027$ , but not Black respondents,  $t = 1.27$ ,  $P = 0.21$ , was significantly above the scale midpoint.

When comparing across race-gender subgroups, consistent with prior research on the "white male effect" (4, 5), White males reported less environmental concern than all other respondents (aggregated),

$M_s = 2.86$  and  $3.21$ , respectively,  $t(1163) = 4.828$ ,  $P < 0.001$ , including in comparison to White females,  $M = 3.06$ ,  $P = 0.013$ . White females also reported less environmental concern than both non-White males,  $P = .014$ , and non-White females,  $P < 0.001$ . In contrast, non-White male and female respondents showed no difference in their self-reported environmental concern,  $P = 0.327$ .

Participants across income deciles also underestimated the environmental concern of both Poor,  $t_s < -4.91$ ,  $P_s < 0.001$ , and Wealthy Americans,  $t_s < -2.74$ ,  $P_s < 0.01$ , and perceived Wealthy Americans as more concerned than Poor Americans,  $t_s < 2.52$ ,  $P_s < 0.05$ .

We also examined respondents' relative accuracy in their estimates of the concerns of Whites compared to their estimates for non-Whites, and the relative accuracy of their estimates of Poor versus Wealthy Americans, relative to the mean self-reported concern of participants in the bottom and top income deciles, respectively. Difference scores were computed subtracting the accuracy index for perceptions of Whites (Whites' perceived concern minus Whites' self-reported concern) from the accuracy index for perceptions of non-Whites (perceived average concern of Latinos, Blacks, and Asians, aggregated across these target groups, minus the average self-reported concern of these groups, aggregated across groups). A difference score was similarly computed to compare the accuracy of respondents' perceptions of Poor versus Wealthy Americans by subtracting the accuracy index for perceptions of Poor Americans from the accuracy index for perceptions of Wealthy Americans. Tests of the intercept including all five covariates in the model indicated that, as expected, respondents misperceived the environmental concern of non-Whites to a greater extent than that of Whites,  $t = 23.26$ ,  $P < 0.001$ , and misperceived the concern of Poor Americans to a greater extent than that of Wealthy Americans,  $t = 10.17$ ,  $P < 0.001$ .

Additionally, both White and non-White respondents underestimated the environmental concern of each rated racial/ethnic minority group, all  $t_s < -3.10$ ,  $P_s < 0.001$ , and rated each minority group's environmental concern as significantly below that of Whites,  $t_s < -2.22$ ,  $P_s < 0.05$ , except for Asian respondents, who perceived their ingroup's level of environmental concern as similar to that of Whites,  $t = -0.99$ ,  $P = 0.33$ .

Figure S3A shows the level of consensus in ratings (unadjusted means) of environmental concern for each of the four rated racial/ethnic groups as a function of respondents' race/ethnicity. Ratings of Whites,  $F(3, 565) = 1.697$ ,  $P = 0.167$ , Blacks,  $F(3, 565) = 1.093$ ,  $P = 0.352$ , and Asians,  $F(3, 565) = 1.243$ ,  $P = 0.293$ , did not differ significantly between different respondent racial/ethnic groups, indicating strong consensus in perceptions of these groups' environmental attitudes – a pattern that remained when controlling for political ideology,  $F_s < 1.25$ ,  $P_s > 0.29$ . However, ratings of Latinos differed significantly across respondent groups,  $F(3, 564) = 7.728$ ,  $P < 0.001$ : Latinos were rated significantly higher by Latino respondents compared to White,  $t(452) = 3.956$ ,  $P < 0.001$ , Black,  $t(147) = 2.392$ ,  $P = 0.018$ , and Asian,  $t(128) = 3.975$ ,  $P < 0.001$ , respondents. This pattern remained when adjusting for political ideology,  $F_s > 4.99$ ,  $P_s < 0.05$ . Non-Latino respondent groups, in contrast, rated Latinos similarly,  $F = 1.887$ ,  $P = 0.153$ , including when adjusting for political ideology,  $F = 2.34$ ,  $P = 0.097$ .

Despite Latino respondents' higher ratings for their ingroup, intercept tests indicated that all minority respondent groups (Blacks:  $t[59] = -3.351$ ,  $P = 0.001$ ; Latinos:  $t[88] = -5.751$ ,  $P < 0.001$ ; Asians:  $t[40] = -4.583$ ,  $P < 0.001$ ) nevertheless significantly underestimated their own racial/ethnic group's level of concern, relative to each groups' mean self-report. These results remained when adjusting for political ideology,  $F_s < -3.10$ ,  $P_s < 0.01$ . In contrast, White,  $t(365) = 2.557$ ,  $P = 0.011$ , and Latino,  $t(88) = 2.620$ ,  $P = 0.010$ , respondents significantly overestimated Whites' level of concern, relative to Whites' mean self-report rating, including when controlling for political ideology,  $F_s > 2.61$ ,  $P_s < 0.05$ . Black,  $t(59) = 0.100$ ,  $P = 0.921$ , and Asian,  $t(40) = -0.431$ ,  $P = 0.669$ , respondents' ratings of Whites' environmental concern did not differ significantly from Whites' mean self-report – a pattern that remained when controlling for political ideology ( $t = -0.24$ ,  $P = 0.815$ ; and  $t = -0.37$ ,  $P = 0.711$ , for Black and Asian respondents, respectively). These results remained similar when including all five statistical covariates in the model (see Fig. S3B). As seen in Figure S4A, intercept tests suggested that Americans across income levels underestimated the environmental concern of both Poor (Bottom decile respondents:  $t[58] = -4.884$ ,  $P < 0.001$ ; Middle decile:  $t[50] = -6.572$ ,  $P < 0.001$ , Top decile:  $t[59] = -8.338$ ,  $P < 0.001$ ) and Wealthy

Americans (Bottom decile respondents:  $t[58] = -3.367, P = 0.001$ ; Middle decile:  $t[50] = -2.843, P = 0.006$ ; Top decile:  $t[59] = -2.973, P = 0.004$ ), relative to the mean reported level of concern of those in the lowest and highest income deciles, respectively. This pattern remained when adjusting for political ideology,  $ts < -2.52, Ps < 0.05$ . Nevertheless, as hypothesized, respondents underestimated Poor Americans' environmental concern to a greater extent than they did Wealthy Americans' environmental concern,  $t(567) = 9.875, P < 0.001$ — an effect which also remained significant when controlling for all five statistical covariates,  $t = 10.17, P < 0.001$  (see Fig. S4B).

Next, we examined whether non-Whites' tendency to underestimate their own racial/ethnic groups' concern, relative to their groups' mean self-reported concern, might reflect a pattern of pluralistic ignorance (6, 7), whereby non-Whites misperceive that their level of concern is greater than that of their ingroup. Figure S5 shows the percentage of respondents who indicated a level of environmental concern either above, equal to, or below what they reported for their racial/ethnic ingroup. Scores were computed by subtracting participants' perception of their racial/ethnic ingroup's environmental concern from their self-reported level of concern.

Results from a multinomial logistic regression, controlling for political ideology, indicated significantly different distributions reflecting contrasting patterns of pluralistic ignorance for White and non-White respondents,  $X^2 = 34.28, P < 0.001$ . A greater percentage of respondents in each non-White racial minority group indicated being more concerned about the environment than others in their racial/ethnic ingroup, than reported being equally or less concerned than others in their racial/ethnic ingroup (Black respondents:  $X^2 = 7.30, P = 0.026$ , Latino respondents:  $X^2 = 15.84, P < 0.001$ , Asian respondents:  $X^2 = 9.08, P = 0.011$ ). This distribution was similar across minority respondent subgroups,  $X^2 = 1.11, P = 0.893$ . In contrast, a greater percentage of Whites reported being *less* concerned than other Whites, compared to the percentage who reported being more concerned than other Whites,  $X^2 = 7.088, P = 0.019$ . Comparing across race-gender subgroups, when controlling for political ideology, this “inverse” pluralistic ignorance effect was only found for White male respondents,  $X^2 = 6.96, P < 0.031$ . White female respondents showed no evidence of racial ingroup pluralistic ignorance,  $X^2 = 2.17, P = 0.338$ . A similar pattern of pluralistic ignorance was observed for income, with a greater percentage of respondents in the lowest income decile reporting being more concerned than their comparative income group (Poor Americans), on average, than those who reported being equally or less concerned  $X^2 = 10.76, P < 0.005$ . No such pattern was found for those in the highest income decile,  $X^2 = 1.38, P = 0.502$ .

