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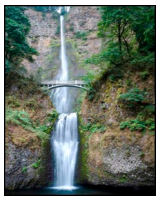

What counts as an "environmental" issue? Differences in issue conceptualization by race, ethnicity, and socioeconomic status

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ABSTRACT

Racial/ethnic minorities and lower-socioeconomic (SES) groups in the U.S. face disproportionate environmental risks, which may hold implications for how these groups construe environmental issues, relative to other segments of the public. We explored this possibility with a diverse sample of 1191 U.S. adults, hypothesizing that, relative to White and higher-SES respondents, non-White and lower-SES respondents would rate a greater number of pressing societal issues as also "environmental." Across 18 issues, ranging from ecological issues more traditionally the focus of environmental advocacy and scholarship (e.g., pollution; *eco-oriented issues*) to issues that also constitute human social determinants and consequences of environmental risk (e.g., poverty; *human-oriented issues*), non-White and lower-income respondents rated human-oriented issues as more "environmental." Environmental justice perceptions partially mediated group differences in issue conceptualization. Results hold implications for the measurement of environmental attitudes and efforts to broaden public engagement within racially and economically diverse communities.

1. Introduction

Research increasingly documents differences in the ways that people think about environmental issues as a function of their group membership. Challenging a longstanding view that U.S. racial and ethnic minorities are less concerned about the environment because they have more immediate concerns about social justice or economic stability (e.g., Hershey & Hill, 1977; Inglehart, 1995; Kellert, 1984; Kreger, 1973), growing evidence suggests that minorities express comparable and oftentimes greater environmental concern than Whites (e.g., Jones & Carter, 1994; Lazri & Konisky, 2019; Leiserowitz & Akerlof, 2010; Speiser & Krygsman, 2014).

Research on environmental justice (Mohai, Pellow, & Roberts, 2009) suggests that, due to their heightened vulnerability, racial/ethnic minorities and other disadvantaged populations may also have different understandings of what "counts" as an environmental issue, relative to other groups. In particular, the environmental deprivation hypothesis (Mohai & Bryant, 1998) suggests that greater environmental concern expressed by minority and lower SES communities reflects these groups' greater exposure to environmental risks (Bullard, Mohai, Saha, & Wright, 2007; Tessum et al., 2019; U.S. General Accounting Office, 1983) as well as social conditions, such as systemic inequities, that exacerbate these risks (Hardy et al., 2018; Macias, 2016; Shonkoff, Morello-Frosch, Pastor, & Sadd, 2011). Indeed, analyzing 15 years of representative survey data, Lazri and Konisky (2019) found greater concern about environmental justice issues among U.S. minority and lower-SES respondents, relative to Whites and higher-SES respondents, even when controlling for key demographic variables (e.g., sex, political ideology). In contrast, concern about ecological issues that have more traditionally been the focus of environmental advocacy and scholarship, such as habitat conservation and species loss, was more similar across groups (for a related review, see Pearson, Ballew, Naiman, & Schuldt, 2017).

Beyond issues of pollution and species extinction, research suggests that a broader set of societal problems—including those often conceptualized as "social" or "public health" issues in academic

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scholarship, such as poverty and racism—may be viewed through an environmental lens, particularly among disadvantaged groups. Whereas early risk research on environmental hazards emphasized vulnerability due to hazards themselves (e.g., pollutant toxicity), more recent work on *social* vulnerability has focused on the underlying social conditions, including structural inequities, that make people vulnerable (Adger, 1999; Engle, 2011). For instance, limited access to transportation, health care, and healthy food can exacerbate environmental health risks (Morello-Frosch & Jesdale, 2006), which, in turn, can magnify existing social inequities, as illustrated by the disproportionate effects of Hurricane Katrina on minority and low-income communities in the U.S. Gulf Coast (Bullard & Wright, 2009; Fussell, Sastry, & VanLandingham, 2010). Importantly, such exposure may inform how vulnerable populations perceive environmental issues. For instance, in a national poll, whereas a large majority (71%) of African Americans attributed the effects of Hurricane Katrina on minority communities to racial inequality, only 32% of Whites indicated the same (Doherty, 2015).

