

Identity and racial harassment[☆]

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Abstract

In a 1996 survey of military personnel, more than 65 percent reported experiencing racially offensive behavior and approximately 1 in 10 reported threatening incidents or career-related racial discrimination. While race clearly matters, there is also diversity in the perceived harassment experiences of individuals of the same race with diverging organizational, cultural or social experiences. Social prescriptions constraining inter-racial interactions are associated with more reports of offensive racial encounters and more career-related discrimination, while aspects of an installation's institutional culture also directly affect perceptions of harassment.

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1. Introduction

Economists have recently become more interested in the ways in which an individual's identity might influence economic behavior. Though notions of identity differ, it is generally the case that identity is seen to have gender, racial, cultural and social dimensions.¹ Identification with

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¹ The American Heritage Dictionary (1980) defines identity as “the behavioral or personal characteristics by which an individual is recognizable as a member of a group”. Fryer and Jackson (2004) define “identity” to be a set of personal attributes, while Akerlof and Kranton (2000) see it simply as “a person's sense of self”.

particular groups in society opens the door for individual behavior and subsequent outcomes to be influenced by social norms, customs, or expectations. Consequently, incorporating identity into economic analyses allows us to account for a range of phenomenon (e.g., behavior that seems detrimental) that standard economic models cannot (Jones, 1984; Bernheim, 1994; Akerlof, 1997; Akerlof and Kranton, 2000, 2005). Identity itself is inherently endogenous, reflecting the outcome of fundamental economic decisions. Frijters (1998) and Mason (1995), for example, argue that group identities form as groups compete over scarce resources, while in a similar vein Darity et al. (2006) model racial identity as a form of capital asset or economic property. Identities may also form as individuals make choices about the attributes (e.g., mannerisms, modes of speech or clothing) that others will use in categorizing them (Fryer and Jackson, 2004).

One of the ways in which economic models of identity may ultimately prove most useful is in expanding our understanding of labor market discrimination. Identity theory adds a new dimension to existing theoretical explanations of discrimination. Becker's (1971) classic "taste for discrimination" model, for example, might be reinterpreted as a "loss of identity model" (see Akerlof and Kranton, 2000). At the same time, an endogenous process of identification resulting from the use of social categories to process information about interactions with outside groups (Fryer and Jackson) or motivated by property rights over scarce resources (Mason, 1995; Frijters, 1998; Darity et al., 2006; Bodenhorn and Ruebeck, 2003) provide alternative explanations for discrimination.²

Empirical estimates of labor market discrimination are generally derived as the residual difference in the aggregate outcomes of different groups that remains once observable productivity-related characteristics have been taken into account (see Blinder, 1973; Oaxaca, 1973). It is well known, however, that omitted variables, unobserved heterogeneity, and measurement error will all confound residual-based estimates of labor market discrimination. This has led to an increased interest in using alternative strategies (including direct, survey evidence) to measure discrimination (e.g., Kuhn, 1987; Hampton and Heywood, 1993; Johnson and Neumark, 1997; Laband and Lentz, 1998; Hallock et al., 1998; Antecol and Kuhn, 2000; Shields and Wheatly Price, 2002a,b; Antecol and Cobb-Clark, 2003, 2004, 2006b).³ We believe that it is in the interpretation of these survey-based measures of discrimination that the utility of identity theory is likely to be the greatest.

In this paper, we explore the factors related to an individual's perceptions of racial harassment.⁴ Racial harassment is a particularly blatant form of racism that is discriminatory by its very nature (see Shields and Wheatly Price, 2002a on this point). Moreover, little research effort has been devoted to the issue of racial harassment despite its significant social consequences (McClelland and Hunter, 1992). Unlike the residual-based discrimination literature initiated by Oaxaca (1973) and Blinder (1973), we will rely on direct information about the nature and extent

² Unlike the "taste for" and statistical discrimination models, these latter models do not rely on maliciousness towards certain groups or informational asymmetries to generate disparities between groups.

³ In these survey-based studies, individuals are asked directly about their discrimination and harassment experiences. Alternatively, experimental methods (including audit studies and correspondence testing) involving random assignment have been used to measure discrimination based on race, sex, or sexual orientation (e.g., Frith, 1981; Cross et al., 1990; Turner et al., 1991; Kenney and Wissoker, 1994; Riach and Rich, 1991, 1995, 2002; Neumark et al., 1996; Weichselbaumer, 2003; Bertrand and Mullainathan, 2003). Finally, selection processes that are blind with respect to sex have been used to assess sex bias in the hiring of musicians (Goldin and Rouse, 2000) and in the acceptance of academic papers for publication (Blank, 1991).

⁴ We will also consider harassment of Asians and Hispanics. Although harassment of these groups is more likely based on ethnicity rather than race, we will refer to this as "racial" harassment for simplicity.

of harassment that individuals believe they have faced. A simple model of an individual's racial identity is incorporated into the analytic framework in order to facilitate our understanding of perceived harassment. Because the social context is relevant for the identities that individuals adopt (Fordham and Ogbu, 1986; Nkomo and Cox, 1996; Akerlof and Kranton, 2000, 2005; Darity et al., 2006; Fryer and Jackson, 2004; Fryer and Torelli, 2005), we pay particular attention to understanding how social prescriptions about the nature of inter-racial group interactions affect reports of harassment. Finally, we also examine the relationship between institutional factors (such as, equal opportunity procedures and overall race relations) and perceived harassment levels.

We utilize data on a sample of active-duty personnel in the U.S. military captured in the 1996 Armed Forces Equal Opportunity Survey (AF-EOS). The U.S. military makes a particularly interesting case for studying issues related to racial harassment (see Section 4). Furthermore, large samples (even for minority group members), detailed information (including direct evidence on the social context and prescriptions about behavior) and the ability to identify military installations (workplaces) make the data particularly well suited to the task at hand.

Our results indicate that more than 65 percent of active-duty personnel report experiencing racially offensive behavior and approximately 1-in-10 reported threatening incidents or career-related racial discrimination. While race clearly matters, there is also significant diversity in the perceived harassment experiences of individuals of the same race with diverging organizational, cultural or social experiences. Social prescriptions constraining inter-racial interactions are associated with more reports of offensive racial encounters and more career-related discrimination, while aspects of an installation's institutional culture also directly affect perceptions of racial harassment.

In the next section of the paper, we describe the manner in which we conceptualize racial harassment and identity. The Armed Forces Equal Opportunity Survey and our strategy for measuring both racial harassment and identity are discussed in detail in Section 3, while our results are presented in Section 4. In Section 5, we cast our results in the light of the broader harassment and social identity literatures. Brief conclusions follow in Section 6.

2. Identity and racial harassment: the issues and estimation model

2.1. A conceptual framework for harassment

The economics literature on employment-related harassment (as distinct from labor market discrimination) is small and mainly empirical. Theoretical models of harassment have not yet been developed.⁵ Consequently, our analytic framework is drawn from economic models of victimization in which the propensity to experience crime is driven by the actions of both the potential victim and the potential perpetrator operating within a specific context (see Markowitz, 2005). As data are only available on actual perpetrators once a crime is committed, modified reduced-form models including the characteristics of potential victims, the overall propensity of others

⁵ Although several theoretical models of labor market discrimination exist in the economics literature, corresponding models of employment-related harassment are notoriously absent. In related work, however, Basu (2002, 2003) models the circumstances under which it is sensible to ban sexual harassment, while Dustmann et al. (2004) model the effect of ethnic concentration on racial hostility and racial harassment within local communities.

to commit crimes, and the social context (e.g., neighborhood characteristics or level of police enforcement) are generally estimated. We adopt a similar approach here.⁶

In effect, our model falls into the class of models designed to estimate the effect of neighborhood characteristics on individual behavior. The key methodological challenge in estimating this type of model is to isolate the effects of neighborhoods (installations) from the effects of unobserved individual characteristics that are correlated with location choice. Specifically, since individuals typically choose where they live and work, the neighborhood characteristics are often correlated with the unobservable characteristics of individuals. This endogeneity problem leads standard regression models to produce biased estimates of the neighborhood effects (Plotnick and Hoffman, 1996; Dietz, 2002; Haurin et al., 2003). Military personnel, however, are assigned to (rather than choose) their military installations (see Lyle, 2006; Lleras-Muney, 2006). Assignments are made on the basis of an individual's skills or training and an installation's specific needs, not on the basis of race or ethnicity. This assignment procedure implies that any unobserved characteristics associated with the propensity to report harassment will be uncorrelated with the characteristics of specific installations.⁷

Here, as in the rest of the literature, harassment is measured by asking individuals directly about events or situations that they have encountered and is perhaps better thought of as “perceived” rather than “actual” harassment in the sense that some third party would also label it as such.⁸ Given our interests, the ability to measure individuals' perceptions of racial harassment directly is useful for several reasons. First, systematic differences in reported experiences among different groups of workers suggest that individuals' perceptions are not completely idiosyncratic.⁹ Thus, disparities in perceptions of harassment across racial groups are interesting even if the level of self-reported harassment are difficult to interpret. Secondly, perceived harassment has negative consequences for workers in terms of lower job satisfaction and heightened intentions to leave one's job (Laband and Lentz, 1998; Shields and Wheatly Price, 2002b; Antecol and Cobb-Clark, 2005, 2006b).¹⁰ Consequently, even if harassment could be objectively measured, it may be perceptions of harassment that are important in understanding individual behavior.¹¹

We conceptualize the propensity to report racial harassment (H_{ij}^*) as

$$H_{ij}^* = h_{ij}(\tilde{X}_{ij}, S_j, I_{ij}^*) \quad (1)$$

⁶ Dustmann et al. also follow this approach in estimating the effect of a neighborhood's ethnic concentration on the level of hostility towards and harassment of ethnic minorities in the UK. They also estimate the factors related to the precautionary behaviors individuals undertake to avoid being harassed.