***Stereotypic associations.*** Next, we assessed mean racial/ethnic, class (education, wealth), and age associations with the term “environmentalist.” On average, Whites were rated significantly above the scale midpoint,  $t(1158) = 17.66, P < 0.001$ , whereas each racial/ethnic minority group was rated significantly below the scale midpoint (Blacks:  $t(1158) = -20.64, P < 0.001$ ; Latinos  $t(1158) = -19.09, P < 0.001$ ; Asians:  $t(1158) = -12.05, P < 0.001$ ). These results remained identical when including all five covariates in the model (all  $Ps < 0.001$ ; see Fig. S6 and S7 for covariate-adjusted means). Similarly, both White,  $ts < -6.82, Ps < 0.001$ , and non-White respondents,  $ts < -3.05, Ps < 0.01$ , *dissociated* non-Whites from environmentalists, relative to the scale midpoint. Respondents also associated the term “environmentalist” with being younger in age,  $t(1197) = -6.12, P < 0.001$ , more educated,  $t(1197) = 26.86, P < 0.001$ , and more wealthy,  $t(1197) = 9.57, P < 0.001$ , relative the scale midpoint. Intercept tests indicated effects for age,  $t = -6.16, P < 0.001$ , education,  $t = 26.88, P < 0.001$ , and income,  $t = 9.25, P < 0.001$ , remained identical when adjusting for all five covariates.

Additionally, to assess White versus non-White stereotypic associations with the category “environmentalists,” we computed a difference score between respondents' environmentalist-White association and their environmentalist-non-White association (averaged across non-White racial/ethnic target categories), with positive scores indicating a White stereotypic bias. A test of the intercept in a multiple regression model that included all mean-centered covariates as predictors indicated that both White,  $t = 16.33, P < 0.001$ , and non-White respondents,  $t = 9.40, P < 0.001$ , associated the term environmentalists more strongly with Whites than with non-Whites. Adjusting for political ideology, this

pattern was identical for both White males,  $t = 17.73$ ,  $P < 0.001$ , and White females,  $t = 18.42$ ,  $P < 0.001$ . White male and White female respondents did not differ significantly from one another,  $P = 0.815$ .

Strong consensus (i.e., no significant differences) was found in the strength of associations between environmentalists and Whites,  $F(3, 1131) = 1.04$ ,  $P = 0.373$ , and environmentalists and Blacks,  $F(3, 1131) = 1.84$ ,  $P = 0.139$ , across different respondent racial/ethnic groups. This consensus remained for environmentalist-White associations when controlling for political ideology,  $F = 0.98$ ,  $p = 0.401$  (see also Fig. S7 for marginal means adjusting for all five covariates). In contrast, significant heterogeneity was found in respondents' association between environmentalists and each of the minority target groups ( $F_s > 6.98$ ,  $p_s < 0.001$ ) as a function of respondents' race/ethnicity, when controlling for political ideology. As seen in Figure S7A, this heterogeneity was largely driven by stronger ingroup associations with environmentalists among Latino and Asian respondents, compared to non-Latino and non-Asian respondents, respectively.

No significant differences were found in associations between the term "environmentalist" and wealth as a function of respondents' educational attainment,  $F(3, 1194) = 0.79$ ,  $P = 0.500$ , or reported income level,  $F(2, 339) = 1.56$ ,  $P = 0.212$ . There was similarly strong consensus in perceptions of environmentalists as highly educated across education,  $F(3, 1194) = 1.68$ ,  $P = 0.169$ , and income levels,  $F(2, 337) = 0.046$ ,  $P = 0.955$ . These findings were similar when adjusting for political ideology,  $F_s < 1.90$ ,  $P_s > 0.152$  (see Fig. S7 for marginal means adjusting for all covariates). In contrast, significant heterogeneity in age associations with the term "environmentalist" was found as a function of respondents' education,  $F(3, 1194) = 3.73$ ,  $P = 0.011$ , and income levels,  $F(2, 337) = 10.03$ ,  $P < 0.001$ . These effects remained significant when adjusting for political ideology,  $F_s > 4.05$ ,  $P_s < 0.007$ . Paired contrasts indicated that respondents with a Bachelor's degree or higher viewed environmentalists as younger in age compared to those with less than a Bachelor's degree,  $P = 0.001$ , and those in the bottom income decile perceived environmentalists as older relative to those in both the middle and top income decile groups,  $P_s < 0.001$ . These differences remained significant when controlling for political ideology,  $F_s > 5.03$ ,  $P_s < 0.05$ .

These stereotypic associations were generally not reflective of the socio-demographics of respondents who self-identified as an environmentalist. As seen in Figure S8, adjusting for political ideology, a significantly greater proportion of Latinos,  $\chi^2 = 14.23$ ,  $P < 0.001$ , and Asians,  $\chi^2 = 3.99$ ,  $P < 0.046$ , but a significantly smaller proportion of Blacks,  $\chi^2 = 19.97$ ,  $P < 0.001$ , self-identified as an environmentalist relative to White respondents. Moreover, when controlling for gender, political ideology, and diversity treatment condition, neither education,  $B = 0.037$ , OR = 1.038,  $P = 0.227$ , nor income,  $B = 0.002$ , OR = 1.002,  $P = 0.880$ , was a significant predictor of self-identification as an environmentalist.

Although beyond the scope of the present study, we note that the question of what the term "environmentalist" as well as the phrase "environmental concern" connote for different demographic groups is an important one we believe warrants further study - particularly given the heterogeneity in self-identification we document across racial and ethnic minority groups.

**Organizational diversity treatment and judgment task.** Analyses examining treatment effects of the organizational diversity mission statement investigated whether exposure to a racially and ethnically diverse versus non-diverse environmental organization would (i) reduce the bias in perceptions of Whites' environmental concern relative to that of non-Whites; and (ii) reduce bias in associating environmentalists with Whites relative to non-Whites. Exposure to a racially/ethnically diverse or non-diverse organization was randomized between subjects (see Fig. S1). Figures S10 and S11 show unadjusted (raw) mean estimates for perceptions of each rated demographic group's environmental concern, and stereotypic associations with the term "environmentalist" disaggregated across diversity treatment conditions. As in the previous analyses, below, we report results when controlling for respondents' gender, income, education, and political ideology.

After exposure to the diverse or non-diverse organization's mission statement, participants evaluated the organization's perceived inclusivity as a manipulation check ("This organization is open to

people with diverse backgrounds and perspectives”; 1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, 5 = strongly agree). As expected, after adjusting for all statistical controls, respondents rated the diverse organization as significantly more inclusive ( $M = 3.71$ ,  $SD = 0.95$ ) than the non-diverse organization ( $M = 3.44$ ,  $SD = 0.90$ ),  $F(1, 1147) = 24.28$ ,  $P < 0.001$ . A main effect of respondent race/ethnicity was also obtained: Non-Whites perceived the organization as less inclusive ( $M = 3.40$ ,  $SD = 1.00$ ) than Whites ( $M = 3.65$ ,  $SD = 0.89$ ),  $F(1, 1147) = 11.57$ ,  $P = 0.001$ . No interaction between the diversity treatment and respondent race/ethnicity was obtained,  $F(1, 1147) = 0.77$ ,  $P = 0.379$ .

Specifically, we tested for organizational diversity treatment effects on the perceived difference in environmental concern between Whites and non-Whites (averaged across non-White minority target groups), as well as differential associations between the category “environmentalists” and Whites relative to non-Whites. A difference score was computed by subtracting perceptions of non-Whites’ environmental concern from perceptions of Whites’ environmental concern for each respondent, with higher scores indicated a bias toward perceiving Whites as more concerned than non-Whites. To assess stereotypic associations with the category “environmentalists,” we similarly computed a difference score between respondents’ environmentalist-White association and their environmentalist-non-White association (averaged across all non-White racial/ethnic target categories), with positive scores indicating an environmentalist-White stereotypic bias relative to non-Whites.

As expected, exposure to a diverse environmental organization attenuated the perceived difference in environmental concern between Whites and non-Whites,  $F(1, 562) = 9.94$ ,  $P = 0.002$ ,  $\eta_p^2 = 0.017$ , similarly for both White and non-White respondents as indicated by a nonsignificant Diversity Treatment x Respondent Race/Ethnicity (White vs. non-White, dichotomized) interaction,  $F(1, 554) = 1.39$ ,  $P = 0.239$ . Further probing of this effect indicated that the diversity treatment reduced perceptions of Whites’ environmental concern in the diverse relative to non-diverse condition,  $F(1, 563) = 10.55$ ,  $P = 0.001$ ,  $\eta_p^2 = 0.018$ . This pattern was found for both White respondents,  $F(1, 370) = 6.33$ ,  $P = 0.012$ ,  $\eta_p^2 = 0.017$ , and non-White respondents,  $F(1, 181) = 3.53$ ,  $P = 0.062$ ,  $\eta_p^2 = 0.019$ . Exposure to a diverse environmental organization also significantly reduced bias in associating Whites vs. non-Whites with the term “environmentalist”,  $F(1, 1119) = 9.94$ ,  $P = 0.002$ ,  $\eta_p^2 = 0.017$ , and this effect was moderated by the race/ethnicity of respondents (White vs. non-White),  $F(1, 1118) = 4.30$ ,  $P = 0.038$ ,  $\eta_p^2 = 0.004$ . When adjusting for all covariates, exposure to the diverse (versus non-diverse) organization resulted in a marginally stronger association between non-Whites and environmentalists among non-White respondents,  $F(1, 350) = 3.28$ ,  $P = 0.071$ ,  $\eta_p^2 = 0.009$ , but not White respondents,  $F(1, 766) = 0.211$ ,  $P = 0.646$ .