The above research complements previous perspectives from the environmental justice movement on the social conditions that predispose groups to a host of environmental risks, such as inadequate sanitation, lead poisoning in urban areas, and asbestos in schools and work (Pinderhughes, 1996). Indeed, environmental justice leaders have redefined the scope of the environment as "where we live, work, and play" (Alston, 1991, p. 28), allowing for the inclusion of a broader set of issues, such as "… transportation and housing, land and sovereignty rights, self-determination and employment" (p. 28). However, limited research has directly examined whether groups differ in their tendency to endorse this broader conceptualization of what counts as an "environmental" issue—the focus of the present work.

1.1. The present study

We examined whether lay perceptions of what counts as an environmental issue differ as a function of race, ethnicity, and SES. Specifically, we asked survey respondents to indicate the extent to which they considered a range of issues to be "environmental," including those often regarded as "social" or "public health" issues, but that also constitute social determinants and consequences of environmental harm (e.g., poverty, racism). We hypothesized that relative to Whites and higher-SES groups, the construal of environmental issues by members of minority and lower-SES groups would encompass a broader range of issues. Moreover, we explored whether such differences would be driven, in part, by recognition of group disparities in environmental harms (i.e., environmental justice perceptions; Satterfield, Mertz, & Slovic, 2004).

2. Method

2.1. Participants

We recruited a sample of 1191 participants[1] from Amazon Mechanical Turk (MTurk) in March, 2018. Although a non-probability sample, MTurk affords sufficient racial/ethnic and socioeconomic diversity to examine differential lay perceptions (Casey, Chandler, Levine, Proctor, & Strolovitch, 2017). We excluded respondents who finished the questionnaire too quickly (≤106 s, or one-third of the median response time) (Ibarra, Agas, Lee, Pan, & Buttenheim, 2018), resulting in an analytic sample of $n = 1175$ (54% female). Analyses examined four racial/ethnic groups: non-Hispanic Whites ($n = 875$), Hispanics/Latinos ($n = 103$), Blacks ($n = 100$), and Asians, Pacific Islanders, or Native Hawaiians (API; $n = 84$). Median household income was at the $50,000 to $59,999 interval and 56% of respondents reported holding a bachelor's degree or higher.

2.2. Procedure

Following a question prompt that read "Below are a set of issues that are often asked about in public opinion polls. To what extent do you agree that each is an environmental issue?", respondents rated 18 issues[2] (see Table 1) on a 7-point scale ranging from 1 = Strongly disagree to 7 = Strongly agree, which served as our main dependent variable. Demographic information included 5-digit postal code (ZIP), highest level of education completed, household income in 2017 before taxes, employment status, age, sex, race, and self-identification as Hispanic or Latino. To derive community-level income, ZIP codes were used to reference the median income of respondent's location (i.e., matching ZIP Code Tabulation Area) using 2017 data from the American Community Survey (U.S. Census Bureau, 2017). Education was recoded to approximate total years of formal education; employment status was dummy-coded as employed or unemployed. Finally, we measured environmental justice perceptions using a four-item scale by Satterfield et al. (2004) (e.g., "The government should restrict the placing of hazardous facilities in minority communities"; $\alpha = 0.874$).

2.3. Data analysis

Analyses were conducted using SPSS Version 25 and PROCESS version 3.1 (Hayes, 2018). We first report group differences in agreement for each of the 18 issues, in aggregate and separately, followed by an exploratory factor analysis and ancillary tests to reduce the dimensions of the 18 issues. Finally, we explored the role of environmental justice perceptions as a mediator of observed group differences in environmental issue conceptualization.

3. Results

3.1. Differences by race and ethnicity

To test whether, compared to Whites, non-Whites in our sample viewed a broader range of issues as "environmental," we conducted a one-way ANOVA with race/ethnicity predicting the average level of agreement across the 18 issues. This revealed a significant effect of race/ethnicity, $F(3, 1158) = 5.24$, $p = .001$, $\eta^2 = 0.013$. Pairwise comparisons with false discovery rate (FDR) adjustments (Benjamini & Hochberg, 1995)[3] indicated that, on average, relative to Whites, Blacks, $t(973) = 3.26$, $p = .001$, $d = 0.336$, and Hispanics/Latinos, $t(976) = 2.59$, $p = .009$, $d = 0.254$, reported greater overall agreement that the listed set of issues constituted "environmental" issues.

