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Lindsey Coyle

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Environmental Justice Evaluations Among Black Students

by

Lindsey M. Coyle

Dr. Karen A. Hegtvedt
Adviser

Department of Sociology

Dr. Karen A. Hegtvedt
Adviser

Dr. Cathryn Johnson
Committee Member

Dr. Frank Gaertner
Committee Member

Dr. Marjorie Pak
Committee Member

2013

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By

Lindsey M. Coyle

Dr. Karen A. Hegtvedt

Adviser

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Abstract

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In the United States, the vast inequality in how environmental harms are distributed across various populations is represented as environmental injustice or environmental racism. Building on the substantial research into general justice evaluations, here I examine how racial identity and experiences with discrimination, as individual-level factors, influence evaluations of environmental justice within the context of the Black community. One hundred and forty-one college students from a predominantly White university and a historically Black college in the southeast completed a survey with items measuring racial identity, experiences with discrimination, and perceptions of environmental justice, as well as environmental identity and demographic characteristics. Data were analyzed using ordinary least squares regression models. Emerging patterns suggest that racial identity, especially Black identity, affects environmental justice evaluations. Previous experiences with discrimination, however, did not have any significant effects. Consistent with previous research, environmental identity had the most significant effect on environmental justice evaluations. Future research should further investigate the role of contextual-level factors, such as the college racial composition or neighborhood racial composition, on environmental justice evaluations.

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Lindsey M. Coyle

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ENVIRONMENTAL JUSTICE EVALUATIONS AMONG BLACK STUDENTS

In 1987, the publication of “Toxic Waste and Race” uncovered significant inequities in the distribution of environmental harms across various populations (e.g., the disproportionate presence of toxin-emitting facilities in low income and minority neighborhoods) (United Church of Christ Commission for Racial Justice). Since then, there has been an increased focus on the environment and its connection with the beliefs of different social groups (Bullard et al. 2007; Opotow and Clayton 1994; Taylor 2000). Along with this increased focus on the environment, researchers have also introduced the concepts of environmental justice and ecological justice.

In this paper, I consider environmental justice as “the need to distribute environmental hazards fairly across different demographic groups and to connect environmental concerns with issues of social justice” (Opotow and Clayton 1994: 1). The environmental justice movement has developed across the United States to investigate the placement of various environmental hazards across social groups, especially in low-income and minority communities (Bullard et al. 2007). Environmental justice evaluations involve assessments of ethical issues surrounding environmental decision-making and distributions as well as of actual instances of those procedures and distributions. The former represent prescriptive elements of environmental justice and the latter potential violations of those prescriptions. In contrast, research on ecological justice focuses more on issues of sustainability in the natural world, such as air and water pollution, wildlife preservation, and sustainability (Opotow and Clayton 1994). Taylor (2000) refers to the advocacy movement for ecological justice in the early 20th century as mainstream environmentalism because of its prevalence among working and middle-class Whites.

Investigations into justice issues have long been an integral part of sociological research. Justice research often focuses on beliefs of what constitutes justice and perceptions of injustice (Hegtvedt 2006). According to Hegtvedt (2006), individuals' justice evaluations stem from comparisons between their expectations about what constitutes fair outcomes and actual outcomes. Individuals perceive instances of injustice when reality does not align with their expectations. A combination of individual-level factors and contextual-levels factors affect these justice evaluations.

One key individual-level factor that can affect justice evaluations is an individual's various identities. In this paper, I use Stryker and Burke's (2000) definition of identity as "the meanings that persons attach to the multiple roles they typically play in highly differentiated contemporary societies" (p. 284). Burke and Stets (2009) argue that identities provide a framework for individuals to manage their thoughts, feelings, and perceptions. Identity Control Theory argues that individuals attempt to verify these identities through their behaviors, seeking consistency between how they perceive themselves and how they think others perceive them (Burke 1991). In order to reconcile any differences in these perceptions, individuals tend to engage in various sense-making techniques, including aligning their motivations, beliefs, perceptions, and behaviors. This desire for consistency, known as self-verification, can affect how an individual perceives a situation, especially with regard to various justice evaluations, including the distribution of environmental harms (Burke 1991; Fiske and Taylor 2008; Parris et al. nd; Stets and Biga 2003)

According to Stets and Biga (2003), an individual's identity roles are arranged in a hierarchy, which individuals must navigate as they go through the process of self-verification. Individuals adjust conflicting identities simultaneously, based on the salience of the competing

identity roles within a specific context and the commitment an individual has to that identity (Stets 2003). Depending on the type of justice evaluation at hand, certain identities may emerge as more salient than others. Here, I extend research on how perceivers' identity impacts justice evaluations by examining a particular identity and set of experiences—racial identity and previous experiences with discrimination—and a particular fairness issue: environmental justice. Since there is a strong correlation between environmental injustice and environmental racism, (Bullard et al. 2007; Taylor 2000), racial identity and previous experiences with discrimination will theoretically be salient with environmental justice evaluations. While people may evaluate the fairness of many types of positive and negative outcomes both for themselves as well as for others, I focus here on assessments of environmental burdens.