To further quantify the robustness of the organizational diversity treatment effects reported in the main text, we applied Frank et al.’s method (8). For the treatment effect on the mean difference in respondents’ perceptions of Whites’ environmental concern relative to their perceptions of non-Whites’ concern, the standard error ( $SE$ ) of effect ( $= 0.085$ ) x  $t_{\text{critical}}$  ( $= 1.648$ )  $= 0.140$ . The estimated marginal mean difference between the two conditions was 0.287; thus, bias in the treatment effect estimate must be greater than  $0.287 - 0.140 = 0.147$ , or account for 51% or more of the treatment effect estimate, to invalidate the treatment effect inference (i.e., to assume no difference in the marginal mean difference score as a function of diversity treatment condition). To invalidate the treatment effect inference for stereotypic associations with the term “environmentalist,” 38% or more of the treatment estimate would have to be biased to invalidate the inference of associating environmentalists more strongly with Whites relative to non-Whites observed in the diverse condition compared to the non-diverse condition ( $SE \times t_{\text{critical}} = 0.133$ ; bias required to invalidate the inference  $=$  marginal mean difference  $[0.216] - 0.133 = 0.083$ , or 38% of the treatment effect).

**Ancillary organizational judgment analyses.** Although designed to assess the malleability of the stereotypic perceptions (e.g., racial and ethnic category associations with the term “environmentalist” and perceptions of others’ environmental concerns), we included a limited set of additional measures as part of the organization mission statement evaluation task. Specifically, in addition to rating the organization

on its *inclusivity* (included as a manipulation check, as noted above), these included whether the organization was perceived as *welcoming* (agreement with the statement: “People like me would be welcome in this organization”), respondents’ general attitude toward environmental organizations (“I generally feel positively toward organizations that work on environmental issues”) and 3 highly-correlated items that, aggregated as a composite measure, captured respondents’ interest in participating in the organization (“I could see myself joining an organization like this”; “I would be willing to donate money to an organization like this”; and “I would be willing to volunteer my time for an organization like this”;  $\alpha = 0.893$ ).

Table S3 shows partial correlations between these organizational judgments and respondents’ perceptions of their racial/ethnic ingroup’s environmental concern and reported association between their racial/ethnic ingroup and the term “environmentalist,” controlling for self-reported environmental concern. When controlling for education, income, gender, and political ideology, the diversity treatment enhanced perceptions of the organization as inclusive ( $P < 0.001$ , as previously reported) and welcoming,  $F(1, 1146) = 5.81, P = 0.016$ , relative to the non-diverse condition. A marginally significant Treatment x Respondent Race (White vs. non-White) interaction,  $F(1, 1146) = 3.12, P = 0.077$ , suggested the latter effect was driven by non-Whites: Whereas non-Whites rated the diverse organization ( $M = 3.48, SD = 1.07$ ) as significantly more welcoming than the non-diverse organization ( $M = 3.21, SD = 1.01$ ),  $F(1, 368) = 6.05, P = 0.014$ , Whites showed no such difference as a function of the diversity treatment ( $M_s = 3.35$  vs.  $3.33$ , respectively),  $F(1, 774) = 0.32, P = 0.572$ .

No main effect of the diversity treatment was found for respondents’ attitude toward environmental organizations, generally,  $F(1, 1144) = 1.85, P = 0.174$ ; however, a significant Treatment x Respondent Race (White vs. non-White) interaction was obtained,  $F(1, 1144) = 5.68, P = 0.017$ . Non-White respondents reported a more favorable attitude toward environmental organizations after exposure to the diverse ( $M = 3.62, SD = 0.95$ ) versus non-diverse organization mission statement ( $M = 3.39, SD = 1.08$ ),  $F(1, 365) = 4.37, P = 0.037$ . No such difference was obtained among White respondents ( $M_s = 3.35$  vs.  $M = 3.44$ , respectively),  $F(1, 775) = 0.64, P = 0.423$ .

We found no main effect of the diversity treatment on respondents’ expressed participation interest,  $F(1, 1148) = 0.91, P = 0.339$ , and no interaction with respondent race,  $F(1, 1148) = 0.94, P = 0.333$ , however, a main effect of respondent race was obtained,  $F(1, 1148) = 30.14, P < 0.001$ : Non-Whites ( $M = 2.96, SD = 0.91$ ) indicated significantly greater interest in the organization than Whites ( $M = 2.60, SD = 1.01$ ), on average, consistent with their significantly higher levels of expressed environmental concern, previously reported in the SI and main text. Nevertheless, as shown in Table S3, the more inclusive and welcoming the organization was perceived to be, the more participants expressed interest in participating in the organization and the more favorable their attitude was toward environmental organizations, generally. Non-White respondents showed larger effects across these measures, as compared to Whites (see Table S3). Additionally, as shown in Table S3, whereas respondents’ association between their racial/ethnic ingroup and the term “environmentalist” and perception of their racial/ethnic ingroup’s environmental concern positively predicted the organizational judgments of non-White respondents, these variables were weak or non-significant predictors of Whites’ organizational judgments.

We note some limitations with respect to this task and related measures. Specifically, we caution readers about drawing causal inferences about effects of stereotypic perceptions on organizational participation, given the nature of the data (e.g., correlational and reflecting measures of behavioral *intentions* rather than actual behavior), and the order of the items (the organizational task and measures preceded the stereotypic perception measures). Nevertheless, these findings suggest the potential value of future work examining behavioral implications of these perceptions for understanding public engagement with organizational initiatives. Additionally, we chose a minimal-information condition, rather than a racially homogeneous organization (conveyed through imagery), as the comparison to focus specifically on effects of exposure to a racially diverse organization. Nevertheless, it is possible that subtle differences between the two conditions - in particular, the inclusion of the image in the race heterogeneous condition - may have enhanced the appeal of this organization. Future research might examine this possibility, as well as the relative impact of different diversity cues for influencing the perceptions documented here.



**Environment versus climate change issue frame manipulation.** Last, we examined whether ratings of concern differed when respondents were asked about “the environment” versus “climate change,” randomized between-subjects. As shown in Figure S9, six groups (Asians, Latinos, Men, Older, Religious, and Poor Americans) were perceived as more concerned about the environment in general than they were about the specific issue of climate change,  $P_s < 0.05$ ; these results remained identical when adjusting for gender, income, education, and political ideology, and diversity treatment condition, in a multiple regression model,  $t_s < -2.17$   $P_s < 0.05$ . No other significant differences were found as a function of issue framing.

**Responses of native (US)-born versus non-native-born individuals.** Overall, 15.3% of the sample were born outside of the U.S. and 82.6% were born in the U.S. (2.1% did not respond). Of those non-native-born, 20% identified as White, non-Hispanic, 5.4% identified as African American, 48.6% identified as Latino/a, and 25.4% identified as Asian. Given the small non-native sample size and exploratory nature of these analyses, we exclude covariates in the analyses below and limit our analyses to tests of whether (a) non-native and native-born respondents similarly view Whites as more environmentally concerned than non-Whites, (b) whether they show a similar pattern of pluralistic ignorance (indicating a higher level of environmental concern than the estimate provided for their racial/ethnic ingroup), and (c) whether they show consensus in their stereotypic associations with the term “environmentalist” (e.g., associating environmentalists with Whites more than non-Whites; Fig. 3a).

Our analyses suggest that, consistent with the findings for US-born respondents, non-native born respondents also perceived Whites as more environmentally concerned than non-Whites,  $t(81) = 4.43$ ,  $P < 0.001$ , and showed a similar magnitude of bias in their misperception of Whites as being more concerned than non-Whites, relative to native-born individuals,  $t(563) = -0.543$ ,  $P = 0.587$ . Similarly, non-native respondents also indicated a stronger association between environmentalists and Whites than non-Whites,  $t(177) = 8.56$ ,  $P < 0.001$ ; however, the magnitude of the environmentalist-White association was significantly stronger among US-born respondents, compared to non-native respondents,  $t(1146) = -3.60$ ,  $P < 0.001$ .

Among Latinos—the largest US immigrant population and the minority group for whom we document the largest environmental concern underestimation effects among the general public (see Fig. 1)—this pattern was similar: whereas non-native born Latinos associated the term “environmentalist” with Whites more so than non-Whites,  $t(84) = 4.69$ ,  $P < 0.001$ , this association was stronger for US-born Latinos compared to non-native Latinos,  $t(170) = -3.50$ ,  $P = 0.001$ . Both non-native and native-born Latino respondents also significantly underestimated their own racial/ethnic group’s environmental concern,  $t_s < -3.09$ ,  $P_s < 0.004$ , and both showed evidence of pluralistic ignorance, whereby both native,  $X^2 = 6.14$ ,  $P = 0.046$ , and non-native Latino respondents,  $X^2 = 17.20$ ,  $P < 0.001$ , were more likely to report being more concerned about the environment (versus equally or less concerned) than their estimate for their racial/ethnic ingroup.