We next tested for racial/ethnic differences among each issue separately. Nine issues revealed significant differences in omnibus tests: *pollution from industrial facilities*, $F(3, 1158) = 5.93$, $p = .001$, $\eta^2 = 0.015$, *smoking*, $F(3, 1158) = 6.40$, $p < .001$, $\eta^2 = 0.016$, *poverty*, $F(3, 1158) = 8.69$, $p < .001$, $\eta^2 = 0.022$, *lack of access to grocery stores*, $F(3, 1157) = 5.51$, $p = .001$, $\eta^2 = 0.014$, *unequal access to education*, $F(3, 1158) = 3.41$, $p = .017$, $\eta^2 = 0.009$, *drug abuse*, $F(3, 1158) = 3.47$, $p = .016$, $\eta^2 = 0.009$, *unemployment*, $F(3, 1158) = 4.83$, $p = .002$,

[1] This sample size was derived using G*Power (Faul, Erdfelder, Buchner, & Lang, 2009) to enable one-way ANOVAs with four groups to detect small effects ($f = 0.10$) at the $\alpha = 0.05$ level with a power of .80.

[2] Item order was randomized for each respondent. Item response options were informed by semi-structured focus group interviews with 24 representatives of 16 predominantly Latino community organizations in San Antonio, Texas, in November of 2017. Participants were asked to identify the top environmental issues facing their communities, allowing us to identify human-oriented issues characterized as environmental by the group (e.g., *obesity*, for its relationship to lack of access to parks; *drug abuse*, for used needles as a source of litter in some low-income neighborhoods).

[3] Multiple comparison adjustments in this article apply to ANOVA post-hoc analyses with ≥2 groups.

Table 1
Level of agreement acknowledging provided issue as an environmental issue.

Issue	*M* (*SD*)		Means by race and ethnicity (SD)								*F* (3, 1158)	
			Whites		Blacks		Hispanics/Latinos		API			
Pollution from industrial facilities	6.48	(.89)	6.54	(.80)	6.33	(1.08)	6.18	(1.36)	6.48	(.70)	5.93	***
Lead contamination in tap water	6.28	(1.07)	6.29	(1.05)	6.18	(1.16)	6.25	(1.12)	6.31	(1.01)	.76	
Climate change	6.27	(1.26)	6.26	(1.29)	6.34	(1.12)	6.32	(1.10)	6.18	(1.29)	.31	
Drought in the western U.S.	6.08	(1.21)	6.10	(1.18)	6.13	(1.09)	5.90	(1.49)	6.13	(1.14)	.92	
Flooding	5.96	(1.24)	5.97	(1.23)	5.97	(1.16)	5.88	(1.41)	6.01	(1.25)	.19	
Invasive species	5.54	(1.51)	5.60	(1.47)	5.25	(1.67)	5.41	(1.64)	5.48	(1.49)	2.01	
Traffic congestion in urban areas	5.10	(1.75)	5.07	(1.76)	5.14	(1.75)	5.21	(1.74)	5.15	(1.77)	.29	
Lack of access to parks and natural areas	4.94	(1.72)	4.90	(1.72)	4.91	(1.76)	5.11	(1.82)	5.17	(1.64)	.99	
Smoking	4.37	(1.91)	4.24	(1.92)	5.06	(1.75)	4.62	(1.92)	4.50	(1.86)	6.40	***
Poverty	3.37	(1.87)	3.24	(1.81)	4.10	(2.02)	3.80	(2.00)	3.23	(1.79)	8.69	***
Physical activity	2.98	(1.74)	2.91	(1.72)	3.10	(1.81)	3.29	(1.87)	3.07	(1.67)	1.80	
Lack of access to grocery stores	2.95	(1.74)	2.84	(1.70)	3.52	(1.93)	3.20	(1.86)	3.01	(1.65)	5.51	***
Obesity	2.81	(1.76)	2.75	(1.74)	3.11	(1.88)	3.00	(1.89)	2.71	(1.60)	1.84	
Unequal access to education	2.81	(1.75)	2.71	(1.70)	3.13	(1.93)	3.17	(1.95)	2.80	(1.63)	3.41	*
Drug abuse	2.79	(1.75)	2.77	(1.72)	3.18	(1.96)	3.08	(1.85)	2.68	(1.54)	3.47	*
Unemployment	2.75	(1.66)	2.67	(1.61)	3.09	(1.79)	3.17	(1.86)	2.54	(1.48)	4.83	**
Diabetes	2.61	(1.64)	2.54	(1.60)	3.02	(1.81)	3.00	(1.84)	2.31	(1.41)	5.58	***
Racism	2.44	(1.66)	2.28	(1.52)	3.29	(2.10)	2.94	(2.02)	2.27	(1.43)	15.52	***
Overall	4.14	(.90)	4.09	(.89)	4.40	(.94)	4.33	(1.03)	4.11	(.81)	5.24	***

Note. Responses were indicated on a scale of 1 = *Strongly disagree* to 7 = *Strongly agree*.
*$p < .05$, **$p < .01$, ***$p < .001$.