The social constructionist perspective, or looking at “how people assign meanings to their social world,” characterizes the environmental justice movement (Taylor 2000: 509). According to this perspective, environmental issues can be seen as social problems defined by shared meanings. As a result, the salience of an individual's identity and his or her location within the social hierarchy can influence how they perceive different social justice issues, such as substandard housing or unequal access to education. Because of their relatively lower location in the social hierarchy, racial minorities tend to be drawn to issues of environmental justice through those social justice issues (Čapek 1993; Taylor 2000).

“Toxic Waste and Race” (1987) showed a disproportionate placement of environmental harms in poor and minority neighborhoods (United Church of Christ Commission for Racial Justice). Research repeatedly documents this lopsided distribution (Bullard 1993, 1994, 2000; Couch et al. 2003; and Pastor, Add, and Hipp 2001). Some researchers argue that minorities move into neighborhoods with pre-existing harms because it is easier to afford the lower

property values. There is, however, a consensus among most researchers that the placement of harms is more prevalent than the disproportionate movement of minorities into these neighborhoods (Pastor, Sadd, and Hipp 2001). As a result, many minorities have a very different experience with issues of environmental justice than their White counterparts, explaining their involvement in different types of environmental activism (Taylor 2000).

While research documents issues of environmental injustice, few studies examine perceptions of that injustice outside of specific communities affected by environmental harms. And, even within those community-based studies, the role of racial identity is rarely examined. Here I look at how individual-level factors (environmental identity, racial identity, and experience with discrimination) affect perceptions of environmental justice. Below I discuss processes linking individual identities and experiences to justice evaluations. I test hypotheses using data from 141 Black students on two college campuses in an urban area in the Southeast.

Identity, Experiences, and Environmental Justice Evaluations

Environmental and Racial Identities

Environmental identity refers to an individual's understanding of the self in relation to the natural environment (Clayton 2003). According to Stets and Biga (2003), individuals attempt to maintain internal consistency by modifying their behavior to match their internal identity. Environmental identity, then, exerts a strong influence on environmentally responsible behaviors, such as recycling, using public transportation, or conserving water (Stets and Biga 2003; Watson et al. nd; Whitmarsh and O'Neil 2010). Previous research also suggests that environmental identity is a strong predictor of attitudes towards environmental and ecological justice (Parris et al. nd).

I specifically focus on whether racial identity has a similar effect on predicting environmental justice evaluations. Previously, researchers have demonstrated the effect of race on various environmental concerns. Johnson, Bowker, and Cordell (2004) showed that Blacks scored lower than Whites on the New Ecological Paradigm (NEP), which measures environmentally responsible beliefs and environmental behaviors (e.g., environmental reading, household recycling, environmental group joining, and participation in nature-based outdoor recreation). In contrast, Mohai and Bryant (1998) reported that Blacks and Whites have equal levels of concern for the environment, but that they vary in types of concern that they express. For instance, their data show that Blacks are more likely to be concerned about “neighborhood environmental problems,” such as exposure to lead, than their White counterparts. This focus on local environmental problems could be linked with issues of environmental injustices.

Despite these different levels of concern, research suggests that there are no significant differences between Blacks and Whites on environmental justice evaluations (Mohai and Bryant 1998; Parris et al. nd). Typically, though, studies investigating the effects of race on environmental concerns focus on comparisons across races, employing self-identification with a particular category. Such self-identification constitutes a one-dimensional measurement of race. Harper (2011), however, argues that such measures hardly capture racial identity, which requires a multi-dimensional assessment. A single question on a survey cannot fully represent the complexity of an individual’s racial identity, which racial is a complex and multi-faceted process.

For this study, I use Phinney’s (1992) definition of racial identity: “an individual’s self-concept that derives from his or her knowledge of membership in a social group...together with the value and emotional significance attached to that membership” (p. 152). Other researchers

approach the measurement of racial identity by examining the salience of cultural traditions or in-group social activities, often specific to certain races. Phinney's definition, however, is relevant across racial groups.

Racial identity revolves around two questions: "Who am I racially?" and "What does that mean?" That aspect of meaning can fluctuate within an individual, based on their experiences. For this study, however, I investigate the role of an individual's racial identity at a given point, rather than researching the development of that identity. This allows me to focus more on the relationship between identity and environmental justice evaluations, rather than concentrating on what might cause changes in an individual's racial identity.

Although I use a definition of racial identity that can apply to multiple groups, there are some aspects of Black identity that are unique. This distinctness stems mainly from the history of Black-White race relations in the United States, including slavery, segregation, and several de facto policies that isolated the Black community. As a result of this oppression and its consequences, racial identity has historically been very important to the Black community. Although the Black experience is far from homogeneous, there are certain characteristics that can be used to define a Black identity (Sellers et al. 1997).