⁷ The military's procedures for assigning personnel to duty locations have also been used to assess the impact of pollution on child health (Lleras-Muney, 2006), the effect of parental absences on children's educational attainment (Lyle, 2006), and the effect of work-related absences on divorce rates, spousal employment, and children's disability (Angrist and Johnson, 2000). For more information about military procedures regarding duty locations, see <http://usmilitary.about.com>.

⁸ In particular, individuals are generally asked to make judgments about whether behavior towards them was “offensive” or “threatening” and whether it was due to their race or ethnic group (see for example, Antecol and Cobb-Clark, 2005, 2006b; Shields and Wheatly Price, 2002a,b; Dustmann et al., 2004).

⁹ For example, Laband and Lentz note male lawyers' reports of having observed sexual harassment of female lawyers generally confirm the reports of their female colleagues.

¹⁰ This remains true even after the potential endogeneity of individuals' perceptions is taken into account (Shields and Wheatly Price, 2002b; Antecol and Cobb-Clark, 2005, 2006b).

¹¹ In particular, note that the legal system is “complaint-driven”, relying on reports from individual workers to identify harassment and discrimination cases. Moreover, job turnover, absenteeism, and so on are likely to be related to individuals' views about whether they have been harassed.

where i indexes individuals, j indexes location (in our case military installation), \tilde{X}_{ij} is a vector of factors (i.e., demographic characteristics, human capital, awareness of racial harassment procedures, and harassment training) that are expected to have a direct impact on reported racial harassment. Evidence suggests that the incidence of harassment is related to the extent to which the organization is successful in creating a climate in which harassment is not tolerated (Williams et al., 1999; Shields and Wheatly Price, 2002a; Antecol and Cobb-Clark, 2006b). Consequently, S_j characterizes the military installation itself (for example, the demographic composition of the installation and its “equal opportunity climate”). Finally, to the extent that social identity matters at all, it seems quite sensible to expect it to factor into individual’s perceptions of inter-group relations. Consequently, we incorporate aspects of an individual’s racial identity (I_{ij}^*) into the analytic framework in order to begin to account for the lens through which individuals’ view the behavior of others. We discuss this issue and the way we parameterize these concepts further below.

The research most directly related to ours is that of Shields and Wheatly Price (2002a,b) who estimate a model of racial harassment using survey data for a sample of British nurses. They conclude that individual, job, and workplace characteristics are all important for predicting harassment.¹² In related research, Dustmann et al. find evidence that although racial prejudice increases in communities with higher concentrations of ethnic minorities, acts of racial harassment and induced precautionary behavior decrease. Neither paper attempts to take into account the way in which perceptions of others’ behavior might influence reported harassment.

2.2. A conceptual framework for identity

“No one knows precisely how identities are forged, but it is safe to say that identities are not invented: an identity would seem to be arrived at by the way in which the person faces and uses his experience. It is a long drawn-out and somewhat bewildering and awkward process.” Baldwin, 1972

Historically, economists have implicitly modeled a simple one-to-one relationship between an individual’s identity and his or her (usually exogenous) characteristics. In the case of race, for example, racial identity is usually given by

$$I_i^* = R_i \quad (2)$$

where I_i^* is the racial identity of individual i and R_i is his or her reported race. Racial groups are then formed through a simple aggregation of individuals. From this perspective, racial identity does not depend on the social context, nor is there room for the nature or intensity of racial group identification to differ between individuals. This conceptualization of identity is somewhat incongruous with the fact that most empirical research relies upon survey data in which individuals self-report their own race and ethnicity.¹³

¹² See Laband and Lentz (1998) and Antecol and Cobb-Clark (2006b) for a similar assessment of sexual harassment.

¹³ Since 1960, the U.S. Census Bureau has relied on self-identification to determine racial and ethnic categories in its data sources, making the process whereby individuals identify themselves as members of one group or another important for inter-group comparisons, particularly over time. For example, between 1960 and 1970 approximately 25 percent of the population growth of Native Americans resulted from changes in the self-identification process. Changes in self-identification accounted for 60 percent of Native-American population growth between 1970 and 1980, and 35 percent

It is also at odds with biological evidence rejecting race as a meaningful biological concept (see the discussion in Darity et al., 2006; Bodenhorn and Ruebeck, 2003; Austen-Smith and Fryer, 2005). Although readily observable physical characteristics (e.g., phenotype or sex) provide individuals with a means of categorizing oneself and others, other social science disciplines see racial identity as a social concept that is inherently more complex.¹⁴ Individuals prefer interacting with individuals perceived as similar to themselves, and the process of group identification is both fluid and context-dependent with individuals altering the intensity of their identification with a racial reference group as external factors change (see Darity et al., 2006; Austen-Smith and Fryer, 2005; Bodenhorn and Ruebeck, 2003; the references therein).¹⁵

Here we abstract from the interesting issue of identity group formation. Dynamic, empirical models of identity group formation have not yet been developed, but would almost certainly require panel data on identity over time that we unfortunately do not have. Rather our interest in this paper is in assessing whether a notion of racial identity that (1) is more than racial group membership, (2) depends on social prescriptions about inter-racial relations, and (3) is context-dependent facilitates the way in which we think about racial harassment. Consequently, drawing on Akerlof and Kranton (2000) we model racial identity of individual i as

$$I_{ij}^* = \varphi_{ij}(X'_{ij}, P_j, G_{ij}) \quad (3)$$

where j indexes location, X'_{ij} a set of individual characteristics influencing an individual's identity, P_j captures social prescriptions or social norms about how different racial groups should interact with one another, while G_{ij} is the set of different social categories (discussed below) to which individuals assign themselves and others. Some or all of the elements of X'_{ij} may overlap with those characteristics influencing harassment (\tilde{X}_{ij}) in Eq. (1) (see the discussion below).

One of the key insights from the social conformism and cultural identity literatures is that social groups may have incentives to punish individuals choosing to deviate from group norms. Individuals deviating from the relevant social customs face diminished status, a loss of social reputation, and reduced utility (Akerlof, 1980, 1997; Bernheim, 1994; Jones, 1984). For minority group members, pressure to conform may create a tension between what is necessary to be accepted by one's peers or social group and what is necessary to be successful in the majority culture (Fordham and Ogbu, 1986; Austen-Smith and Fryer, 2005; Bodenhorn and Ruebeck, 2003; Fryer and Torelli, 2005). Thus, social prescriptions regarding inter-group behavior (P_j) act as a constraint on the formation of an individual's identity (Akerlof and Kranton, 2000).

In order to incorporate the notion of identity embodied in Eq. (3) into our analysis of harassment, it is also necessary to be more specific about the social categories (G_{ij}) that we consider. Ideally, we would like to conceptualize these groups in a way that is relevant for perceptions of racial harassment in military employment. Social identity theory suggests that individuals tend to classify themselves (and others) into categories (Nkomo and Cox), and race is frequently used

of growth between 1980 and 1990 (see Thornton, 1997; and references therein). See Skerry (2000) for a review of U.S. Census Bureau policy regarding the classification of race and ethnicity.

¹⁴ Darity et al. (2006) and Austen-Smith and Fryer (2005) summarize the way in which other social and behavioral sciences conceive of racial identity, while Akerlof and Kranton (2000) discuss some of the psychological evidence on group formation. Fryer and Jackson review the social psychology literature on the importance of categorization, particularly on race. Finally, Bodenhorn and Ruebeck discuss the empirical literature on the economic and social consequences of complexion.

¹⁵ This is not to suggest that individual's choices are unconstrained. In fact, Akerlof and Kranton (2000) argue that limits on this choice may be the most important determinant of individual well-being.

as a means of classification (see Fryer and Jackson and the references therein). Positive social interactions are expected to reduce prejudice and stereotyping, leading the frequency of interactions between groups to be quite important (Nkomo, 1992).¹⁶ Finally, contextual forces, in particular position within the wider organizational structure, also act to shape inter-group relations. Alderfer and Smith (1982), for example, postulate that two distinct types of social groups exist within organizations: groups based on similar individual backgrounds (i.e., individuals who share common biological traits, histories, or social constraints) and groups based on similar organizational backgrounds (i.e., individuals who share a common organizational position or work experiences). Taking the latter into account is likely to be quite important given the hierarchical nature of military employment.¹⁷

Drawing on these ideas, we define two separate organizational groups: the first based on military rank and the second based on work group characteristics. In addition, we define three alternative individual groups: one based on a shared cultural background and two based on shared social experiences (see Section 3.2 for details).

2.3. Reduced-form estimation model

While the above discussion outlines a conceptual framework for thinking about the effects of individual identity on perceptions of racial harassment, as an empirical framework it is somewhat limited because we do not have an obvious way of measuring “identity” in our data.¹⁸ This framework can be used, however, to generate a reduced-form model that we can estimate. Furthermore, this theoretical framework is useful in highlighting the interpretation issues that arise once we begin to allow for the possibility that individuals’ perceptions of harassment depend on dimensions of their identity.

Eqs. (1) and (3) form the basis of our estimation model. Assuming linearity, these equations can be rewritten as

$$H_{ij}^* = \tilde{X}_{ij}b_1^H + S_jb_2^H + \lambda I_{ij}^* + \varepsilon_{ij}^H \tag{1'}$$

and

$$I_{ij}^* = X'_{ij}b_1^I + P_jb_2^I + G_{ij}b_3^I + \varepsilon_{ij}^I \tag{3'}$$

Substituting (3') into (1') and letting $X = (x_1, x_2, \dots, x_k)$ such that $X = X' \cup \tilde{X}$, our reduced-form model of the propensity to experience racial harassment is given by

$$H_{ij}^* = X_{ij}\beta_1 + S_j\beta_2 + P_j\beta_3 + G_{ij}\beta_4 + \eta_{ij} \tag{4}$$

¹⁶ Fryer and Jackson relate the frequency of social interactions to the precision with which individuals are able to categorize their experiences with others.