**Table S1. Sample demographics**

Variable	<i>N</i> of valid cases (%)
<b>Gender</b>	
Male	627 (51.7)
Female	585 (48.3)
<b>Race (Census Categories)</b>	
White	1007 (83.1)
Black or African-America	98 (8.1)
American Indian or Alaska Native	14 (1.2)
Asian	42 (3.5)
Native Hawaiian or Other Pacific Islander	1 (0.1)
2 or more races	50 (4.1)
<b>Race/Ethnicity</b>	
White, Non-Hispanic	741 (61.1)
Hispanic/Latino	306 (25.2)
Black/African American, Non-Hispanic	86 (7.1)
Asian, Non-Hispanic	40 (3.3)
Multi-racial, Non-Hispanic	35 (2.9)
Native American, Non-Hispanic	4 (0.3)
<b>Household Income</b>	
Less than \$25,000	197 (16.3)
\$25,000 to \$34,999	117 (9.7)
\$35,000 to \$49,999	138 (11.4)
\$50,000 to \$74,999	239 (19.8)
\$75,000 to \$99,999	166 (13.7)
\$100,000 to \$149,999	237 (19.5)
\$150,000 or more	118 (9.7)
<b>Educational Attainment</b>	
Less than High School	145 (12.0)
High School	362 (29.9)
Some College	333 (27.5)
Bachelor's Degree or Higher	372 (30.7)
<b>Religious Affiliation</b>	
Catholic	365 (32.2)

Evangelical or Protestant Christian	422 (37.2)
Other Christian	63 (5.6)
Jewish	22 (1.9)
Other religion	65 (5.7)
No religion (atheist, agnostic)	197 (17.4)
<b>Political Party Identification</b>	
Democrat	654 (57.7)
Republican	480 (42.3)
Other	58 (4.8)
<b>Age <i>M</i> (<i>SD</i>)</b>	49 (17)

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*Note:* Sample  $N = 1,212$  includes Hispanic/Latino over-sample ( $n = 202$ ).

**Table S2. Correlations between racial/ethnic ingroup association with the term “environmentalist” and perceived racial/ethnic ingroup environmental concern, by respondent race/ethnicity**

	Zero-order Correlation	Partial Correlation
White Respondents	0.48	0.47
Black Respondents	0.50	0.50
Latino Respondents	0.40	0.39
Asian Respondents	0.74	0.75

*Note.* Partial correlations control for self-reported environmental concern. All  $P$ s < 0.001.

**Table S3. Partial correlations between judgments of the organization, general attitude toward environmental organizations, racial/ethnic ingroup association with the term “environmentalist” (“I-E Assoc.”), and perceived ingroup environmental concern for White (below the diagonal) and non-White (above the diagonal) racial/ethnic minority respondents**

	Inclusive	Welcoming	Particip. Interest	Attitude (Env. Orgs)	I-E Assoc.	Perc. Ing. Env. Con
Inclusive	--	0.62 <sup>***</sup>	0.48 <sup>***</sup>	0.52 <sup>***</sup>	0.23 <sup>***</sup>	0.20 <sup>**</sup>
Welcoming	0.56 <sup>***</sup>	--	0.62 <sup>***</sup>	0.55 <sup>***</sup>	0.26 <sup>***</sup>	0.18 <sup>*</sup>
Participation Interest	0.23 <sup>***</sup>	0.43 <sup>***</sup>	--	0.48 <sup>***</sup>	0.20 <sup>***</sup>	0.18 <sup>*</sup>
Attitude Toward Env. Orgs	0.30 <sup>***</sup>	0.44 <sup>***</sup>	0.40 <sup>***</sup>	--	0.14 <sup>**</sup>	0.21 <sup>**</sup>
Ingroup-Environmentalist Assoc.	0.16 <sup>***</sup>	0.14 <sup>***</sup>	-0.02	0.09 <sup>*</sup>	--	0.47 <sup>***</sup>
Perceived Ingroup Env. Concern	0.16 <sup>**</sup>	0.12 <sup>*</sup>	0.00	0.08	0.47 <sup>***</sup>	--

*Note.* All estimates control for self-reported environmental concern. See SI Appendix text for description of measures. \*\*\*  $P < 0.001$ ; \*\*  $P < 0.01$ ; \*  $P < 0.05$

(A)



## **Protect the Planet**

### ***A Message from the Staff of Protect the Planet***

*With world attention focused on creating prosperity for both people and the planet, **Protect the Planet (PTP)** is where communities, policymakers, and business leaders turn for win-win solutions. With programs across North America, Europe, and China, PTP has tripled in size over the past decade by focusing on strong science, strong partnerships, and market-based solutions. We help organizations and communities find ways to protect the environment and empower people to live better lives.*

***Consider joining the diverse team at PTP, where different perspectives are valued and innovation is a way of life.***



Signed,  
*Juan, Esteban, Keisha, Kyle, and Amita*  
DC office

(B)



## **Protect the Planet**

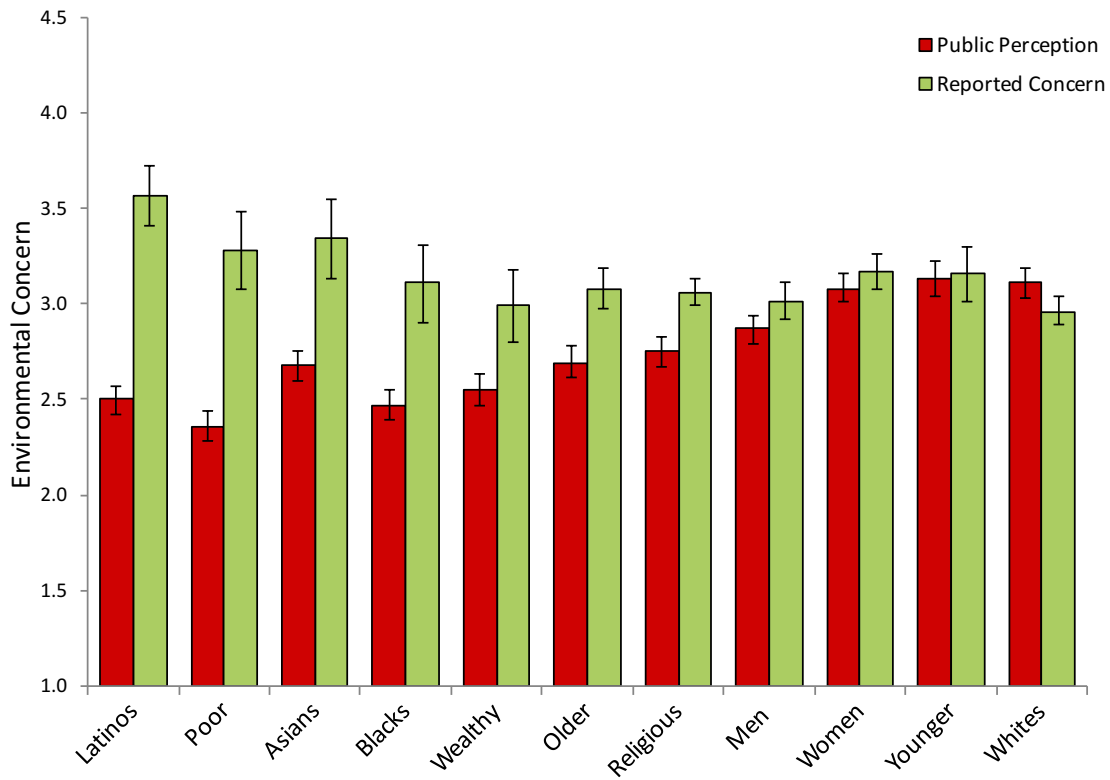
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***Consider joining the team at PTP, where innovation is a way of life.***