Sellers and colleagues (1997) break Black identity down into four quantifiable components: salience, centrality, public and private regard, and racial ideology. The first two components focus on how an individual defines himself or herself in terms of race, and the latter two refer to an individual's perception of what it means to be Black. For the purpose of this paper, I turn my attention towards salience and centrality, investigating the importance of race as part of an individual's self-concept. Black identity salience refers to the degree of relevance that an individual's race holds within a specific situation. In contrast, Black identity centrality

pertains to an individual's tendency to define him or herself in terms of being Black. While salience is sensitive to context, centrality is a generally stable dimension of Black identity across all situations (Sellers et al. 1997).

Several studies of racial identity and injustice indicate that individuals with a more salient or central racial identity are more likely to perceive future instances of racial injustice (Operario and Fiske 2001; Sellers and Shelton 2003; Shelton and Sellers 2000). For instance, in a study of athletes, Black basketball players with a less salient racial identity perceived very little racial discrimination (Brown et al. 2003). Because Black identity is so strongly linked to the history of Black oppression in the United States (Sellers et al. 1997), the association between racial identity and perceptions of future injustices could be especially strong in Black individuals.

In this paper, I extend those results to environmental justice. The distribution of environmental harms has been so heavily placed on minority communities that researchers have developed another term for environmental injustices: environmental racism (Bullard et al. 2007, Taylor 2000). As a result, I argue that sensitivity to environmental justice may be heightened for those whose strong racial identity creates greater empathy for those who are affected by the unequal distribution of environmental harms. In effect, as identity control theory (Burke 1991) would suggest, those with a strong Black racial identity hold perceptions consistent with the meaning of their identity. Thus, I propose

Hypothesis 1: Black racial identity will be positively related to environmental justice/injustice evaluations.

Previous Experiences with Discrimination

While racial identity may sensitize individuals to instances of racism, the actual experience of discrimination may independently affect environmental justice evaluations as well.

Several studies indicate how discrimination experiences in general influence what people learn and evaluate.

Cropanzano et al. (2005) discuss the interaction between different types of justice evaluations. When interactional justice, which focuses on the evaluation of interpersonal treatment, is notably low, individuals tend to have a greater perception of distributive justice issues, which relate to the normative allocation of benefits or burdens to all individuals (Hegtvedt 2006). Since environmental justice focuses on the distribution of environmental benefits and burdens across social groups, it can be classified as a type of distributive justice (Hegtvedt 2006; Opatow and Clayton 1994). In contrast, experiences with discrimination can be considered a type of interactional injustice (Hegtvedt 2006). If Cropanzano et al.'s model holds true, then more frequent experiences with discrimination (low levels of interactional justice) would result in greater perceptions of environmental injustices.

Hughes and colleagues (Hughes 2003; Hughes et al. 2006) suggest that parental experience with discrimination enhances the extent to which Black parents socialize their children with an awareness of discrimination, including providing them with coping techniques. Such socialization could play a role in a perception of greater racial prejudice later in life by making children more prone to be aware of and expect discrimination.

Parental experiences with discrimination, especially in the work place, have also been correlated with a "promotion of mistrust," or a "need for wariness and distrust in interracial interactions" (Hughes et al. 2006: 757). In contrast with preparing children for bias, "promotion of mistrust" excludes any direct messages about discrimination. Although promoting mistrust does not directly relate to perceptions of discrimination, lower levels of trust could theoretically lead Black children to be more likely to expect unequal treatment from peers of another race,

including decisions by predominantly White authorities with regard to distributing environmental harms (Hughes et al. 2006).

According to Dulin-Keita (2011), Black children with more frequent experiences of discrimination have a greater awareness of race at a young age than their White peers. In turn, they find that a greater awareness of race enhances the perceived likelihood of future discrimination. Interestingly, this effect was not as strong in Hispanic children, although both groups of children reported comparable levels of experience with discrimination. Sellers and Shelton (2003) report a more direct association for racial identity and discrimination. According to their data, individuals with a more central racial identity tended to perceive more experiences of racial discrimination. Applying these reports to perceptions of environmental injustices as environmental discrimination, I suspect that experiences with discrimination will lead to an increased perception and expectation of environmental injustices. Thus, I theorize:

Hypothesis 2: More frequent experiences with everyday discrimination are positively correlated to environmental justice/injustice evaluations.

METHODS

Procedures and Sample

My data involve survey responses gathered from Black college students at two southeastern universities. One of these universities is an all-male, historically Black college (HBCU) and the other is a predominantly White, co-educational institution (PWI). My set of respondents includes undergraduate students of all years. I drew students from two different schools in order to get more variability among participants with regards to my control variables.