¹⁷ See Akerlof and Kranton (2005) who discuss the formation of military identities specifically.

¹⁸ In the empirical literature, “identity” is generally measured in diverse ways that are both ad hoc and data driven. Identity has, for example, been proxied by the assignment of racially specific names (Fryer and Levitt, 2004; Aura and Hess, 2004) or mulatto classifications (Bodenhorn and Ruebeck) as well as by stated preferences for ethnic-based schools and within group marriage (Battu et al., 2007), aggressiveness and supportiveness (O’Reilly and O’Neill, 2004), attachment to one’s ancestral group (Battu et al., 2007; Pendakur and Pendakur, 2005), self-assessment of own skin color (Mason, 2004), or the choice of same-race friends (Patacchini and Zenou, 2006).

where

$$\beta_1 = \begin{pmatrix} b_{1k}^H & \text{if } x_k \in \tilde{X} \text{ and } x_k \notin X' \\ \lambda b_{1k}^I & \text{if } x_k \notin \tilde{X} \text{ and } x_k \in X' \\ (b_{1k}^H + \lambda b_{1k}^I) & \text{if } x_k \in \tilde{X} \text{ and } x_k \in X' \end{pmatrix}, \quad \beta_2 = b_2^H, \quad \beta_3 = \lambda b_2^I, \\ \beta_4 = \lambda b_3^I, \quad \eta_{ij} = (\varepsilon_{ij}^H + \lambda \varepsilon_{ij}^I).$$

Inspection of Eq. (4) highlights that in fact there are potentially three types of individual characteristics in the model: those that have only a direct effect on harassment, those that affect harassment only indirectly through their effect on identity, and those that have both direct and indirect effects. Although without more structure, it is not possible to identify separately the direct and indirect effects, this framework is useful in reminding us that reduced-form estimates will contain elements of both and are likely to be subject to multiple interpretations.¹⁹ At the same time, β_3 and β_4 identify the effects of social prescriptions and social categories on perceptions of harassment. These factors are assumed to affect reports of racial harassment by influencing individuals' racial identity. The propensity to experience racial harassment is unobserved, so we create an indicator variable reflecting the presence or absence of reported harassment. Specifically,

$$Pr(H_{ij} = 1) = Pr(Z_{ij}\beta + \eta_{ij} > 0) = \Phi(Z_{ij}\beta) \quad (5)$$

where $Z = (X_{ij}, S_j, P_j, G_{ij})$, Φ the standard normal cumulative density function, and we assume that $\eta_{ij} \sim N(0,1)$ and that η_{ij} is independent of the explanatory variables in Eq. (5).

3. The armed forces equal opportunity survey

We use data drawn from the public-use 1996 U.S. Armed Forces Equal Opportunity Survey (AF-EOS, 2000) combined with a randomized variable extracted from the confidential file that allows us to identify unique military installations. These data are uniquely suited to the analysis at hand. The public-use file provides us with detailed information on perceived racial harassment (H_{ij}) as well as demographic and human capital characteristics (X_{ij}). Additionally, the public-use AF-EOS contains information that allows us to construct social categories (G_{ij}), while also providing information about institutional factors as well as social prescriptions regarding inter-racial interactions. Furthermore, the ability to identify unique military installations is extremely important for our purposes as it allows us to construct installation-level measures of the institutional factors (S_j) and social prescriptions (P_j) affecting harassment levels.²⁰

Moreover, the U.S. military makes an interesting case for studying racial issues because it has historically been relatively integrated when compared to other social institutions and has consequently provided a key source of socioeconomic mobility for black Americans (Ellison, 1992).

¹⁹ Moreover, there may be unobserved factors affecting both harassment and identity. For example, harassment may depend in part on the extent to which individuals undertake certain precautionary behaviors (see Dustmann et al.), while identity may depend on past experiences of harassment. Neither are observed in our data, raising the possibility that the reduced-form coefficients are further confounded by an omitted variable bias. This is of course a problem confronting previous researchers as well.

²⁰ As Manski (1993) notes, specifying the reference group is a necessary first step in studying the effects of social groups. Military installations are a particularly useful measure of reference groups in our case because installations reflect geographically separate groups of individuals who live and work together and whose day-to-day experiences are ultimately under the command of a single individual.

Furthermore, the nature of military employment makes managing group diversity especially challenging. Military personnel, particularly young enlisted men and women, live on military bases and are on duty 24 h a day. This degree of proximity and the blurring of professional and personal relationships may increase both the incidence and subsequent psychological costs of harassment. In light of the need to recruit and retain high-quality personnel, some have suggested that in the future the U.S. military may find that “the equal opportunity climate of its units is one of its primary criteria of mission effectiveness” (Knouse, 1991, p. 386).

The data generalize to personnel in the Army, Navy, Marine Corps, Air Force, and Coast Guard with at least six months of active-duty service who are below the rank of admiral or general. A non-proportional stratified random sample of active-duty personnel was drawn from the Defense Manpower Data Center’s (DMDC’s) April 1996 Active-duty Master File (ADMF). Data were stratified on the basis of service, location, pay level, and race/ethnicity. Minority groups were oversampled to ensure adequate numbers of minorities were available for analysis. Questionnaires were mailed to sample members between September of 1996 and January of 1997. From an initial eligible sample of 73,496 individuals,²¹ usable questionnaires were returned from 39,855 individuals for an overall response rate of 52.7 percent (Elig et al., 1997; Wheless et al., 1997).²²

We restrict our analysis to active-duty members with non-missing military installation codes because these codes are needed to construct our measures of institutional factors (S_j) and social prescriptions (P_j) (see Section 3.2). Unfortunately, installation codes are not generally available for overseas personnel and members of the Coast Guard, so these individuals have also been excluded from the sample.²³ Moreover, we only consider installations for which we have a sample of at least 10 active-duty members in order to have sufficient precision for our installation-level measures (S_j) and (P_j).²⁴ Finally, we exclude Native Americans because we are unable to construct a number of social categories (G_{ij}), for this group due to small cell sizes. These restrictions produce a final sample of 18,035 active-duty personnel with non-missing values for the key variables of interest.²⁵

3.1. Parameterizing racial harassment

Personnel were asked which of 31 separate racial harassing incidents (initiated by another military member or a Department of Defense civilian) they had experienced in the previous 12

²¹ Although the initial non-proportional stratified random sample consisted of 76,754 active-duty personnel, 3258 of them were found to be ineligible for the target population because they had left the military service (Elig et al., 1997; Wheless et al., 1997).

²² A unique feature of the AF-EOS data is that it contains basic demographic information for both respondents and non-respondents. Using this data, we find that while whites and Asians were disproportionately likely to respond to the survey, blacks are under-represented among respondents. Moreover, respondents are less likely to be in the Marines and more likely to be in the Air Force. These differences, while significant, are generally minor, suggesting that the characteristics of the two groups are much the same. Similar results are found when comparing our analysis sample to both non-respondents and respondents who were excluded from our analysis (i.e., members of the coast guard, personnel serving at small military installations (i.e., less than 10 active-duty personnel), overseas personnel, installations with missing Zip Code information, installations with missing identifiers, and characteristics with missing information).

²³ Approximately 40 (70) percent of overseas personnel (members of the Coast Guard serving in the United States) have missing installation codes, while roughly 13, 6, 4, and 4 percent of members of the Army, Navy, Marine Corps, and Air Force serving in the United States, respectively, have missing installation codes. Estimation results are similar if overseas active-duty personnel and members of the Coast Guard serving in the United States are included in the base model (see Section 4.1) and are available upon request.

²⁴ Similar results are found if we consider only those installations with at least 50 active-duty members and are available upon request.

²⁵ Due to item non-response, estimation samples range between 17,297 and 18,035.

Table 1
Racial harassment by race

	Offense	Threat	Career
Overall	0.652 (0.476) [18035]	0.095 (0.293) [17297]	0.130 (0.336) [17950]
White	0.609 (0.488) [5209]	0.080 (0.272) [4952]	0.076 (0.266) [5178]
Black	0.750 (0.433) [4451]	0.133 (0.339) [4309]	0.291 (0.454) [4441]
Hispanic	0.781 (0.414) [4771]	0.113 (0.317) [4598]	0.201 (0.401) [4751]
Asian	0.675 (0.468) [3604]	0.151 (0.358) [3438]	0.163 (0.370) [3580]

Offensive, threatening, and career-related encounters equal 1 if a respondent reported experiencing at least one of the behaviors listed in Appendix Table 1 for each respective harassment measure and said his/her race was a factor, and 0 otherwise. All differences between races in offensive, threatening, and career-related encounters are statistically significant at conventional levels, except for the Black-Asian incidence of threatening encounters. Within race, all differences between harassment measures are statistically significant at conventional levels, except for the difference between the incidence of threatening and career-related encounters for Whites and Asians. Standard deviations in parentheses. Sample size in brackets.

months.²⁶ These incidents range from being subjected to offensive racist remarks and being told racist jokes, to being evaluated unfairly or being physically assaulted because of race (see Appendix Table 1, for a detailed list of the specific behaviors). Following Scarville et al. (1997), we combine the responses to the 31 separate items in the 1996 AF-EOS into three broad categories: (1) offensive encounters, (2) threatening encounters, and (3) career-related incidents. While the latter essentially measures racial discrimination, the former two are more sensibly thought of as racial harassment *per se*.²⁷ Offensive encounters, threatening encounters, and career-related incidents equal one if a respondent reported experiencing at least one of the behaviors listed in Appendix Table 1 for each respective harassment measure and said his/her race was a factor, and zero otherwise. Psychologists studying prejudice argue that discrimination is often motivated by preferential treatment of in-group members rather than direct hostility towards out-group members (Brewer, 1999), suggesting that the determinants of discrimination and harassment are likely to differ. However, for ease of exposition we shall refer to all three measures as “harassment”.