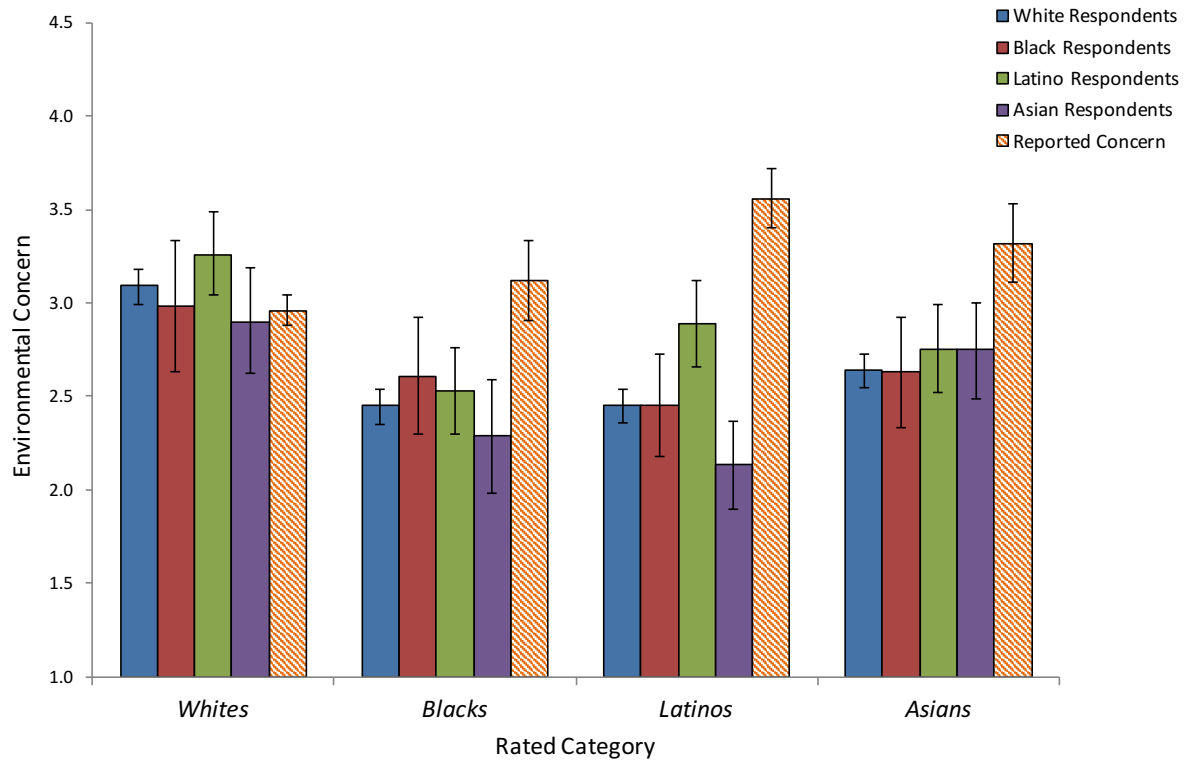
Signed,  
*John, Steve, Kimberly, Kyle, and Amy*  
DC office

**Fig. S1.** Diverse (A) and non-diverse (B) environmental organization experimental stimuli.

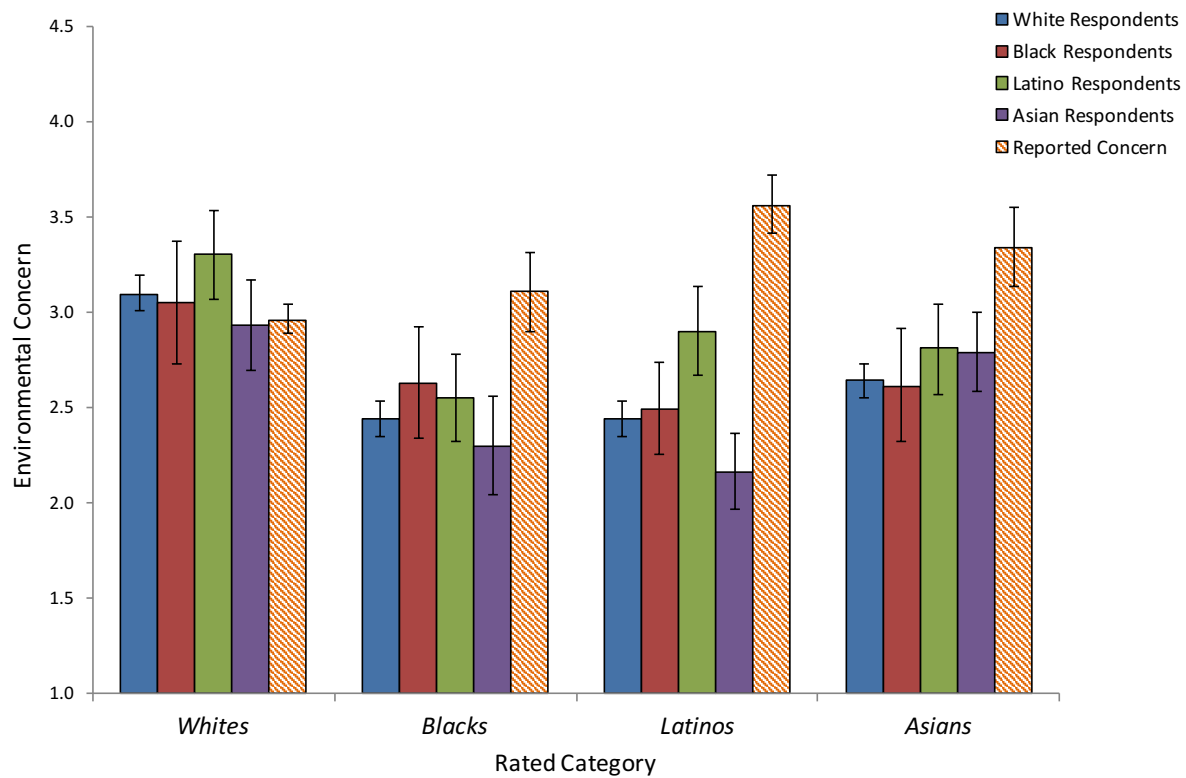


**Fig. S2.** Mean perception of each rated demographic groups' concern (red bar) and each respective group's mean reported concern (green bar) for the environment, adjusting for organizational diversity treatment, gender, education, income, and political ideology. Error bars are 95% CIs. Groups are ordered, left to right, by magnitude of underestimation.

**(A)**



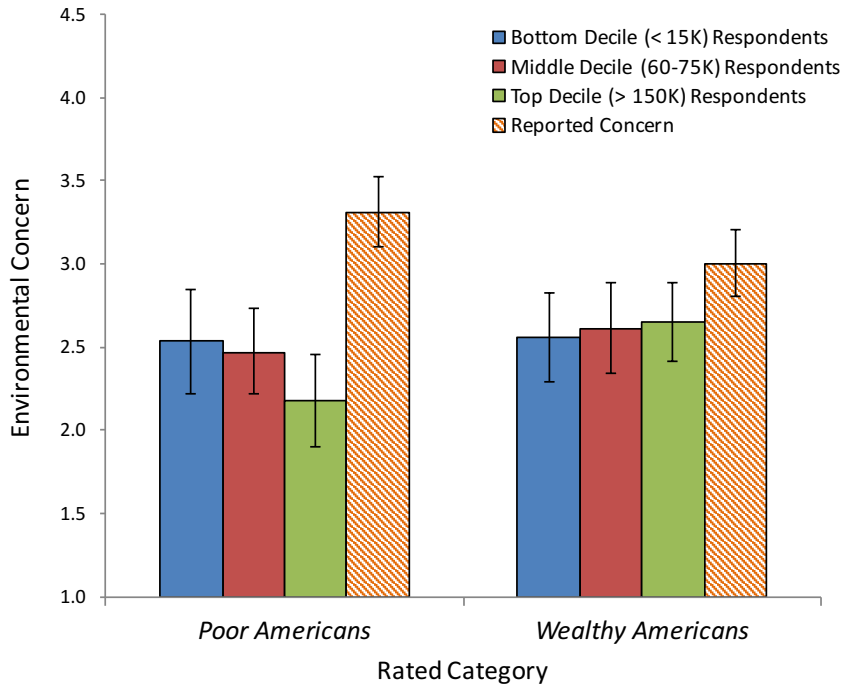
**(B)**



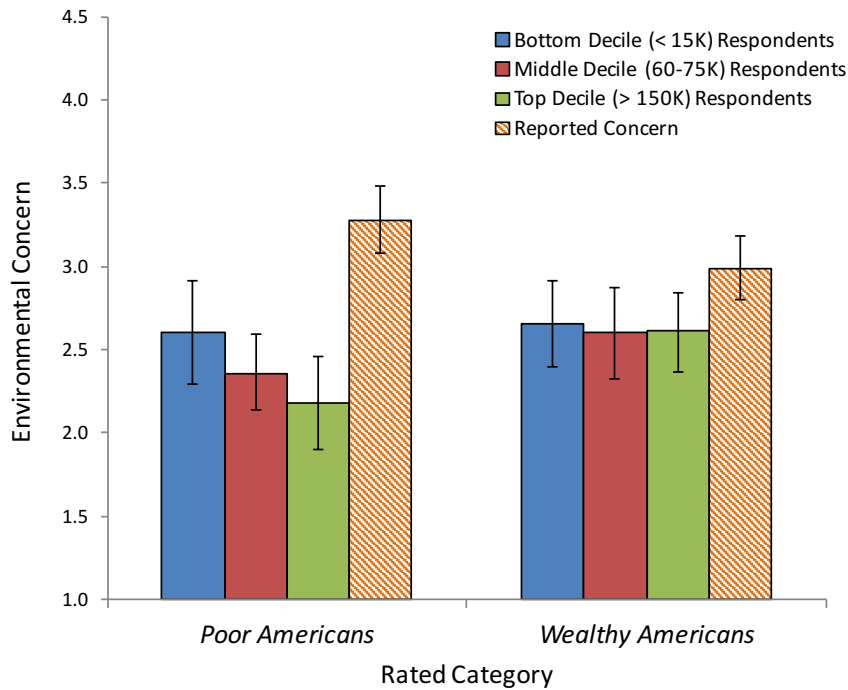


**Fig. S3.** Unadjusted (*A*) and covariate-adjusted (*B*) mean rated environmental concern of racial/ethnic target groups, by respondent race/ethnicity. Marginal means adjust for organizational diversity treatment, gender, education, income, and political ideology. Diagonal orange bars are mean self-report ratings for each group. Error bars are 95% CIs.