My respondents were recruited through a combination of convenience and snowball sampling in the spring of 2013. During visits to sociology classrooms at the HBCU and Black

Student Alliance meetings at the PWI, I invited students to participate in the study. Interested students provided their email contact information. The initial email included information regarding my study as well as a web link to the online survey. Each web link was unique to the respondent to prevent multiple responses from individual participants. At the end of the survey, participants were invited to provide additional contact information for additional potential respondents, creating a snowball sample. I sent a follow-up email to potential respondents two weeks after the initial contact.

The survey took approximately 20 minutes to complete. The survey included questions about environmental identity, racial identity, previous experiences with discrimination, attitudes and perceptions, and demographic information. The attitudes and perception items provided the basis for assessing environmental justice evaluations. These scales are described in detail below. To compensate students for their time, each respondent was rewarded with a \$10 Amazon gift card, which was approved by the IRB at both institutions. Additional measures were taken to ensure that these reward cards could be given without linking respondent's names with their survey results.

I approached 397 students, and 157 agreed to participate, for a response rate of 39.5 percent. Complete surveys were returned by 141 participants. The respondent pool consists of 31.9 percent males and 68.1 percent females. The HBCU is an all-male institution, but the PWI is approximately 55 percent females and 45 percent males. Of the 141 participants, 85.8 percent of the respondents attended the PWI, while 14.2 percent of the students attend the HBCU. As of Fall 2012, the PWI is 9.3 percent Black and 59.1 percent non-White; the HBCU is 94.4 percent Black. Also, 10.6 percent of the respondent pool also identified as one or more other ethnicities. Since these respondents also identified as Black, I kept them in my analysis.

Measures

My analysis required multiple indicators to measure my independent and dependent variables. I relied on previously created scales, fusing various components. These scales are each additive and standardized by the number of items. First, I discuss each scale's coding scheme and then I report the scale reliabilities. See Appendix 1 for all scale items and their Eigen values.

Independent Variables

Racial identity

To capture racial identity, I asked respondents how much they agreed with a series of 14 statements about race. Agreement was measured on a 5-item Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). These statements were taken from two subscales from the Revised Multidimensional Inventory of Black Identity (MIBI) (Sellers et al. 1997): racial centrality and identity as an oppressed minority. I used principal component factor analysis with varimax rotation to determine which items loaded on particular components of racial identity; four factors emerged.¹ Conceptual considerations helped me to establish two composite measures: Black Identity, and Relationship with other Oppressed Minorities.

The first scale, *Black Identity*, measures how individuals see themselves as a Black person and how they relate to other Black individuals. This five-item scale consists of the following items: How much do you disagree or agree with each of the following statements about race... (1) I have a strong sense of belonging to Black people; (2) Being Black is an important reflection of who I am; (3) In general, being Black is an important part of my self-

¹ Four factors emerged from Factor Analysis, which we tentatively titled Positively Phrased Black Identity, Negatively Phrased Black Identity, Identity with the Oppression of Blacks, and Relationship with other Oppressed Minorities. However, the reliability levels of the second and third factors were too low for analysis ($\alpha = .635$ and $\alpha = .502$, respectively).

image; (4) My destiny is tied to the destiny of other Black people; and (5) I have a strong attachment to other Black people. Cronbach's Alpha for this scale is .851.

Relationship with Other Oppressed Minorities is a two item-scale measuring how Black individuals believe Blacks, as a whole, should relate with other oppressed groups. The scale includes the following items: How much do you disagree or agree with each of the following statements about race... (1) Blacks will be more successful in achieving their goals if they form coalitions with other oppressed groups; (2) Black people should treat other oppressed people as allies. The bivariate correlation for these two items is .603.

Experience with Discrimination

I measured experiences with racial discrimination by using a scale of everyday discrimination. This scale was developed using items from Williams' Everyday Discrimination Scale (Williams et al. 1997).

*Frequency of Everyday Discrimination*² is a nine-item Likert-type scale with five response categories: 1= Never; 2= Less than once a year; 3= A few times a year; 4= At least once a month; 5= Almost every day. Some of the items include: (1) You are treated with less courtesy than other people are; (2) People act as if they are afraid of you; (3) You are threatened or harassed; and (4) You receive poorer service than other people at restaurants or stores. The reliability of this scale is high, with a Cronbach's Alpha of .918.

² Initial analysis also considered Major Experiences with Discrimination, which was measured based on five yes or no questions that ask about the respondents' experiences with work, the police, banks, and within their neighborhoods and schools. This scale was dummy coded 0= no, 1= yes. These five items loaded together using factor analysis, but reliability is low (Cronbach's Alpha = .541), and thus I removed it from my analysis.