Table 1 presents the mean incidence (and standard deviation) of each type of racial harassment reported by racial group. Overall, offensive encounters are the most frequently reported form of racially harassing behavior (65.2 percent), with career-related (13.0 percent) and threatening incidents (9.5 percent) occurring less frequently. This general pattern holds within racial groups, although there exists substantial diversity in perceived harassment across groups. No racial group is uniformly more likely to report every type of harassing behavior. In particular, reports of offensive encounters are highest among Hispanics (78.1 percent), while reports of threatening encounters and career-related incidents are highest among Asians (15.1 percent) and among blacks (29.1 percent), respectively. White active-duty personnel are less likely to report all types of harassing behavior than are their non-white counterparts, though the majority (60.9 percent)

²⁶ Personnel in the sample were also asked about a range of incidents of racial harassment initiated by civilians in the local community surrounding the military base. Community-based harassment is beyond the scope of this paper and is a topic of current research (see Antecol and Cobb-Clark, 2006a).

²⁷ Scarville et al. used a principal component analysis with orthogonal rotation to assign each of the 31 types of encounters into six broad categories. As four of their categories (assignment/career, evaluation, punishment, and training/test scores) all pertain to racial discrimination with respect to aspects of one’s military career, we have combined these four categories into one broad category which we label “career-related”. The remaining categories are identical to those considered by Scarville et al.

of white personnel also report being subjected to racially offensive encounters.²⁸ This rate is considerably higher than that reported by white British nurses, even though harassment levels among non-white military personnel and British nurses are often quite similar (see Shields and Wheatly Price, 2002a). Approximately three in four individuals reported experiencing at least one adverse outcome resulting from their experiences (see Appendix Table 3), suggesting that these events are not trivial.

3.2. Parameterizing social categories, social prescriptions, and institutional factors

As discussed in Section 2, social identity theory suggests that social categories within organizations (G_{ij}) stem from both individual and organizational groupings. While individual groups form on the basis of shared biological traits, histories, or social constraints, organizational groups form on the basis of similar organizational position or work experiences. We operationalize this idea by defining two organizational groups: one based on rank and the second based on work group characteristics (including whether respondents are in jobs in which others of their race are uncommon combined with whether the race of their supervisor is different from their own). We also define three individual groups. The first focuses on cultural background (i.e., nativity status and English as a first language). The second two are based on uncomfortable social experiences including a decline in inter-racial friendships since joining the military²⁹ and the frequency (and unease) with which the individual socializes with friends of a different race.³⁰ In all cases, our social categories are fully interacted with respondents' race. These measures highlight the racial and ethnic differences in military personnel's individual and organizational group membership. For example, 72.0 percent of white personnel work in a group with a white supervisor and mainly white co-workers, while this is true of only 25.8 percent of blacks and less than 10 percent of Asians and Hispanics. The proportion of individuals who say that they socialize easily with others of a different race is relatively unrelated to racial or ethnic group; however, whites are most likely to report not socializing outside their racial group at all (see Appendix Table 2).

Social prescriptions about individual behavior are also central to an individual's identity. In particular, both the social conformism and the cultural identity literatures share the view that individuals' desire to be accepted by their peers or social group may lead them to conform to group norms of behavior even when those norms are in conflict with those of wider society. Consequently, social prescriptions act as a constraint on an individual's identity. One of the strengths of the AF-EOS data is that they provide direct measures (at an installation level) of the social prescriptions (P_j) governing how different racial groups should interact with each other. In

²⁸ All differences between races in offensive encounters, threatening encounters, and career-related incidents are statistically significant at conventional levels, except for the Black-Asian incidence of threatening encounters. Within race, all differences between harassment measures are statistically significant at conventional levels, except for the difference between the incidence of threatening encounters and career-related incidents for Whites and Asians.

²⁹ Respondents were asked the following question: "Compared to right before you entered the military, do you have more or fewer close personal friends who are of a race/ethnicity different than yours?" Individuals are coded as one if they report fewer friends now, and zero otherwise.

³⁰ Frequency of inter-racial interaction is based on the following question: "Do you have friends of a different race/ethnicity with whom you socialize in your home/quarters?" A respondent is coded as one if responding yes, and zero otherwise. Ease of inter-racial interaction is based on the following question: "To what extent do you feel competent interacting with people from different racial/ethnic groups?" A respondent is coded as one if responding not at all or small extent, and zero otherwise.

particular, respondents reported the extent to which (1) they felt pressure from service members belonging to their own racial group not to socialize with members of other racial groups, (2) people feel free to sit wherever they choose in the dining halls regardless of race, (3) people feel free to use any recreation facilities regardless of race, (4) members of a racial group are treated as if they are “trouble” when they get together, and (5) personnel prefer to socialize with members of their own racial group when they are off duty. Each question was answered on a 1 (not at all) to 5 (to a very large extent) scale.³¹ We first create an aggregate index ranging from 5 to 25 for each respondent by adding up the individual’s responses to each of the five questions.³² Higher values of the index indicate fewer constraints on inter-racial interactions. P_j is then calculated by assigning to each individual the weighted average of the aggregate social prescriptions index of his or her installation.³³

Finally, we are interested in the ways that institutional factors affect the incidence of reported harassment. As dimensions of the organizational climate are closely related to the incidence of harassment (Williams et al., 1999; Shields and Wheatly Price, 2002a; Antecol and Cobb-Clark, 2006b), we would like to take account of the factors driving the installation’s overall harassment level. Our strategy is to control directly for an installation’s demographic composition and equal opportunity (EO) climate (S_j). Because EO climate may be determined in part by institutional factors relating to personnel policies, training opportunities, and so on that may differ across branches of the military, S_j includes dummy variables for service. In addition, S_j incorporates aggregate measures of (1) the rate of racial confrontation, (2) the perceived probability of repercussions for reporting harassment, (3) the overall quality of race relations, and (4) the proportion of installation personnel who are white. Finally, as formal processes for dealing with harassment may reflect a previous culture of harassment as well as influence the current EO climate, S_j also includes the availability of harassment hotlines and the availability of formal complaint channels at the installation. These aggregate variables are calculated by assigning each individual the weighted, installation-specific mean of the variable of interest.³⁴ Descriptive statistics for these measures are presented in Appendix Table 2.

³¹ We rescaled (1), (4) and (5) in the opposite direction in order for the higher values to reflect fewer constraints on inter-racial interactions.

³² While 60 percent of the sample answered all five questions, 21, 11, 4, and 3 percent answered 4, 3, 2, and 1 of the five questions, respectively. If the respondent did not answer all 5 questions, then for the question(s) they missed they were given their mean response from the question(s) they did answer. 0.3, 17, 11, 26, and 16 percent of the respondents were interpolated for question 1, 2, 3, 4, and 5, respectively. We tried an alternative interpolation where respondents with missing values to a respective question were assigned the mean value of the answer to that question by those in the installation. The results using this definition are very similar and are available upon request.

³³ Similar results are found if social prescriptions (P_j) are based solely on questions 1 and 5, which some may argue are more direct measures of social prescriptions than questions 2, 3, and 4. These results are available upon request.

³⁴ In calculating these measures we first created six indicator variables as follows: (1) racial confrontation—equaling one if the respondent either saw (or experienced) racial confrontation in the past 12 months on their installation/ship, (2) repercussions—equaling one if the respondent to a (very) large extent feels free to report racial harassment on their installation/ship without the fear of repercussions, (3) positive race relations—equaling one if the respondent to a (very) large extent believes race relations are good on their installation/ship, (4) hotlines—equaling one if the respondent indicates the existence of a hotline for racial harassment on their installation/ship, (5) formal complaint channels—equaling one if the respondent indicates the existence of a formal racial harassment complaint channel on their installation/ship, and (6) white—equaling one if the respondent is white. In all other cases (including item non-response) these six indicator variables are coded as zero. Weighted, installation-specific averages are then calculated and assigned to each individual. In preliminary estimation we also considered other measures including the percent of personnel who are female or in specific racial categories. These measures were not significant and were subsequently dropped from the analysis.

Table 2

Determinants of racial harassment: baseline model (probit marginal effects and standard errors)

	Model 1					
	Offense		Threat		Career	
Race						
Black	0.126***	(0.013)	0.041***	(0.010)	0.209***	(0.012)
Hispanic	0.141***	(0.014)	0.016*	(0.009)	0.132***	(0.014)
Asian	0.063***	(0.016)	0.069***	(0.019)	0.104***	(0.017)
Demographic and human capital characteristics (X_{ij})						
Married	0.000	(0.015)	0.001	(0.009)	0.019**	(0.009)
Education						
Some college	0.035**	(0.017)	0.007	(0.010)	0.010	(0.011)
College	-0.098***	(0.019)	-0.031***	(0.010)	-0.008	(0.012)
Female	-0.077***	(0.019)	-0.020**	(0.010)	0.009	(0.012)
Years of active service						
7–11	-0.034*	(0.020)	-0.032***	(0.010)	-0.014	(0.012)
12–19	-0.076***	(0.017)	-0.015	(0.010)	0.001	(0.011)
20+	-0.144***	(0.023)	-0.028***	(0.010)	-0.019	(0.012)
Awareness of racial harassment programs						
Training	0.007	(0.014)	-0.008	(0.008)	-0.023***	(0.009)
Hotlines	-0.062***	(0.018)	-0.025*	(0.013)	-0.060***	(0.013)
Channels	-0.034*	(0.019)	-0.051***	(0.014)	-0.018	(0.013)
Pseudo R^2	0.046		0.051		0.097	

Sampling weights used. Number of observations are 18,035, 17,297, and 17,950 for offense, threat, and career, respectively. ***, **, and * Significant at the 1%, 5%, and 10% level, respectively. Standard errors are adjusted for clustering by installation.