$\eta^2 = 0.012$, *diabetes*, $F(3, 1156) = 5.58$, $p = .001$, $\eta^2 = 0.014$, and *racism*, $F(3, 1158) = 15.52$, $p < .001$, $\eta^2 = 0.039$. Pairwise comparisons with FDR adjustments revealed that Blacks were more likely than Whites to view *smoking*, $t(973) = 4.06$, $p < .001$, $d = 0.447$, *poverty*, $t(973) = 4.45$, $p < .001$, $d = 0.448$, *lack of access to grocery stores*, $t(973) = 3.74$, $p < .001$, $d = 0.373$, *unemployment*, $t(973) = 2.46$, $p = .015$, $d = 0.246$, *diabetes*, $t(971) = 2.81$, $p = .005$, $d = 0.281$, and *racism*, $t(973) = 6.02$, $p < .001$, $d = 0.551$, as environmental issues. Similarly, Hispanics/Latinos were more likely than Whites to perceive *poverty*, $t(976) = 2.92$, $p = .004$, $d = 0.293$, *unemployment*, $t(976) = 2.92$, $p = .004$, $d = 0.287$, *diabetes*, $t(974) = 2.72$, $p = .007$, $d = 0.267$, and *racism*, $t(976) = 4.01$, $p < .001$, $d = 0.369$, as environmental issues (see Table 1). In contrast, Whites were more likely than Hispanics/Latinos to regard *pollution from industrial facilities*, $t(976) = 3.84$, $p < .001$, $d = 0.323$, as an environmental issue. Asians, Pacific Islanders, and Native Hawaiians were less likely than Blacks to view *poverty*, $t(182) = 3.08$, $p = .001$, $d = 0.456$, *unemployment*, $t(182) = 2.29$, $p = .023$, $d = 0.334$, *diabetes*, $t(182) = 2.93$, $p = .004$, $d = 0.438$, and *racism*, $t(182) = 3.77$, $p < .001$, $d = 0.568$, as environmental issues, and less likely than Hispanics/Latinos to consider *unemployment*, $t(185) = 2.57$, $p = .011$, $d = 0.375$, *diabetes*, $t(185) = 2.83$, $p = .005$, $d = 0.422$ and *racism*, $t(185) = 2.55$, $p = .012$, $d = 0.383$, as environmental issues.

3.2. Differences by other SES indicators

We also examined bivariate correlations between SES and our measure of environmental issue conceptualization. Community-level income was negatively correlated with perceiving the listed issues as environmental, overall $r(1167) = -0.07$, $p = .026$, and particularly for *smoking*, $r(1167) = -0.08$, $p = .008$, and *unemployment*, $r(1167) = -0.06$, $p = .039$. In contrast, years of education was positively correlated with perceiving the listed issues as environmental, overall $r(1175) = 0.06$, $p = .029$. Respondents with more education were particularly likely to view *traffic congestion in urban areas*, $r(1175) = 0.06$, $p = .035$, *lack of access to parks and natural areas*, $r(1175) = 0.07$, $p = .024$, *invasive species*, $r(1175) = 0.06$, $p = .040$, *diabetes*, $r(1173) = 0.06$, $p = .037$, *flooding*, $r(1175) = 0.06$, $p = .036$, and *physical activity*, $r(1175) = 0.08$, $p = .004$, as environmental issues.

Although community-level income was negatively associated with our conceptualization measure as expected, employment status, $t(1160) = 0.73$, $p = .466$, and household income, $r(1175) = -0.05$, $p = .078$, were not reliably correlated with issue conceptualization. However, respondents with lower income were more likely to see two social issues—*unequal access to education*, $r(1175) = -0.08$, $p = .009$, and *racism*, $r(1175) = -0.07$, $p = .025$—as environmental.