Dependent Variables

Environmental Justice Evaluations

To capture respondents' attitudes and perceptions of the distribution of toxic harms and environmental damage, I used a seven-point Likert-type scale to measure agreement with five items, which were gathered from Parris et al. (nd) and Watson et al. (nd). However, because I am investigating the effects of racial identity, I added a sixth question specifically about the placement of environmental harms in neighborhoods of color. Using principal component factor analysis, five of these six items loaded onto two factors: environmental justice prescriptions and perceptions of environmental injustice. One item, "Environmental damage generated here in the US harms people all over the world," did not load on either scale and was removed from the analysis.

Environmental Justice Prescriptions measures how respondents believe environmental harms and resources should be distributed. Higher values indicate that respondents believe that both environmental harms and environmental resources should be equitably distributed. This scale consists of the following 3 items: (1) Equal treatment of all people should be considered when decision-makers are solving environmental problems; (2) People have a general responsibility to conserve environmental resources for future generations; and (3) Decisions about where to situate polluting industries should take into account the opinions of the people who would live near those sites. Cronbach's Alpha for this scale is .798.

Perceptions of Environmental Injustices captures the degree to which respondents perceive the disproportionate distribution of toxic harms and environmental damage in minority and poor neighborhoods. Higher response values indicate a greater severity of perceived environmental injustice. This scale measures agreement with the following two items: (1)

Neighborhoods of color are unfairly disadvantaged in terms of exposure to environmental hazards; and (2) Poor neighborhoods are unfairly disadvantaged in terms of exposure to environmental hazards. The bivariate correlation for these two items is .733.

Controls

Because various other factors might affect the relationship between experience with discrimination, racial identity, and environmental justice evaluations, I controlled for several demographic factors. I coded both gender and institution as dummy variables (0=male, 1=female; 0=PWI, 1=HBCU). I also used respondents' annual parental income level (ranging from 1= less than \$25,000 to 8= more than \$250,000) and both mother's and father's education levels (ranging from 1= less than high school/GED/high school graduate to 7= doctorate degree).

I included environmental identity as a control because previous research has shown its importance in predicting environmental attitudes (Stets and Bega 2003; Watson et al. nd; Whitmarsh and O'Neil 2010). Following Parris et al. (nd) and Watson et al. (nd), I used a six-item scale to measure Environmental Identity. These items, taken from Clayton (2003) represent how individuals perceive their relationship with the natural environment. Respondents indicated "how true of me" each item was on a seven-point Likert-type scale ranging from "not at all true of me" (1) to "completely true of me" (7). The scale consists of (1) Engaging in environmental behaviors is important to me; (2) I think of myself as a part of nature, not separate from it; (3) Being a part of the ecosystem is an important part of who I am; (4) I feel that I have roots to a particular geographic location that had a significant impact on my development; (5) In general, being part of the natural world is an important part of my self-image; and (6) My own interests usually seem to coincide with the position advocated by environmentalists. Cronbach's Alpha for this scale is .835.

RESULTS

Table 1 presents a correlation matrix with means and standard deviations on the diagonal for each key variable used in the regression models. The mean values for prescriptions of environmental justice and perceptions of environmental injustice are very similar (5.791 and 5.635, respectively), suggesting that the sample feels similarly, on average, for these two types of evaluations. Looking at the two measures of racial identity, though, the sample tends, on average, to have a stronger Black identity than to hold strong beliefs about the relationship with other oppressed minorities (4.361 and 3.340, respectively). Both measures of racial identity were measured on a five-point scale, while environmental identity was measured on a seven-point scale, so the means of these variables cannot be compared.

At the bivariate level, several of my key variables are significantly correlated. Most notably, Perceptions of Environmental Injustices has a strong, positive relationship with Prescriptions of Environmental Justice. Gender and Institution are strongly and negatively correlated ($r = -.599$, $p < .001$), because one of the institutions is an all-male college. Related to my hypotheses, Black Identity is significantly correlated with both measures of Environmental Justice Evaluations, but the relationship is stronger with Perceptions of Environmental Injustices ($r = .386$, $p < .001$) than with Prescriptions of Environmental Justice ($r = .264$, $p < .001$). At the bivariate level, Experiences with Discrimination does not have a significant correlation with either measure of Environmental Justice Evaluations. It does, however, have a moderate correlation with Black identity ($r = .204$, $p < .05$).

[Table 1 about here]

Analysis involves ordinary least squares (OLS) multiple regression to test the effects of Racial Identity and Experiences with Discriminations on Environmental Justice Evaluations.

Using OLS regression allowed me to test the significance and relative strength for both independent variables on environmental justice evaluations while controlling for all other variables.

Using OLS, I first examined partial models of the effects of both Racial Identity and Experiences with Discrimination. Models 1a and 1b include controls (Environmental Identity, Institution, Gender, Income, Father's Education, and Mother's Education) and the two measures of racial identity (Black Identity and Relationship with Other Oppressed Minorities). Models 2a and 2b show the partial effects of Experiences with Discrimination, along with controls. Models 3a and 3b represent the full model, including all control and independent variables. Each model considers separately Environmental Justice Prescriptions and Perceptions of Environmental Injustices. Table 2 shows results for all models.