4. Identity and perceived racial harassment: empirical results

We begin by estimating a baseline model of harassment that provides us with a point of reference from which to make comparisons to the existing literature. We then turn to estimation of our reduced-form harassment model set out in Eq. (5) in order to assess the extent to which racial identity and the social context affect the incidence of perceived racial harassment.

4.1. Results from the baseline harassment model

In model 1, racial harassment is a function of an individual's race, awareness of racial harassment programs, demographic characteristics (gender and marital status) and human capital (education and years of active-duty service).³⁵ Results (probit marginal effects and robust standard errors) are reported in Table 2.³⁶

Consistent with evidence for British nurses (see Shields and Wheatly Price, 2002a,b), military personnel perceive more racial harassment if they are members of a minority group. For example,

³⁵ Awareness of racial harassment programs is captured through three dummy variables indicating whether the respondent (1) had participated in a racial harassment awareness training program, (2) believed the installation had a racial harassment hotline, and (3) believed that the installation had a formal racial harassment complaint channel. Summary statistics are reported for all our explanatory variables in Appendix Table 2.

³⁶ In all models, we have accounted for clustering on installations when calculating standard errors.

relative to their white, non-Hispanic colleagues, black personnel are 12.6 percentage points more likely to report offensive racial encounters, 4.1 percentage points more likely to report racially threatening encounters, and 20.9 percentage points more likely to report career-related racial discrimination. Although direct comparisons are difficult, it is interesting that the magnitude of these racial group differences are much smaller than those reported by Shields and Wheatly Price (2002a). However, like these authors, we also generally find that men report more employment-related racial harassment than women, while the decline in perceived harassment with years of active-duty service parallels their finding that harassment is experienced more often by younger nurses.

4.2. *The effects of identity on perceived racial harassment*

We now consider our expanded model of perceived racial harassment. In model 2, identity continues to be proxied by race, while model 3 is based on Eq. (5) in which both social prescriptions (P_j) and social categories (G_{ij}) are allowed to affect perceived racial harassment through their effect on racial identity. Both models control for institutional factors (S_j).³⁷ Models 3a and 3b include our two measures of organizational groups, while models 3c–e include our three measures of individual groups (see Section 3.2 for details).³⁸

Social prescriptions constraining individuals' choice of racial identity lead to consistently higher rates of perceived harassment. Specifically, those military installations with a P_j index two points higher (i.e., twice the standard deviation) indicating fewer constraints on inter-group interactions have approximately 7.4 percent fewer offensive encounters and 24.6 percent fewer reports of career-related discrimination.³⁹ At the same time, our measures of social prescriptions are unrelated to reports of threatening racial incidents. Brewer argues that many forms of hostility and antagonism towards out-group members do not stem from identification with a particular social group, but may reflect individual attitudes similar to phobias. If this is true with respect to racial threats and violence, it is perhaps not surprising that this form of harassment is not affected by social prescriptions. Further, these differences lend support to those who argue that racial harassment should be distinguished from racial violence or racial prejudice (see McClelland and Hunter, 1992; Dustmann et al., 2004).

Given the importance of reported race as a mechanism for classifying oneself and others, it seems sensible that race should play a central role in our conceptualization of social categories (G_{ij}). Indeed, comparison of models 1 and 2 suggests that although the effect of racial group membership on perceived harassment is somewhat mitigated once we control directly for institutional factors, racial differences in perceived harassment continue to be quite important. Still, results from models 3a–e indicate that there is significant disparity in the experiences of individuals within the same racial group. For example, white personnel whose co-workers are predominately non-white report significantly higher rates of offensive encounters (15.5 percentage points), racial threats (7.8 percentage points), and career-related discrimination (19.7 percentage points) than their white colleagues who predominately work with other whites (see model 3b). Similarly, military personnel with fewer inter-racial friendships since joining the military report significantly

³⁷ Results for S_j will be discussed in detail in Section 4.3.

³⁸ Specifically, we report selected probit marginal effects and robust standard errors. See Tables 3 and 4 for complete list of the control variables included each in model.

³⁹ This is calculated by doubling the estimated coefficient on the social prescription index, dividing by the overall mean of the respective harassment measure, and then multiplying by 100.

more harassment than others of the same race whose inter-racial friendships have not declined (see model 3d).

These patterns raise the question of whether social categorization is about more than race. In order to get insight into this question, define $\hat{\gamma}_{gr}$ to be the estimated effect of group (i.e., rank, work group, cultural group, etc.) membership (indexed by g) and respondent race (indexed by r). Given our model $\hat{\beta}_4 = \hat{\gamma}_{gr}$, and these results are those reported in Tables 3 and 4. We can then test the following two propositions:

$$H1 : \hat{\gamma}_{1r} = \hat{\gamma}_{2r} = \dots = \hat{\gamma}_{nr} \quad \forall r, \quad H2 : \hat{\gamma}_{g1} = \hat{\gamma}_{g2} = \dots = \hat{\gamma}_{gm} \quad \forall g \quad (6)$$

where $g = (1, 2, \dots, n)$ and $r = (1, 2, \dots, m)$. The first proposition (H1) implies that within race, perceptions of racial harassment do not differ between members of different groups. Alternatively, the second proposition (H2) implies that within groups, perceptions of racial harassment do not differ between members of different races. If racial group membership completely captured social categories, we would expect that we could not reject H1. On the other hand, H2 provides a test of whether group membership in the absence of race is an adequate measure of social categorization. These two propositions are tested using standard joint hypothesis tests, and the p -values are reported in Table 5.

The overarching conclusion to be drawn from the results in Table 5 is that neither race nor group membership is, on its own, completely sufficient to capture the relationship between social classification and perceived harassment. In general, there are significant racial differences in perceived harassment among individuals sharing the same social or cultural background or organizational position, but there are also significant differences in the harassment rates of individuals of the same race belonging to different organizational or individual social groups. Social classification seems to stem from the complex interaction of racial, organizational, and individual group membership.⁴⁰

What is perhaps most interesting are the exceptions to this general result. In particular, group membership occasionally seems to be less important than race in explaining perceived harassment. For example, black and Asian officers report offensive behavior at the same rate as their enlisted colleagues (see model 3a). Similarly, within racial groups, reports of harassment are generally the same, irrespective of whether or not the individual socializes with others of a different race, and if so, the ease with which they do it (see model 3e). There are, however, several instances where race is less important than group membership. For example, foreign-born Asians and Hispanics who speak English as their first language are equally likely to report experiencing offensive racial harassment (see model 3c), and individuals in work groups where their race is uncommon report experiencing threatening racial harassment at the same rate regardless of whether they are white, black, Hispanic, or Asian (see model 3b).

On balance, the results in Tables 3–5 suggest that the model of racial identity outlined in Eq. (3) is useful in enhancing our understanding of the factors underlying perceptions of racial harassment. In particular, in all cases standard likelihood ratio tests reject ($p < 0.01$) the standard economic model of racial identity based solely on racial group membership (model 2) in favor of a model that incorporates both social categories and prescriptions regarding inter-racial relationships (model 3).⁴¹

⁴⁰ Alderfer and Smith, in particular, note the importance of these types of interactions in understanding the challenges of managing organizational diversity.

⁴¹ The single exception is we reject model 2 in favor of model 3e only at the 10 percent significance level when considering threatening racial encounters.

Table 3

Determinants of racial harassment including controls for organizational identity groups (Probit marginal effects and standard errors)

		Model 2			
Race		Offense	Threat	Career	
W		Omitted category			
B		0.109*** (0.015)	0.028*** (0.011)	0.189*** (0.016)	
H		0.131*** (0.015)	0.012 (0.008)	0.124*** (0.014)	
A		0.055*** (0.017)	0.065*** (0.019)	0.097*** (0.019)	
Pseudo R^2		0.062	0.076	0.115	
		Model 3a			
Race	Rank	Offense	Threat	Career	
W	O	Omitted category			
W	E	0.134*** (0.025)	0.071*** (0.022)	0.052*** (0.018)	
B	O	0.190*** (0.013)	0.072*** (0.023)	0.389*** (0.023)	
B	E	0.203*** (0.022)	0.123*** (0.039)	0.263*** (0.028)	
H	O	0.089*** (0.024)	-0.006 (0.014)	0.187*** (0.042)	
H	E	0.229*** (0.019)	0.112*** (0.040)	0.206*** (0.031)	
A	O	0.122*** (0.022)	0.049 (0.044)	0.127*** (0.038)	
A	E	0.145*** (0.023)	0.196*** (0.053)	0.179*** (0.033)	
P_j		-0.024** (0.010)	-0.004 (0.006)	-0.016*** (0.005)	
Pseudo R^2		0.066	0.081	0.119	
		Model 3b			
Race	Co-worker	Supervisor	Offense	Threat	Career
W	S	S	Omitted category		
W	S	D	0.013 (0.021)	0.035** (0.016)	0.061*** (0.019)
W	D		0.155*** (0.033)	0.078** (0.038)	0.197*** (0.041)
B	S	S	0.063*** (0.024)	0.031 (0.022)	0.167*** (0.030)
B	S	D	0.099*** (0.017)	0.042*** (0.013)	0.232*** (0.021)
B	D		0.215*** (0.018)	0.080*** (0.021)	0.408*** (0.030)
H	S	S	0.062* (0.036)	-0.011 (0.020)	0.064* (0.038)
H	S	D	0.101*** (0.019)	0.001 (0.012)	0.112*** (0.023)
H	D		0.205*** (0.014)	0.074*** (0.014)	0.272*** (0.024)
A	S	S	0.058 (0.073)	0.019 (0.050)	0.078 (0.059)
A	S	D	0.010 (0.032)	0.021 (0.021)	0.079*** (0.025)
A	D		0.095*** (0.018)	0.121*** (0.030)	0.174*** (0.028)
P_j			-0.026*** (0.010)	-0.004 (0.006)	-0.016*** (0.006)
Pseudo R^2			0.069	0.085	0.139