3.3. Exploratory factor analyses

Next, we conducted an exploratory factor analysis to determine whether the 18 items could be reduced to fewer dimensions. A principal axis factor analysis with oblique rotation (direct oblimin) revealed three factors with eigenvalues greater than 1. We retained two of these factors, as a scree plot indicated a point of inflection at three factors, and the cumulative amount of explained variance (54%) exceeded 50% (Pett, Lackey, & Sullivan, 2003). Clustering suggested that, whereas factor 2 includes issues that reflect threats to both human and non-human natural systems, factor 1 includes issues often categorized as "social" or "public health" issues in academic and public discourse but that also represent human social determinants and consequences of environmental risk (see Shonkoff et al., 2011) (Table 2). Accordingly, we averaged the items clustering on each factor into two composite scales representing what we label as *eco-oriented* (factor 2; $\alpha = 0.766$) and *human-oriented* issues (factor 1; $\alpha = 0.917$).[4]

3.4. Regression analysis

To determine whether race/ethnicity and SES were significantly related to these two factors, we ran separate OLS regression analyses with sex, age, years of formal education, employment status, household income, and race/ethnicity as predictors of each factor (Table 3). Based on the findings reported above showing similar effects among non-White subgroups, we dichotomized race/ethnicity as reflecting majority White versus minority status (1 = White, 0 = Non-White).

Results showed that ratings of the eco-oriented issues differed only by sex, $b = -0.11$, $p = .034$, 95%CI [-0.203, −0.008] and years of education, $b = 0.03$, $p = .006$, 95%CI [0.010, 0.059]. In contrast, ratings of the

[4] While we use these labels to capture the overall essence of issues represented by each factor, we acknowledge that these labels may not fully reflect the complexity of issues under each label, or their potential interrelations.

Table 2
Factor loadings from exploratory factor analysis of environmental issues.

Issue	Factor	
	1	2
Diabetes	**.833**	-.135
Obesity	**.819**	-.045
Racism	**.818**	-.113
Unemployment	**.815**	-.131
Unequal access to education	**.812**	-.076
Drug abuse	**.790**	-.123
Poverty	**.771**	.051
Lack of access to grocery stores	**.732**	.038
Physical activity	**.715**	-.049
Smoking	**.423**	.177
Traffic congestion in urban areas	**.333**	.281
Drought in the western U.S.	-.102	**.710**
Flooding	-.012	**.692**
Pollution from industrial facilities	-.117	**.684**
Climate change	-.047	**.617**
Lead contamination of tap water	-.031	**.606**
Invasive species	-.017	**.525**
Lack of access to parks and natural areas	.278	**.351**

5000 bootstrap resamples). Specifically, non-Whites (unstandardized indirect effect: 0.059; 95%CI [0.028, 0.095]), lower-income respondents (0.006; 95%CI [0.002, 0.011]), respondents with more education (0.009; 95%CI [0.003, 0.017]), and females (0.032; 95%CI [0.010, 0.061]) reported greater environmental justice perceptions, which, in turn, was associated with greater recognition of human-oriented issues as environmental, relative to their respective counterparts.

4. Discussion

Environmental justice research demonstrates that groups with lower status in society experience a disproportionate share of environmental risk, exacerbated by human social conditions that heighten vulnerability to environmental harms. This suggests that disadvantaged groups may hold a broader conceptualization of what constitutes an "environmental" issue relative to advantaged groups. The present study sought to test this possibility empirically by asking a diverse sample of U.S. respondents to indicate the extent to which they considered a broad range of pressing societal issues as "environmental." Indeed, our results suggest that lay perceptions of what constitutes an environmental issue may differ across U.S. demographic groups. Specifically, we found that racial/ethnic minority and lower-SES groups were more likely to consider a broader range of societal issues–and particularly human-oriented issues (e.g., *poverty*, *racism*, *obesity*)–as "environmental". Furthermore, mediation analysis suggested that this pattern may reflect, in part, group differences in environmental justice perceptions, which were found to be greater among minority and lower-income respondents in our sample. However, environmental justice perceptions accounted for a relatively small proportion of the effect of race/ethnicity and sex on human-oriented issue construal, suggesting that other factors may also account for the group differences we observed here.