[Table 2 about here]

Effects of Racial Identity

Hypothesis 1 predicts the positive effect of racial identity on environmental justice evaluations and is fully confirmed based on the impact of Black Identity. In both Model 1a and Model 3a, stronger Black identity increased agreement with environmental justice perceptions ($b=.177, p<.05$ and $b=.209, p<.01$, respectively). Additionally, Black Identity exerted strong positive effects on the perceived severity of environmental injustice in the partial Model 1b and full Model 3b ($b=.416, p<.001$ and $b=.414, p<.001$, respectively).

Results are mixed with regard to the influence of racial identity measured in terms of beliefs about the relationship with other oppressed minorities. This form of racial identity affects Perceptions of Environmental Injustices only, as shown in Models 1b and 3b ($b=.226, p<.05$ and $b=.226, p<.05$, respectively). Relationship with Other Oppressed Minorities, however, had no

effect on Environmental Justice Prescriptions. Thus, analysis of this element of racial identity provides only partial support for *Hypothesis 1*.

Hypothesis 2 projects that individuals with more experiences with everyday discrimination will have stronger environmental justice evaluations. Neither the partial nor the full model supported this hypothesis. The relationship between experiences with discrimination and environmental justice prescriptions approaches significance in the full model, but the coefficient is in the opposite direction of the predicted pattern ($b = -.187, p = .059$). The effect suggests that experiences with discrimination decrease agreement with environmental justice prescriptions.

Effects of Control Variables

No significant effects emerged for institution, gender, income, or parental education in any of the models. Environmental Identity, however, exerts positive effects on both measures of environmental justice evaluations across all models. These results are highly significant and consistent with previous research on the effects of environmental identity on environmental concerns (Parris et al. nd).

DISCUSSION

Previous research has shown the strong effects of environmental identity on environmental attitudes, behaviors, and justice perceptions (Clayton 2003; Parris et al. nd; Stets and Biga 2003; Whitmarsh and O'Neill 2010), but little research has examined the effects of racial identity. Most existing research on race and environmental justice focuses specifically on case studies of minority communities affected by environmental harms. Here, I expand on the existing literature on environmental justice evaluations by investigating the role of racial identity and experiences with discrimination.

Assessment of Empirical Patterns

Based on my analysis, I can make several key observations. First, although I used it as a control variable in this study, environmental identity had a more significant effect on environmental justice evaluations than any other factor I considered. Looking at the standardized B values, environmental identity was also the strongest factor in the regression model. This finding supports the findings of Parris et al. (nd) on justice perceptions as well as studies investigating environmental concerns (Stets and Biga 2003; Whitmarsh and O'Neill 2010). Not surprisingly, individuals who see themselves as connected to the natural world consistently support prescriptions that regard fairness in the distribution of environmental resources and harms as well as detect violations of these principles.

Second, Black identity has a significant effect on both environmental justice prescriptions and perceptions of environmental injustices. These findings show that racial identity is a better predictor of environmental justice concerns than race, which was used in previous studies (e.g., Parris et al. nd). Together with the significance of environmental identity, these results also emphasize the need for more research into how identity affects justice processes. Previous research on environmental concerns has suggested the significance of identity with regards to behavior and self-verification, but only newly emerging research focuses on identity (Parris et al. nd; Stets and Biga 2003; Watson et al. nd; Whitmarsh and O'Neill 2010). Much of this research has centralized around environmental identity. As Stets and Biga (2003) reported though, individuals are constantly navigating a hierarchy of identities as they formulate perceptions. It is important, then, to investigate a wide-range of identities that could affect environmental justice evaluations.

A relationship with other oppressed minorities, however, only has an effect on perceptions of environmental injustices. These results suggest that a stronger connection with other oppressed groups affects only awareness of injustices, but does not influence how respondents feel environmental harms and resources *should* be distributed. This could be due to the systematic oppression and resulting powerlessness of the affected communities. Individuals with a stronger relationship with other oppressed minorities may see the disproportionate harms affecting them, but they may have accepted this as a natural occurrence, rather than prescribing any changes for how it *should* be.

Finally, experiences with discrimination did not have a significant effect on environmental evaluations, disconfirming *Hypothesis 2*. These results show that, although experiences with discrimination tend to lead to a greater perception of future discrimination, that same theoretical argument does not extend to perceptions of environmental racism or environmental injustices. This could be because environmental racism is a macro-level factor, affecting the community at large, while *Hypothesis 2* was based on the relationship between two individualized factors (personal experiences with discrimination in the past and in the future). This study only sampled from college campuses, and this failure to represent the community at large could have affected the results of *Hypothesis 2*.