Sampling weights used. Models also include controls for X_{ij} and S_j . W, B, H, and A correspond to white, black, Hispanic, and Asian, respectively. O: officer; E: Enlistee; S: same race; D: different race. P_j , which is an installation level mean index, represents social prescriptions about how races should behave. Number of observations are 18,035, 17,297, and 17,950 for offense, threat, and career, respectively. ***, **, and * Significant at the 1%, 5%, and 10% level, respectively. Standard errors are adjusted for clustering by installation. Additional marginal effects and standard errors are listed in Table 6.

Table 4

Determinants of racial harassment including controls for individual identity groups (Probit marginal effects and standard errors)

			Model 3c		
Race	Foreign born	English	Offense	Threat	Career
W			Omitted category		
B			0.109*** (0.015)	0.028*** (0.011)	0.188*** (0.016)
H	N	Y	0.128*** (0.019)	−0.009 (0.010)	0.065*** (0.015)
H	N	N	0.140*** (0.023)	0.026* (0.014)	0.161*** (0.030)
H	Y	Y	0.080** (0.040)	−0.021 (0.019)	0.060* (0.032)
H	Y	N	0.142*** (0.020)	0.048*** (0.013)	0.237*** (0.030)
A	N		0.065* (0.036)	0.023 (0.033)	0.026 (0.036)
A	Y	Y	0.024 (0.031)	0.037 (0.034)	0.061* (0.031)
A	Y	N	0.064*** (0.020)	0.100*** (0.028)	0.153*** (0.024)
P_j			−0.025*** (0.010)	−0.005 (0.006)	−0.016*** (0.005)
Pseudo R^2			0.063	0.078	0.121
			Model 3d		
Race	<Friends		Offense	Threat	Career
W	N		Omitted category		
W	Y		0.123*** (0.023)	0.122*** (0.025)	0.130*** (0.031)
B	N		0.110*** (0.015)	0.033*** (0.012)	0.197*** (0.018)
B	Y		0.168*** (0.024)	0.106*** (0.024)	0.341*** (0.036)
H	N		0.131*** (0.015)	0.013 (0.008)	0.130*** (0.018)
H	Y		0.226*** (0.020)	0.135*** (0.029)	0.286*** (0.039)
A	N		0.054*** (0.017)	0.073*** (0.020)	0.105*** (0.021)
A	Y		0.201*** (0.032)	0.174*** (0.055)	0.245*** (0.057)
P_j			−0.025** (0.010)	−0.005 (0.006)	−0.016*** (0.005)
Pseudo R^2			0.066	0.092	0.127
			Model 3e		
Race	Socialize	Uneasy	Offense	Threat	Career
W	Y	N	Omitted category		
W	Y	Y	−0.055* (0.032)	0.001 (0.019)	−0.003 (0.017)
W	N		−0.036* (0.022)	0.014 (0.015)	−0.004 (0.016)
B	Y	N	0.110*** (0.018)	0.039*** (0.013)	0.211*** (0.020)
B	Y	Y	0.044 (0.028)	0.021 (0.017)	0.190*** (0.024)
B	N		0.094*** (0.027)	0.006 (0.015)	0.138*** (0.034)
H	Y	N	0.125*** (0.018)	0.009 (0.010)	0.122*** (0.015)
H	Y	Y	0.108*** (0.026)	0.019 (0.015)	0.115*** (0.031)
H	N		0.109*** (0.035)	0.076*** (0.029)	0.218*** (0.045)
A	Y	N	0.046** (0.020)	0.075*** (0.023)	0.100*** (0.022)
A	Y	Y	0.029 (0.033)	0.073*** (0.025)	0.109*** (0.032)
A	N		0.060 (0.053)	0.006 (0.031)	0.040 (0.046)
P_j			−0.026*** (0.010)	−0.004 (0.006)	−0.016*** (0.005)
Pseudo R^2			0.064	0.077	0.118

Sampling weights used. Models also include controls for X_{ij} and S_j . W, B, H, and A correspond to white, black, Hispanic, and Asian, respectively. Y: yes; N: no. P_j , which is an installation level mean index, represents social prescriptions about how races should behave. Number of observations are 18,035, 17,297, and 17,950 for offense, threat, and career, respectively. ***, **, and * Significant at the 1%, 5%, and 10% level, respectively. Standard errors are adjusted for clustering by installation. Additional marginal effects and standard errors are listed in Table 6.

Table 5
The importance of race vs. non-racial identity groups (*p*-value)

	Offense	Threat	Career
Panel A. Organizational identity groups			
Model 3a			
Within race, do non-racial identity groups matter?			
White	0.000	0.002	0.003
Black	0.956	0.017	0.003
Hispanic	0.000	0.000	0.531
Asian	0.431	0.020	0.213
Within non-racial identity groups, does race matter?			
Enlisted	0.000	0.006	0.000
Officer	0.000	0.000	0.000
Model 3b			
Within race, do non-racial identity groups matter?			
White	0.000	0.008	0.000
Black	0.000	0.110	0.000
Hispanic	0.000	0.000	0.000
Asian	0.027	0.008	0.019
Within non-racial identity groups, does race matter?			
Common/same	0.034	0.412	0.000
Common/different	0.000	0.020	0.000
Uncommon	0.000	0.504	0.000
Panel B. Individual identity groups			
Model 3c			
Within race, do non-racial identity groups matter?			
Hispanic	0.490	0.001	0.000
Asian	0.530	0.150	0.009
Within non-racial identity groups, does race matter?			
Native/English	0.000	0.016	0.000
Foreign/English	0.278	0.126	0.985
Foreign/not English	0.001	0.068	0.015
Model 3d			
Within race, do non-racial identity groups matter?			
White	0.000	0.000	0.000
Black	0.016	0.002	0.000
Hispanic	0.000	0.000	0.000
Asian	0.000	0.043	0.010
Within non-racial identity groups, does race matter?			
Fewer friends	0.005	0.582	0.000
Same/more friends	0.000	0.000	0.000
Model 3e			
Within race, do non-racial identity groups matter?			
White	0.077	0.615	0.966
Black	0.111	0.097	0.004
Hispanic	0.817	0.021	0.061
Asian	0.829	0.210	0.425
Within non-racial identity groups, does race matter?			
Social/easy	0.000	0.000	0.000
Social/uneasy	0.000	0.096	0.000
Not social	0.000	0.078	0.000

The *p*-value reported in this table are based on the following two hypothesis tests:

$$H1: \hat{\gamma}_{1r} = \hat{\gamma}_{2r} = \dots = \hat{\gamma}_{nr} \quad \forall r, \quad H2: \hat{\gamma}_{g1} = \hat{\gamma}_{g2} = \dots = \hat{\gamma}_{gm} \quad \forall g,$$

where r = race, g = group membership, $r = (1, \dots, m)$, $g = (1, \dots, n)$, and $\hat{\gamma}_{gr}$ are the marginal effects reported in Tables 3 and 4. Using standard joint hypothesis test, the first proposition (H1) tests whether within race, non-racial identity groups matter and the second proposition (H2) tests whether within non-racial identity groups, race matters.

4.3. The role of institutional factors

The estimated effects of an installation's demographic composition and equal opportunity climate on harassment are reported in Table 6. Although these results come from the same regressions underlying Tables 3 and 4, for convenience we present them here separately.

Relative to their counterparts in the Army, active-duty personnel in the Air Force report significantly fewer incidents of all types of racial harassment, while personnel in the Marine Corp report fewer career-related incidents of discrimination. It is interesting that higher levels of racial confrontation are associated with increased probabilities of both offensive and threatening encounters (as might be expected), though improvements in the installation's overall race relations are associated with an increased probability that military personnel report experiencing career-related racial discrimination. This latter result is perhaps not surprising when we consider that the factors driving career-related discrimination are likely to differ from those driving harassment *per se*. In particular, it is possible that better race relations may be associated with implicit expectations of more rapid career advancement that minority personnel have not realized. Consistent with Shields and Wheatly Price (2002a), the existence of formal EO policies (i.e., hotlines and channels) and the demographic composition of the workforce seem to bear little relationship to the incidence of racial harassment.