The dimensions of eco-oriented versus human-oriented issues derived from our analysis bear similarities to previously established typologies. For example, materialist versus post-materialist values have been examined to explain cross-national differences in support for pro-environmental policies (Brechin & Kempton, 1994; Inglehart, 1995). Similarly, "green" versus "brown" environmentalism distinctions have been used to consider how global versus local concerns, respectively, may influence participation in environmental causes (Crook & Pakulski, 1995; McAllister & Studlar, 1999). Moreover, ecocentric and anthropocentric worldviews have been used to describe appreciating the environment for its intrinsic versus extrinsic values, respectively (Eckersley, 1989). However, the distinction between eco-oriented and human-oriented issues discussed here differs by acknowledging that a

Table 3
OLS regression analysis predicting agreement with issue type as environmental.

	Eco-oriented issues			Human-oriented issues		
	b	*b**	95% CI	*b*	*b**	95% CI
(Intercept)	6.051***	–	[5.899, 6.203]	3.657***	–	[3.427, 3.887]
Sex (Male)	-.106*	-.063	[-.203, -.008]	-.435***	-.169	[-.582, -.288]
Age	.001	.012	[-.003, .005]	-.003	-.033	[-.010, .003]
Years of Education	.034**	.086	[.010, .059]	.048*	.078	[.011, .085]
Employed	-.112	-.050	[-.244, .020]	.018	.005	[-.182, .217]
Household income ($10k)	-.004	-.017	[-.018, .010]	-.033**	-.091	[-.054, -.011]
White	.041	.021	[-.073, .154]	-.407***	-.137	[-.579, -.235]
R^2	.013			.051		
Adjusted R^2	.007			.046		

Note: Age, years of education, and household income are mean-centered. Community-level income was entered as a second block in a hierarchical regression but did not have any significant effects on recognition of either set of issues. *b** indicates standardized coefficients.
*$p < .05$, **$p < .01$, ***$p < .001$.

human-oriented issues were predicted by a wider range of demographic variables. Specifically, relative to their respective counterparts, non-Whites, $b = 0.41, p < .001$, 95%CI [0.235, 0.579], lower-income respondents, $b = 0.03, p = .003$, 95%CI [0.011, 0.054], respondents with more education, $b = 0.05, p = .011$, 95%CI [0.011, 0.085], and females, $b = 0.44, p < .001$, 95%CI [0.288, 0.582], tended to rate the human-oriented issues as more "environmental".[5] Standardized coefficients further indicated that the effect sizes of race/ethnicity and sex were relatively larger than those of household income and education (Funder & Ozer, 2019).

3.5. Mediation analysis

Finally, we conducted a post hoc mediation analysis exploring whether environmental justice perceptions might partially explain observed differences in environmental issue construal (Fig. 1). In the resulting total model, $R^2 = 0.075, F(7, 1152) = 13.306, p < .001$, the four demographic variables that were significantly related to recognition of human-oriented issues in regression models all had significant indirect effects, suggesting mediation by environmental justice perceptions (all CIs corrected with

[5] We also tested for interactions between race/ethnicity and SES indicators (i.e., household and community level income, education, and employment) on eco-oriented and human-oriented issue recognition. Because no significant effects emerged, interaction terms were omitted from the model.

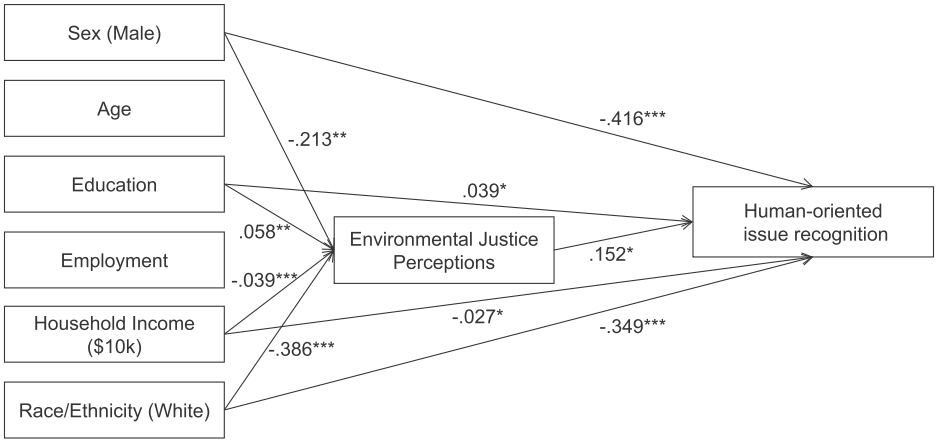

Fig. 1. Model testing environmental justice perceptions as a mediator of *human-oriented* issue recognition. Path coefficients are unstandardized. All direct and indirect effects are listed in Supplementary Material 1. The model is saturated and non-significant paths are omitted. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