Limitations and Directions for Future Research

Although my study was carefully planned and the results provide valuable insight into how identity factors affect environmental justice evaluations, some noteworthy limitations need to be discussed. First, all respondents were undergraduates at relatively elite, private universities with tuitions and fees of \$40,000-\$50,000. Although participants' parental income levels, parental education, and experiences with discrimination were nearly normally distributed, other

underlying factors may have influenced the analysis, such as the unmeasured reasons why respondents selected their respective institutions.

Furthermore, both of these institutions place a strong emphasis on sustainability issues. The president of one of the surveyed colleges has done extensive research on sustainability in universities, including a White House initiative on the issue. The other college is home to one of the largest collections of LEED-certified buildings among American colleges, a ranking that indicates low levels of environmental impact in the design and operation of buildings. Environmental justice relates to issues of sustainability, and thus an increased presence of “green” issues on campus could theoretically lead to an increased awareness of other environmental issues. Racial identity, then, could theoretically have a weaker effect on environmental justice evaluations for students on these campuses than for students at institutions that are not as immersed in sustainability. This effect of sustainability awareness could be especially influential on environmental justice prescriptions.

As a cross-sectional study, this study is also limited because it cannot capture how respondents’ identities, both racial and environmental, change over time, and how these changes influence environmental justice evaluations. Phinney (1992) and Sellers et al. (1997) both propose that racial identity changes over time in response to situational factors. Additionally, Parris et al. (nd), Swann (1983), and Burke and Stets (2009) report that individuals verify identities through behaviors and attitudes. Thus, a change in an individual’s racial or environmental identity over time may affect how they form environmental justice evaluations.

Finally, this study fails to account for contextual-level factors that may affect environmental justice evaluations. Preliminary analysis shows that attending a historically Black institution did not have a significant effect on environmental justice evaluations, but a vast

majority of respondents were students at a Predominantly White Institution. Conceptually, I suspect that a college's racial composition affects how racial identity influences environmental justice evaluations. Research on how the racial composition of a school affects racial identity indicates that Black students, especially males, have different experiences at Historically Black Colleges and Universities than they do at Predominantly White Institutions. While Black faculty members and peers surround Black students at HBCUs, Black students at PWIs struggle to relate to classmates and have trouble connecting with faculty members, especially as mentors or role models (Guiffrida and Douthit 2010; Spurgeon and Myers 2010). As a result, Black males at PWIs report higher levels of racial internalization, working to resolve any dissonance between "White culture" and the "world of Blackness" (Spurgeon and Myers 2010: 529). A more prominent racial identity in Black students at PWIs owing to the difference in racial composition could potentially strengthen the effects of racial identity on environmental justice evaluations. Following that same model, future studies could also investigate the effect of the racial composition of respondent's high schools or neighborhoods as well.

Overall, this study had mixed results. I was able to reaffirm the importance of environmental identity on environmental justice evaluations. Additionally, I found that racial identity had a significant effect on evaluation concerns, which augments past research that has only examined race as a demographic feature and often showed that Blacks and Whites hardly differ in their environmental justice evaluations. Experiences with discrimination, however, have no significant effect on environmental justice evaluations, reinforcing the importance of identity in making justice assessments. This research opens the door for more research into not only environmental justice evaluations, but also the role of identity, both racial and otherwise, on any type of justice.

Table 1: Correlation Matrix with Means (and Standard Deviations) On Diagonal (N=141)

	Prescriptions of Environmental Justice	Perceptions of Environmental Injustices	Black Identity	Relationships with Other Oppressed Minorities	Experiences with Discrimination	Environmental Identity	Institution	Gender	Income	Father's Education	Mother's Education
Prescriptions of Environmental Justice	5.791 (1.056)										
Perceptions of Environmental Injustices	.557***	5.635 (1.309)									
Black Identity	.264***	.386***	4.361 (1.141)								
Relationships with Other Oppressed Minorities	.093	.229**	.022	3.340 (.962)							
Experiences with Discrimination	-.074	.118	.204*	-.022	2.614 (.883)						
Environmental Identity	.361***	.315***	.193*	.179*	.049	3.974 (1.274)					
Institution	-.185*	-.127	.060	.002	.007	.089	.140 (.350)				
Gender	.247***	.152	.128	-.058	.061	.063	-.599***	.68 (.468)			
Income	-.013	-.076	.064	-.001	-.149	.045	.165	.000	3.500 (1.754)		
Father's Education	-.074	-.013	-.092	.064	.018	.091	-.064	.146	.021	4.340 (2.259)	
Mother's Education	.115	.106	-.070	.164	.046	.134	-.182*	.211*	.384***	.220*	3.790 (1.515)

*Significant at the .05 level

**Significant at the .01 level

***Significant at the .001 level

Table 2: Unstandardized Regression Coefficients for the Effects of Racial Identity and Experiences with Discrimination on Environmental Justice Evaluations