At the same time, controlling for racial identity, institutional factors are in general quite important in understanding harassment rates. In all cases, the elements of S_j are jointly significant at the one percent level. These measures of the equal opportunity climate and demographic composition of a military installation, in conjunction with social prescriptions on inter-racial relations (P_j), explain between 35 and 40 percent of the installation-specific variation in harassment levels.⁴² Furthermore, Breusch and Pagan (1980) tests indicate that any remaining (unobserved) effect of military installations themselves are unimportant in understanding harassment levels once S_j and P_j are controlled.⁴³

5. Discussion

Though direct evidence is sparse, racial harassment would seem to be prevalent in many working environments. Approximately two-thirds of active-duty personnel in the U.S. military report experiencing some form of offensive racial incident in the previous 12 months, while ethnic minority nurses working in the British National Health System (NHS) report remarkably similar

⁴² To gauge the predictive power of our installation-specific controls P_j and S_j , we estimated a base model that included controls for social categories (G_{ij}), but excluded both P_j and S_j . We then estimated an unrestricted model in which a complete set of indicator variables for military installations were added to the base model to control for installation-specific fixed effects including institutional factors and social prescriptions. (This is equivalent to a fixed-effects specification of models 3a–e.) We compared the R^2 from this unrestricted model to both the base and restricted models 3a–e as follows:

$$\% \text{ explained by EO climate} = \frac{R_R^2 - R_B^2}{R_U^2 - R_B^2}.$$

This calculation indicates that while installation-specific effects increase the explanatory power of the model relative to the base model (the denominator in Eq. (5)), our installation-specific controls capture a large fraction of this additional increase in explanatory power. The remainder can be attributed to heterogeneity in installations that is unobserved in our data.

⁴³ We investigated this issue by using an unweighted, linear probability model including an unobserved, installation-specific effect in Eq. (5). We fail to reject the hypothesis that these installation-specific effects are equal to 0.

Table 6
Determinants of racial harassment—institutional factors (Probit marginal effects and standard errors)

	Model 2			Model 3a			Model 3b		
	Offense	Threat	Career	Offense	Threat	Career	Offense	Threat	Career
Service									
Navy	−0.003 (0.019)	−0.010 (0.010)	−0.013 (0.010)	−0.002 (0.019)	−0.011 (0.010)	−0.011 (0.009)	−0.003 (0.019)	−0.008 (0.011)	−0.012 (0.010)
Marines	0.033 (0.022)	−0.003 (0.011)	−0.024** (0.010)	0.031 (0.024)	−0.004 (0.010)	−0.025** (0.010)	0.030 (0.025)	−0.001 (0.011)	−0.023** (0.009)
Air force	−0.044** (0.021)	−0.030*** (0.008)	−0.051*** (0.010)	−0.038* (0.021)	−0.030*** (0.009)	−0.046*** (0.010)	−0.034 (0.021)	−0.026*** (0.009)	−0.044*** (0.010)
Service Installation level mean characteristics									
Racial confrontation	0.364*** (0.088)	0.122*** (0.035)	0.074 (0.049)	0.307*** (0.089)	0.106*** (0.038)	0.033 (0.050)	0.299*** (0.087)	0.110*** (0.038)	0.028 (0.052)
Reports of harassment w/o repercussions	−0.024 (0.096)	0.042 (0.056)	−0.069 (0.050)	−0.038 (0.096)	0.038 (0.057)	−0.081 (0.049)	−0.043 (0.096)	0.039 (0.056)	−0.065 (0.051)
Racial relations good	0.046 (0.094)	0.001 (0.060)	0.123** (0.050)	0.056 (0.096)	0.003 (0.061)	0.134*** (0.051)	0.064 (0.094)	0.007 (0.060)	0.124** (0.055)
Hotlines	0.078 (0.077)	0.047 (0.039)	0.056 (0.041)	0.082 (0.076)	0.050 (0.041)	0.065 (0.041)	0.071 (0.076)	0.051 (0.040)	0.059 (0.041)
Channels	0.035 (0.083)	−0.048 (0.045)	−0.050 (0.048)	0.081 (0.079)	−0.037 (0.044)	−0.026 (0.047)	0.062 (0.079)	−0.048 (0.043)	−0.033 (0.048)
Percent white	−0.197** (0.092)	−0.135*** (0.042)	−0.117** (0.053)	−0.125 (0.098)	−0.120*** (0.044)	−0.071 (0.055)	−0.113 (0.098)	−0.116*** (0.043)	−0.060 (0.055)
Installation level mean characteristics									
Service									
Navy	0.000 (0.019)	−0.009 (0.010)	−0.010 (0.010)	0.000 (0.019)	−0.008 (0.010)	−0.010 (0.009)	0.000 (0.019)	−0.010 (0.010)	−0.011 (0.010)
Marines	0.032 (0.024)	−0.003 (0.011)	−0.023** (0.010)	0.033 (0.023)	−0.001 (0.011)	−0.024** (0.010)	0.029 (0.024)	−0.003 (0.011)	−0.025** (0.010)
Air force	−0.031 (0.020)	−0.027*** (0.009)	−0.043*** (0.010)	−0.031 (0.020)	−0.027*** (0.009)	−0.045*** (0.010)	−0.031 (0.021)	−0.029*** (0.009)	−0.046*** (0.010)
Installation level mean characteristics									
Racial confrontation	0.307*** (0.089)	0.108*** (0.038)	0.030 (0.051)	0.301*** (0.091)	0.101*** (0.038)	0.022 (0.048)	0.300*** (0.090)	0.113*** (0.038)	0.032 (0.051)
Reports of harassment w/o repercussions	−0.039 (0.096)	0.039 (0.057)	−0.080 (0.050)	−0.030 (0.097)	0.041 (0.059)	−0.082* (0.049)	−0.033 (0.096)	0.040 (0.058)	−0.078 (0.050)
Racial relations good	0.062 (0.096)	0.005 (0.061)	0.135** (0.052)	0.053 (0.098)	0.008 (0.063)	0.136*** (0.051)	0.053 (0.098)	0.006 (0.062)	0.132** (0.052)
Hotlines	0.087 (0.076)	0.051 (0.040)	0.068 (0.041)	0.085 (0.076)	0.049 (0.040)	0.070* (0.041)	0.088 (0.076)	0.052 (0.040)	0.070* (0.042)
Channels	0.067 (0.080)	−0.043 (0.045)	−0.027 (0.048)	0.073 (0.080)	−0.043 (0.046)	−0.032 (0.045)	0.068 (0.080)	−0.045 (0.045)	−0.029 (0.048)
Percent white	−0.126 (0.099)	−0.122*** (0.044)	−0.076 (0.055)	−0.138 (0.099)	−0.121*** (0.045)	−0.076 (0.054)	−0.132 (0.100)	−0.119*** (0.044)	−0.074 (0.055)

These are the marginal effects for the additional covariates included in the models presented in Tables 3 and 4.

rates of racial harassment from patients and their families (Shields and Wheatly Price, 2002a). Fully one in 10 individuals in our military sample report having their property vandalized or being physically threatened as a result of their race. A similar proportion of active-duty personnel feel that racial discrimination has hampered their access to training or promotion opportunities.

Further, these forms of harassment have important consequences for victims (see Appendix Table 3). Harassment victims report feeling anger and rage (55.8 percent), sadness and depression (23.7 percent), a loss of trust in co-workers (36.8 percent) and supervisors (35.6 percent), stress, anxiety, and fear (32.7 percent), and low self-esteem (12.8 percent). Incidents of racial harassment and discrimination in promotion and training opportunities are the most important determinants of job satisfaction for British nurses (Shields and Wheatly Price, 2002b) and are indirectly linked to an increased probability of intending to leave the British NHS. Racial harassment also diminishes satisfaction with and heightens intentions to leave employment in the U.S. military (Antecol and Cobb-Clark, 2005).

Our identity framework adds depth to our understanding of the causes and consequences of racial harassment. In particular, racial identity based on a complex set of social categories and individual characteristics and constrained by social prescriptions about inter-racial behavior explains the variation in perceived harassment in a way that simple consideration of race does not. Racial group membership is not sufficient to capture the relationship between racial identity and perceived racial harassment. The reported incidence of racially threatening encounters, for example, is driven less by race than by whether one shares the same race with one's colleagues and supervisor (see Table 5), while those foreign-born personnel for whom English is not their native language often report much higher harassment levels than their foreign-born English-speaking counterparts (see Table 4). At the same time, race cannot be ignored. There are significant differences in perceptions of harassment among individuals of different racial groups who share the same cultural or social backgrounds or organizational positions.

Importantly, we also find clear evidence that social prescriptions related to individuals' racial identities are associated with perceptions of racial harassment. Individuals based at military installations with fewer constraints on inter-racial interactions report significantly fewer offensive racial encounters and significantly less career-related discrimination. Interestingly, this is consistent with other evidence that in the mid-nineteenth century those cities with fewer informal norms against social interactions also provided more economic opportunities for black and biracial individuals (Bodenhorn and Ruebeck).

The institutional context in which social interactions take place also clearly plays an important role in shaping the outcomes of those interactions (see for example, Akerlof and Kranton, 2000; Nkomo, 1992; Nkomo and Cox, 1996; Darity et al., 2006; Fryer and Jackson, 2004; Milliken and Martins, 1996). Higher levels of racial confrontation, for example, are associated with increased probabilities of both offensive and threatening encounters, though improvements in an installation's overall race relations are associated with an increased probability that military personnel report experiencing career-related racial discrimination. These differentials point to a need for the development of theoretical frameworks that focus on racial harassment as distinct from racial discrimination.

Moreover, social contact theory predicts that frequent positive interactions decrease stereotyping and prejudice between social groups (Nkomo, 1992; Fryer and Jackson, 2004) and we find some indirect evidence in support of this proposition. Those individuals reporting that they have fewer friends outside their racial group since joining the military (which may indicate negative experiences) also report harassment rates that are often more than twice as high. At the same time, personnel who socialize with individuals of a different race and are comfortable in inter-racial

interactions generally do not often seem to report lower harassment rates than their counterparts who do not socialize or if they do are uneasy about it.