broader set of issues—including those often referred to as "social" or "public health" issues, but that are increasingly recognized within environmental justice scholarship for their relevance to environmental problems—may also count as "environmental" issues, particularly among groups that are more vulnerable to environmental risks (for similar arguments, see Jones & Rainey, 2006; Mohai et al., 2009; Shonkoff et al., 2011).

Although our data suggest that human-oriented issues were more likely to be viewed through an environmental lens by members of disadvantaged groups, we note that minority groups' ratings of these issues, in aggregate, nevertheless fell below the scale midpoint (1 = Strongly disagree to 7 = Strongly agree) (e.g., $M = 3.61$, 95% CI [3.34, 3.88] for Blacks, $M = 3.50$, 95% CI [3.21, 3.79] for Hispanics/Latinos). Thus, the group differences we report are more appropriately interpreted in a relative (rather than absolute) sense. Nevertheless, some human-oriented issues fell at or above the scale midpoint for some demographic groups (e.g., poverty, among Blacks); thus, future work might examine heterogeneity within the human-oriented issue ratings among U.S. minority groups. In addition, given that the mediating effects of environmental justice perceptions were only partial, future studies may further explore how specific individual and cultural differences account for different construal of environmental issues across groups, using samples more generalizable to the U.S. public.

Nevertheless, this work holds important theoretical and practical implications. In addition to expanding research on racial/ethnic differences in environmental concern by examining how different groups conceptualize environmental issues, this work extends research on lay construal of social issues to the domain of environmental psychology. Research suggests that Whites and Blacks in the U.S. have differing lay theories about what constitutes "racism," which can have consequences for the policies they support to address the problem. For instance, Sommers and Norton (2006) found that although White and minority participants agreed that overtly harmful behaviors constituted racism, minority participants were more likely to consider more subtle or ambiguous traits and behaviors (e.g., feeling uncomfortable around Blacks) as indicative of racism. Other work suggests that Whites are more reluctant to recognize structural and systemic (versus individual) forms of racism; importantly, these differing lay perceptions can lead to divergent views about the prevalence, causes (e.g., as rooted in individuals versus institutions), and consequences of racism, and to differing prescriptions for addressing it (Carter & Murphy, 2015). Whether similar implications hold for how different groups perceive the causes and remedies of environmental problems is an important question for future research.

Practically, our findings may hold implications for reconsidering popular measures of environmental concern that, despite using identical language, may elicit fundamentally different meanings across groups, as well as for interpreting well-documented group differences in environmental risk perception. These findings may also help inform current efforts to broaden public engagement. As the environmental justice literature suggests, a failure to address the social conditions relevant to environmental harms has fueled persistent conflict between traditionally White environmental organizations and communities of color. Environmental organizations that have traditionally struggled to improve staff and member diversity (Taylor, 2014) may therefore seek to broaden their view of environmental problems in order to be more inclusive of the human dimensions of environmental problems to which at-risk communities may be especially attuned.

Author notes

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Hwanseok Song: Conceptualization, Methodology, Formal analysis, Investigation, Writing - original draft. **Neil A. Lewis:** Conceptualization, Methodology, Writing - original draft, Funding acquisition. **Matthew T. Ballew:** Conceptualization, Writing - review & editing. **Mario Bravo:** Conceptualization, Writing - review & editing. **Julie Davydova:** Conceptualization. **H. Oliver Gao:** Funding acquisition, Writing - review & editing. **Robert J. Garcia:** Conceptualization, Formal analysis, Writing - review & editing. **Sofia Hiltner:** Conceptualization, Writing - review & editing. **Sarah M. Naiman:** Conceptualization, Writing - review & editing. **Adam R. Pearson:** Conceptualization, Methodology, Formal analysis, Writing - review & editing. **Rainer Romero-Canyas:** Conceptualization, Methodology, Project administration, Funding acquisition, Writing - review & editing. **Jonathon P. Schuldt:** Conceptualization, Methodology, Investigation, Writing - original draft, Project administration, Funding acquisition.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jenvp.2020.101404.

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