	Model 1		Model 2		Model 3	
	A Environmental Justice Prescriptions	B Perceptions of Environmental Injustices	A Environmental Justice Prescriptions	B Perceptions of Environmental Injustices	A Environmental Justice Prescriptions	B Perceptions of Environmental Injustices
<i>Independent Variables</i>						
Black Identity	.177*	.416***			.209**	.414***
Relationship with Other Oppressed Minorities	.039	.226*			.030	.226*
Experiences with Discrimination			-.136	.120	-.187†	.009
<i>Controls</i>						
Environmental Identity	.276***	.237**	.317***	.331***	.275***	.238**
Institution	-.414	-.491	-.305	-.381	-.369	-.494
Gender	.285	-.005	.403	.135	.303	-.006
Income	-.024	-.099	-.029	-.072	-.047	-.097
Father's Education	-.062	-.020	-.067	-.046	-.061	-.020
Mother's Education	.050	.097	.037	.081	.068	.096
<i>Constant</i>	3.802***	2.234***	4.881***	4.080***	4.166***	2.217***
<i>R</i> ²	.246	.283	.236	.154	.268	.283
<i>Adjusted R</i> ²	.196	.236	.194	.108	.213	.230

†Approaching significance at p=.059

*Significant at the .05 level

**Significant at the .01 level

***Significant at the .001 level

APPENDIX 1: VARIABLE CODING

Controls**Environmental Identity** ($\alpha=.835$)

How “true” of you are each of the following statements? (1 = Not at all true of me, 7= completely true of me)

1. Engaging in environmental behaviors is important to me. (.642)
2. I think of myself as a part of nature, not separate from it. (.784)
3. Being a part of the ecosystem is an important part of who I am. (.851)
4. I feel that I have roots to a particular geographic location that had a significant impact on my development. (.763)
5. In general, being part of the natural world is an important part of my self-image. (.868)
6. My own interests usually seem to coincide with the position advocated by environmentalists. (.546)

Gender: 0 = Male, 1 = Female

Institution: 0= Predominantly White College, 1= Historically Black College

Income: What is your parents’ estimated annual combined income?

1. Less than 25,000
2. \$25,001-\$50,000
3. \$50,001-\$75,000
4. \$75,001-\$100,000
5. \$100,001-\$150,000
6. \$150,001-\$200,000
7. \$200,001-\$250,000
8. More than \$250,000

Mother’s/ Father’s Education: What is the highest level of school that your mother (father) or female (male) guardian has completed?

0. N/A
1. High school graduate/GED /less than high school
2. Technical/Vocational
3. Some college or Associates degree
4. Bachelor’s degree
5. Master’s degree (e.g., MA, MBA, MPH, MSW)
6. Professional school degree (e.g., MD, JD, DVM, DDS)
7. Doctorate degree (e.g., PhD, EdD)

Independent Variables (Eigenvalues in Parentheses)**Racial Identity: Black Identity ($\alpha=.862$)**

How much do you disagree or agree with each of the following statements about race:
(1=Strongly Disagree, 5=Strongly Agree)

1. I have a strong sense of belonging to Black people. (.871)
2. Being Black is an important reflection of who I am. (.850)
3. In general, being Black is an important part of my self-image. (.763)
4. I have a strong attachment to other Black people. (.680)

Racial Identity: Relationship with Other oppressed Minorities (Correlation= .603)

How much do you disagree or agree with each of the following statements about race?
(1 = Strongly Disagree, 5 = Strongly Agree)

1. Blacks will be more successful in achieving their goals if they form coalitions with other oppressed groups. (.854)
2. Black people should treat other oppressed people as allies. (.845)

Experience with Discrimination ($\alpha=.918$)

In your day-to-day life, how often do any of the following things happen to you?
(1= Never, 2= Less than once a year, 3= A few times a year, 4= At least once a month, 5= Almost everyday)

1. You are treated with less courtesy than other people are. (.843)
2. You are treated with less respect than other people are. (.874)
3. You receive poorer service than other people at restaurants or stores. (.841)
4. People act as if they think you are not smart. (.799)
5. People act as if they are afraid of you. (.720)
6. People act as if they think you are dishonest. (.837)
7. People act as if they're better than you are. (.818)
8. You are called names or insulted. (.716)
9. You are threatened or harassed. (.538)

Dependent Variables (Eigen values in Parentheses)**Environmental Justice Prescriptions ($\alpha=.798$)**

1. Equal treatment of all people should be considered when decision-makers are solving environmental problems. (.854)
2. People have a general responsibility to conserve environmental resources for future generations. (.715)
3. Decisions about where to situate polluting industries should take into account the opinions of the people who would live near those sites. (.509)

Perceptions of Environmental Injustices: (Correlation= .733)

1. Neighborhoods of color are unfairly disadvantaged in terms of exposure to environmental hazards. (.901)
2. Poor neighborhoods are unfairly disadvantaged in terms of exposure to environmental hazards. (.877)

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