(A)

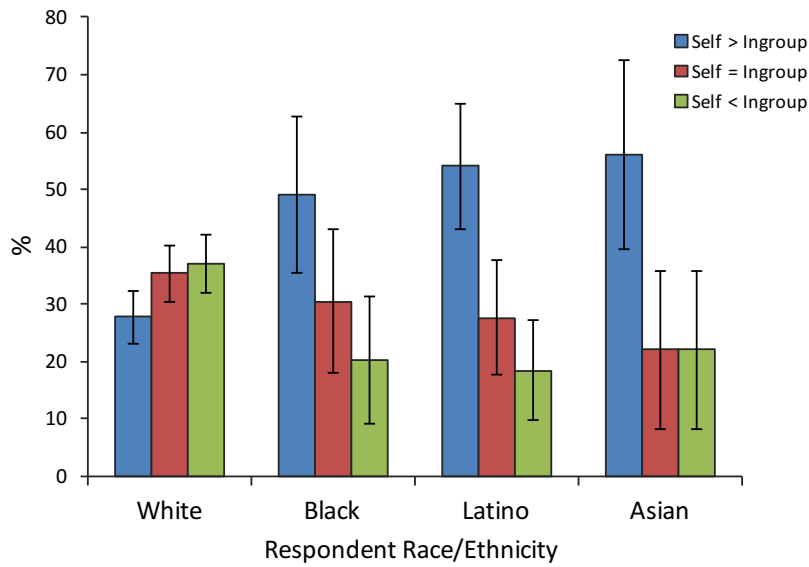


(B)

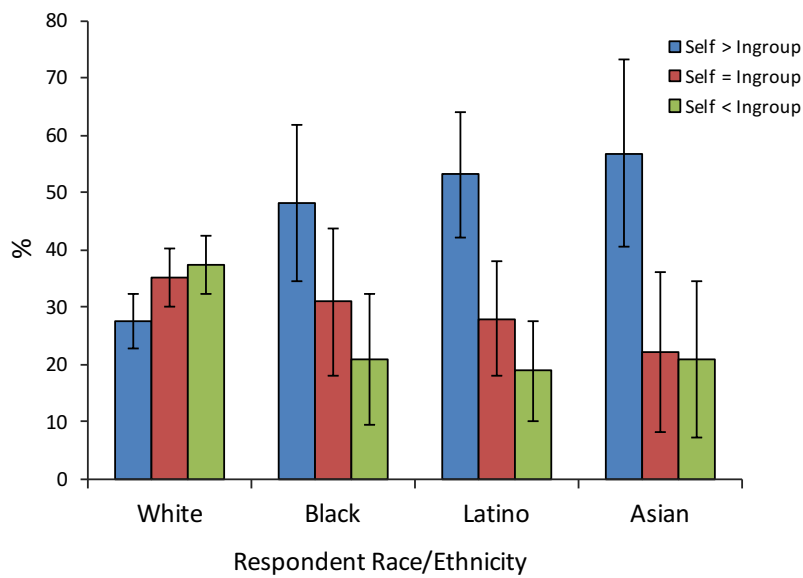


**Fig. S4.** Unadjusted (A) and covariate-adjusted (B) mean rated environmental concern of Poor and Wealthy Americans by respondent household income (bottom, middle, and top deciles). Marginal means adjust for organizational diversity treatment, gender, education, income, and political ideology. Diagonal orange bars are bottom and top income decile respondents' mean self-report ratings. Error bars are 95% CIs.

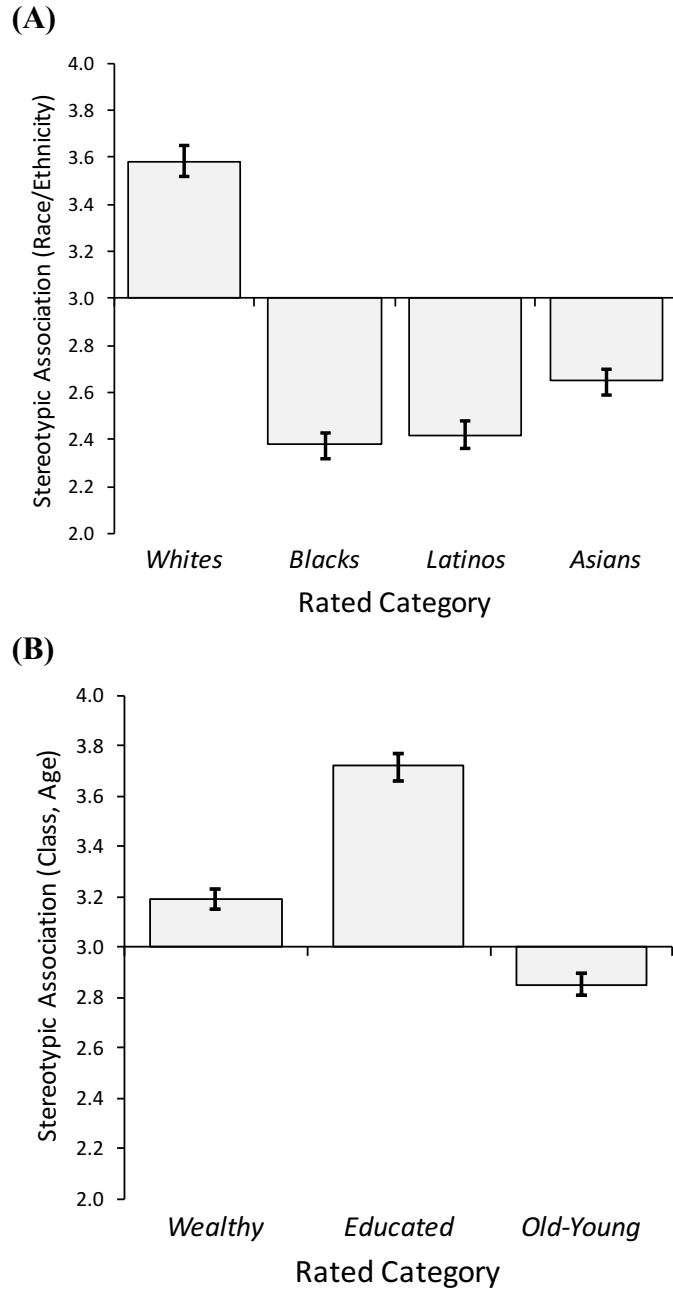
(A)



(B)

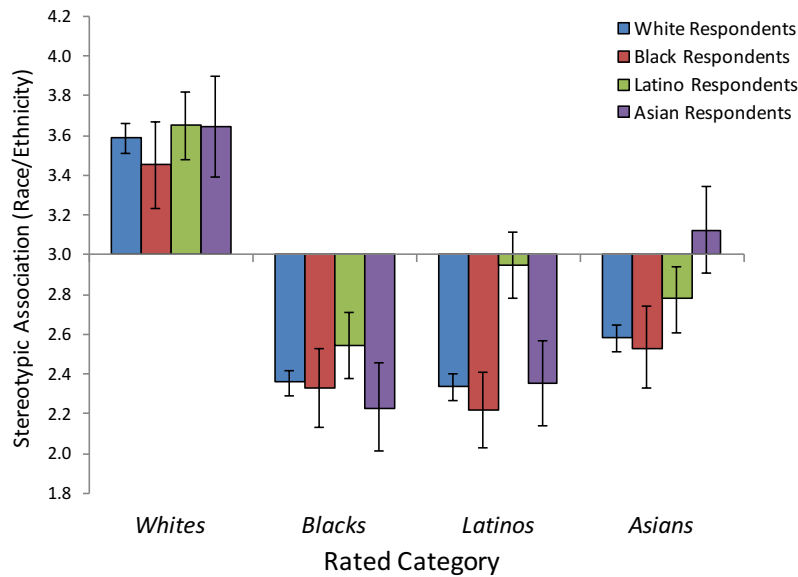


**Fig. S5.** Unadjusted (A) and covariate-adjusted (B) percentage of US respondents showing ingroup pluralistic ignorance in environmental concern (blue bar) by race/ethnicity. Adjusted estimates control for organizational diversity treatment, gender, education, income, and political ideology. Error bars are 95% CIs calculated using normal approximation correcting for continuity.

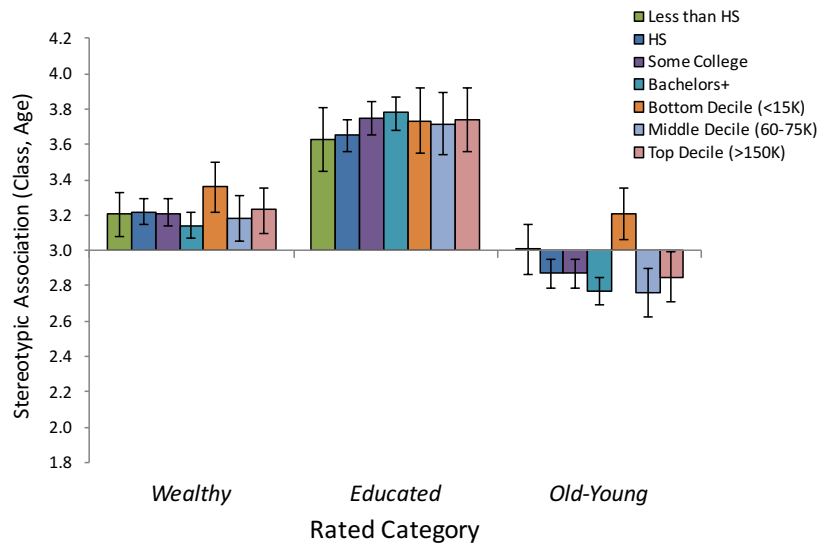


**Fig. S6.** Mean racial/ethnic (A) and class (wealth, education) and age (B) associations with the term “environmentalist”, adjusting for organizational diversity treatment, gender, education, income, and political ideology. Bars indicate strength of stereotypic association with each rated category (x-axis) relative to the scale midpoint. Scales are (A) 1=*not at all* to 5=*very much* (for race/ethnicity) and (B) 1=*very poor/uneducated/young* to 5=*very wealthy/educated/old*. Error bars are 95% CIs.

(A)

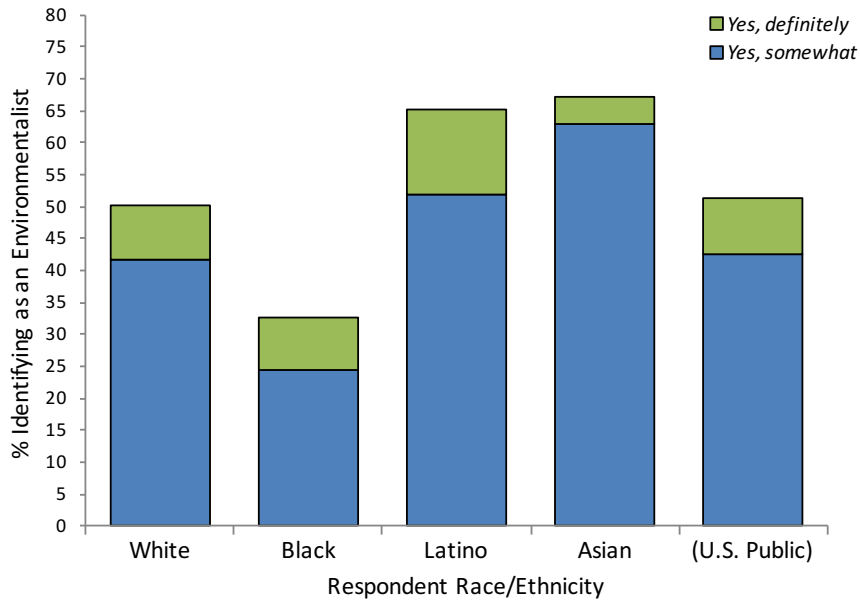


(B)

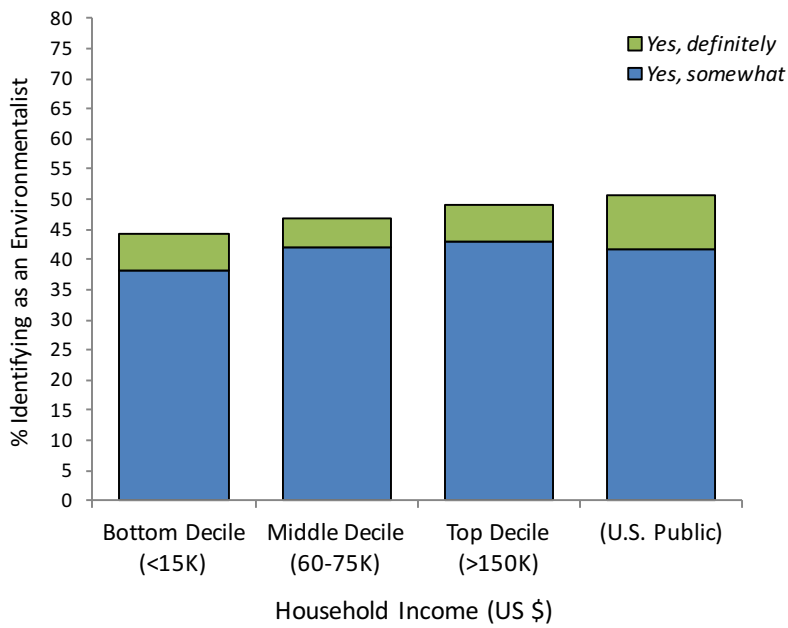


**Fig. S7.** Mean racial/ethnic (A) and class (wealth, education) and age (B) associations with the term “environmentalist”, by respondent race/ethnicity and socioeconomic status (education and household income). Estimates are marginal means adjusting for organizational diversity treatment, gender, education, income, and political ideology. Bars indicate strength of stereotypic association with each rated category (x-axis) relative to the scale midpoint. Scales were (A) 1=not at all to 5=very much and (B) 1=very poor/uneducated/young, 3=neutral, 5=very wealthy/educated/old. Error bars are 95% CIs.

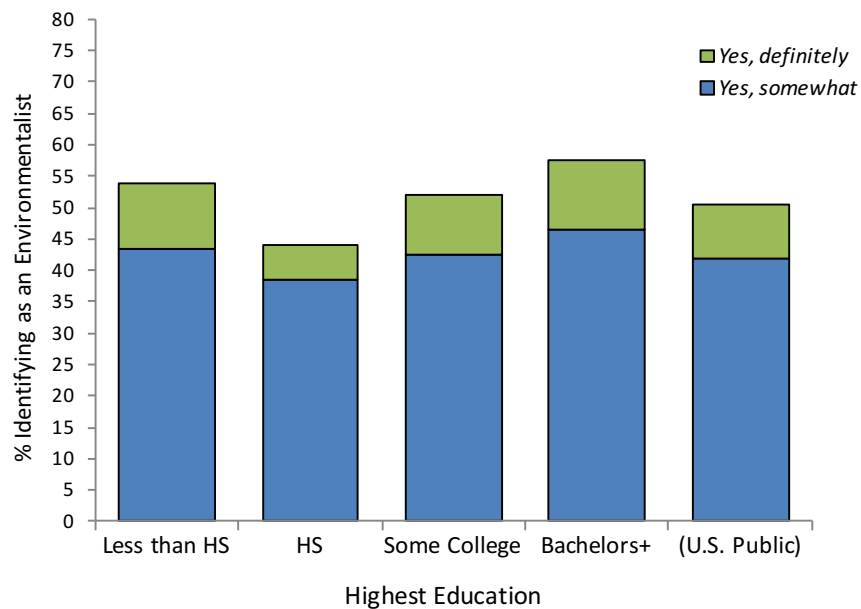
(A)



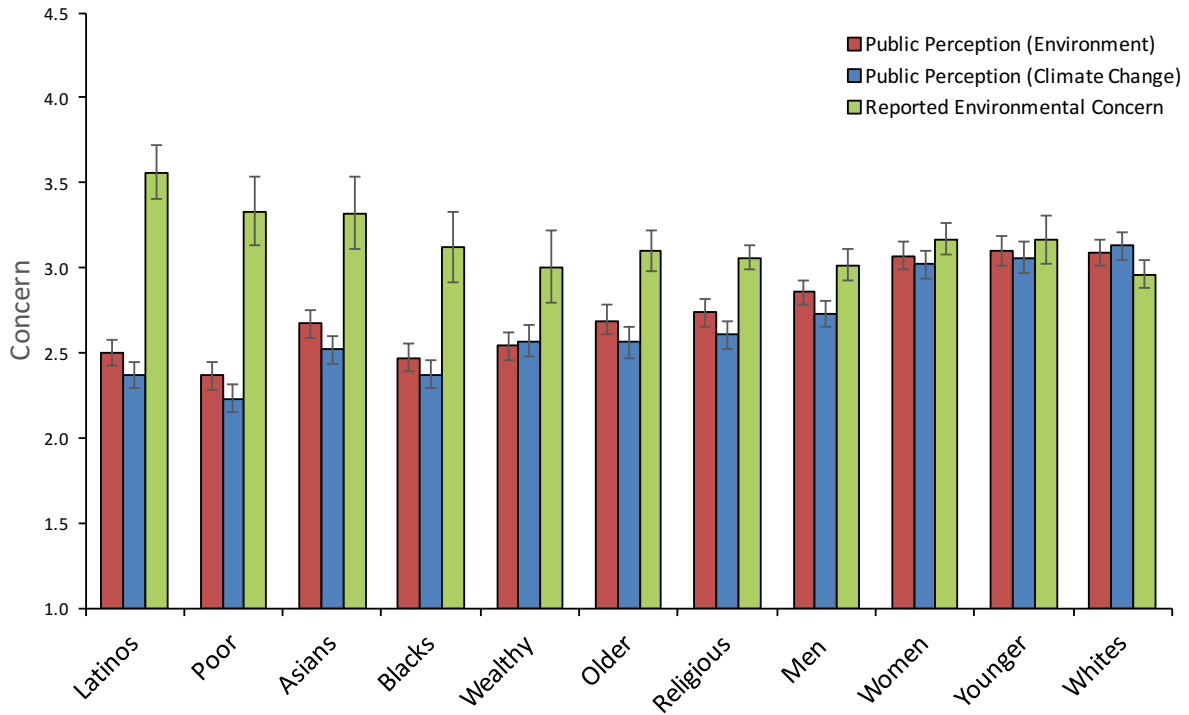
(B)



(C)

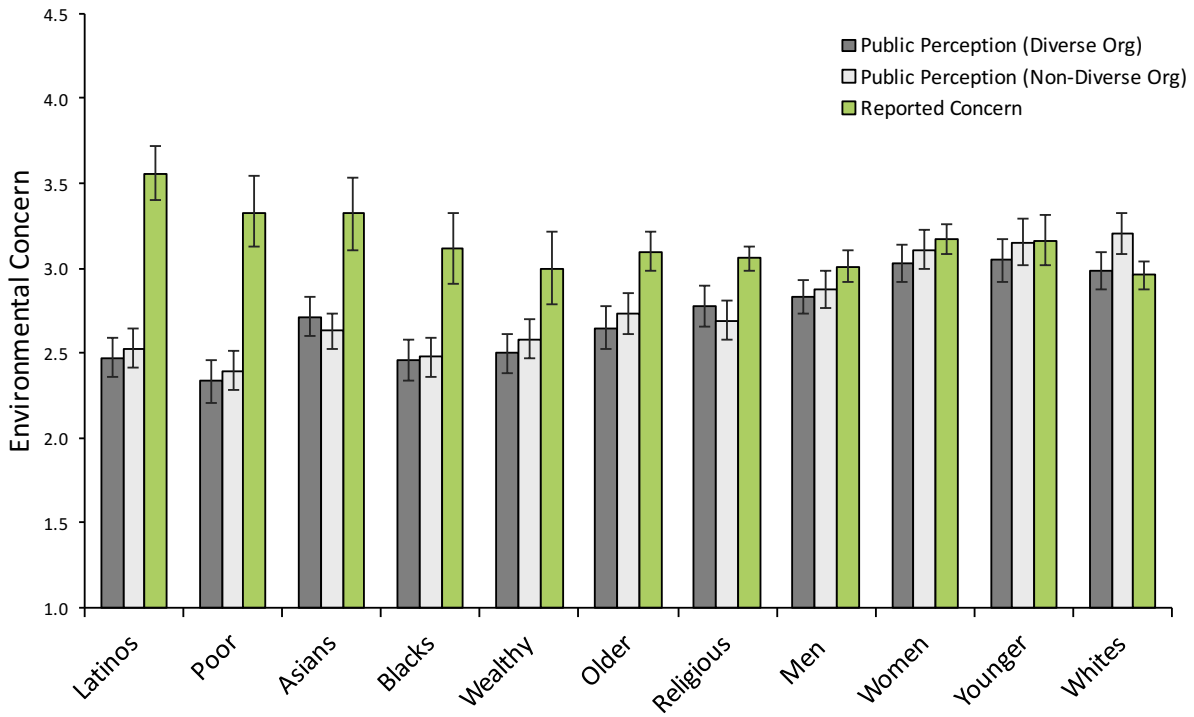


**Fig. S8.** Percentage of US respondents self-identifying as an environmentalist by (A) race/ethnicity, (B) income, and (C) education level. Blue bar is percent indicating “Yes, somewhat”; green bar is percent indicating “Yes, definitely.”



**Fig. S9.** Unadjusted mean perception of each rated demographic groups' environmental (red bar) and climate change (blue bar) concern, and each respective group's mean self-reported environmental concern (green bar). Error bars are 95% CIs.

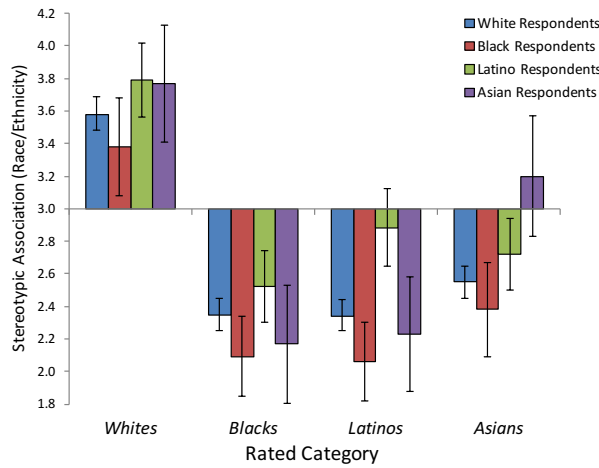




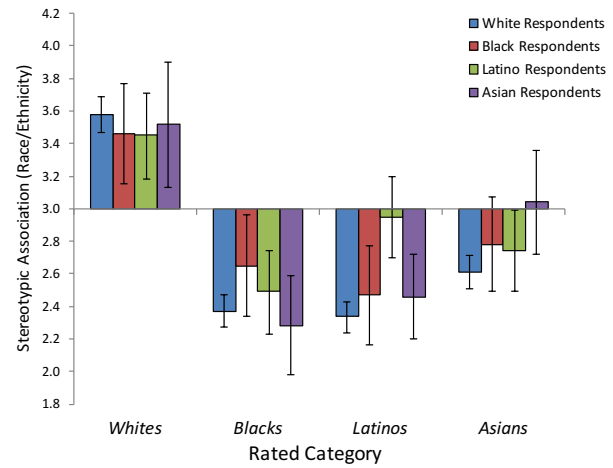
**Fig. S10.** Unadjusted mean perception of each rated demographic groups' environmental concern (light/dark bars) and each respective group's mean reported environmental concern (green bar), by organizational diversity treatment condition. Error bars are 95% CIs.

(A)

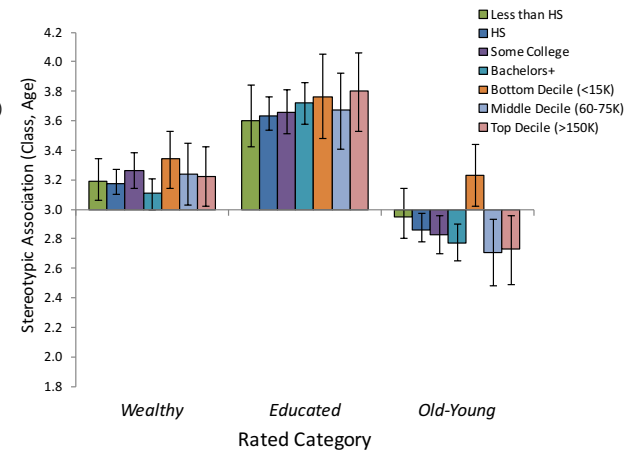
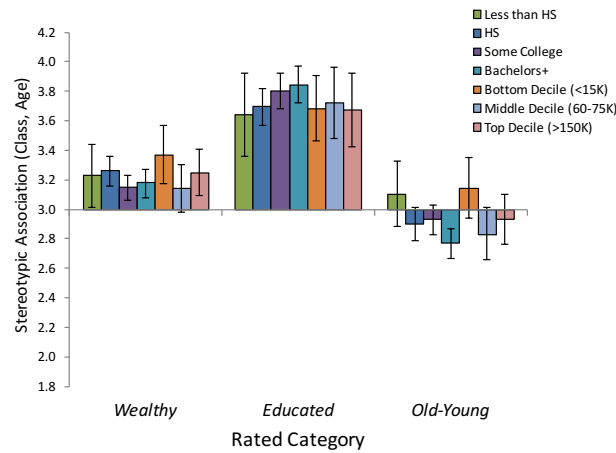
Diverse Condition



Non-Diverse Condition



(B)



**Fig. S11.** Unadjusted mean racial/ethnic (A) and class (wealth, education) and age (B) associations with the term “environmentalist”, by respondent race/ethnicity and socioeconomic status (education and household income) and diversity treatment condition. Figures on the left show estimates for participants in the diverse condition; figures on the right show estimates for those in the non-diverse condition. Bars indicate strength of stereotypic association with each rated category (x-axis) relative to the scale midpoint. Scales were (A) 1=not at all to 5=very much and (B) 1=very poor/uneducated/young, 3=neutral, 5=very wealthy/educated/old. Error bars are 95% CIs.

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