As experiences of racial harassment are related to the institutional and social context in which military personnel live and work, policies targeted toward reducing racial confrontation and promoting inter-racial interactions are likely to be an obvious choice if the military's goal is to reduce the incidence of racial harassment. At the same time, such policies are not likely to be a panacea given evidence that improved racial relations are associated with increased reports of career-related racial discrimination and that, within racial groups, perceptions of harassment are not generally affected by how often (and easily) military personnel socialize with others of a different race.

The identity literature to date (in contrast to the harassment literature) is primarily theoretical, and it is interesting to consider the extent to which our results are informative about the role of identity in economic behavior.⁴⁴ The strong relationship between our measure of social prescriptions and perceptions of racial harassment is consistent with views that identity formation is constrained by social norms regarding inter-group behavior. Moreover, our results lend support to models of social identity in which social classification depends on both individual background and organizational position (see Alderfer and Smith). While our results do not provide a direct test of models of identity formation, they nonetheless point to the importance of an expanded notion of racial identity in understanding perceptions of racial harassment.

It is of course difficult to know to what extent these results for military personnel might be extended to other groups of workers. Historically, the U.S. military has been relatively integrated when compared to other social institutions, and the nature of military employment leads to a blurring of professional and personal relationships as military personnel, particularly young enlisted men and women, live and work in close proximity with others who may be outside their social group. There is also evidence that black veterans have less racial identification than non-veterans (Ellison, 1992), though whether this stems from the process whereby individuals self-select into the military or from the military experience itself remains unclear. These aspects of military employment may serve to increase the frequency of inter-racial interactions and lead to a reduction in prejudice and stereotyping. At the same time, minority members of the military do not have the same protection from racial discrimination as the rest of the population due to a series of court decisions that have held that Title VII of the Civil Rights Act of 1964 pertains only to civilian employees of the armed forces (Smither and Houston, 1991). Complaints about discrimination are addressed through military rather than civilian courts, and this difference in legal protection from racial discrimination may result in differential rates of racial harassment.

6. Conclusions

Our results indicate that racial harassment is prevalent in the U.S. military with two in three military personnel reporting some form of racially offensive encounter, and approximately one in 10 reporting threatening incidents or career-related racial discrimination. Perceptions of racial harassment are driven by multifaceted social classifications. While race clearly matters, there is

⁴⁴ The empirical identity literature is less well developed. Some researchers have estimated the extent to which adoption of "oppositional" identities may affect the labor market opportunities of ethnic groups (Battu et al., 2007; Mason, 2004; Pendakur and Pendakur, 2005) and women (O'Reilly and O'Neill, 2004), while Bodenhorn and Ruebeck assess the factors driving the assignment of a mulatto identity in the 1860s. Other empirical evidence is more inferential. Fryer and Levitt argue, for example, that the growth in distinctly Black names is consistent with notions of Black identity, while the social exclusion literature may also be seen as supporting an identity framework (see Frijters). Finally, Fryer and Torelli relate the relationship between popularity and grades to the sanctions black students face for 'acting white'.

also significant diversity in the reported harassment experiences of individuals of the same race with diverging organizational, cultural or social experiences. Social prescriptions constraining inter-racial interactions are associated with more offensive racial encounters and more career-related discrimination, while aspects of an installation's institutional culture also directly affect perceptions of racial harassment. Together, these results suggest that a more complex notion of racial identity can be helpful in enhancing our understanding of the factors driving perceived racial harassment.

Appendix A

Table 1
Racially harassing behavior components

	Mean	S.D.
Offensive behavior	0.652	0.476
Unwelcome attempts to discuss race/ethnicity	0.379	0.485
Told racist stories/jokes	0.481	0.500
Condescending due to race/ethnicity	0.265	0.441
Distribute racist materials	0.129	0.335
Displayed racist tattoos/clothing	0.216	0.412
Not included in activity due to race/ethnicity	0.151	0.358
Uncomfortable, hostile looks/stares due to race/ethnicity	0.247	0.431
Offensive remarks about appearance due to race/ethnicity	0.143	0.350
Remarks your race/ethnicity not suited to job	0.089	0.285
Offensive remarks about race/ethnicity	0.196	0.397
Threat/harm encounters	0.095	0.293
Vandalized property due to race/ethnicity	0.023	0.151
Threatened with retaliation if did not partake in racist behavior	0.056	0.230
Physically threatened/intimidated due to race/ethnicity	0.051	0.221
Assaulted you physically due to race/ethnicity	0.014	0.120
Career-related discrimination	0.130	0.336
Assignment/career	0.079	0.270
Assignment has not made use of job skills	0.015	0.120
Current assignment not good for career	0.016	0.126
No short term tasks to prepare for advancement	0.015	0.122
No professional relationship for career development advice	0.028	0.165
Learned of opportunities too late for career	0.031	0.173
No straight answers for promotion possibilities	0.029	0.167
Excluded by peers from social activities	0.036	0.185
Evaluation	0.078	0.268
Rated lower than deserved on last evaluation	0.032	0.175
Last evaluation contained unjustified comments	0.016	0.127
Held to higher performance standards than others	0.040	0.195
Didn't receive award like others	0.044	0.205
Punishment	0.037	0.189
Wrongly taken to non-judicial punishment	0.010	0.102
Punished when others were not	0.035	0.183
Training/test scores	0.029	0.169
Unable to attend major school necessary for job	0.014	0.116
Unable to attend short courses necessary for job	0.016	0.124
Received lower grades than deserved	0.008	0.088
Didn't get job due to scores on test	0.005	0.073

Offensive behavior, threatening encounters, and career-related discrimination equal 1 if a respondent reported experiencing at least one of the respective behaviors and said his/her race was a factor, and 0 otherwise.

Table 2
Sample means by race

	Total		White		Black		Hispanic		Asian	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Social categories (Gij)										
Officer	0.193	0.394	0.235	0.424	0.081	0.272	0.096	0.294	0.190	0.393
Common/same	0.557	0.497	0.720	0.449	0.258	0.438	0.065	0.246	0.057	0.232
Common/different	0.319	0.466	0.234	0.424	0.532	0.499	0.546	0.498	0.313	0.464
Uncommon	0.124	0.330	0.046	0.210	0.210	0.408	0.389	0.488	0.629	0.483
Native/English	0.903	0.296	0.970	0.172	0.942	0.234	0.518	0.500	0.260	0.439
Native/not English	0.017	0.131	0.004	0.063	0.007	0.082	0.145	0.352	0.016	0.125
Foreign born/English	0.035	0.185	0.022	0.147	0.048	0.214	0.055	0.228	0.200	0.400
Foreign born/not English	0.045	0.206	0.004	0.065	0.003	0.058	0.282	0.450	0.524	0.499
Same/more friends	0.911	0.285	0.920	0.271	0.882	0.323	0.896	0.305	0.924	0.266
Social/Easy	0.706	0.455	0.706	0.456	0.685	0.465	0.739	0.439	0.750	0.433
Social/Uneasy	0.138	0.345	0.114	0.318	0.193	0.395	0.203	0.402	0.182	0.386
Not social	0.155	0.362	0.180	0.384	0.122	0.328	0.058	0.233	0.068	0.252
Demographic and human capital characteristics (Xij)										
Married	0.662	0.473	0.683	0.465	0.625	0.484	0.615	0.487	0.557	0.497
Education										
High school	0.263	0.441	0.250	0.433	0.281	0.449	0.343	0.475	0.224	0.417
Some college	0.507	0.500	0.482	0.500	0.599	0.490	0.525	0.499	0.484	0.500
College	0.229	0.420	0.268	0.443	0.120	0.325	0.132	0.338	0.292	0.455
Female	0.143	0.350	0.121	0.326	0.236	0.425	0.114	0.318	0.153	0.360
Years of active service										
<6	0.446	0.497	0.446	0.497	0.394	0.489	0.547	0.498	0.463	0.499
7–11	0.181	0.385	0.179	0.384	0.194	0.395	0.158	0.365	0.192	0.394
12–19	0.297	0.457	0.295	0.456	0.336	0.472	0.242	0.428	0.263	0.440
20+	0.077	0.266	0.079	0.271	0.077	0.266	0.053	0.224	0.082	0.274
Awareness of racial harassment programs										
Training	0.655	0.475	0.681	0.466	0.583	0.493	0.611	0.488	0.615	0.487
Hotlines	0.565	0.496	0.592	0.491	0.504	0.500	0.484	0.500	0.550	0.498
Channels	0.625	0.484	0.662	0.473	0.540	0.498	0.528	0.499	0.585	0.493

Table 2
Sample means by race

	Total		White		Black		Hispanic		Asian	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Institutional factors (Sj)										
Service										
Army	0.346	0.476	0.306	0.461	0.494	0.500	0.377	0.485	0.274	0.446
Navy	0.203	0.402	0.208	0.406	0.164	0.370	0.191	0.393	0.373	0.484
Marines	0.129	0.335	0.130	0.337	0.103	0.304	0.192	0.394	0.077	0.267
Air force	0.321	0.467	0.355	0.479	0.239	0.427	0.240	0.427	0.277	0.447
Installation level mean characteristics										
Military confrontation	0.296	0.127								
Hotlines	0.559	0.112								
Channels	0.618	0.113								
Percent white	0.678	0.112								
Reports of harassment without repercussions	0.626	0.095								
Racial relations good	0.664	0.118								
Social prescriptions (Pj)										
Installation level mean index	19.712	1.014								

All variables are indicator variables with the exception of social prescriptions (Pj) which ranges from 15.052 to 24.088. Service, unlike the other variables in Sj and Pj, is broken down by race because it is not measured at the installation level. Sampling weights used. Number of observations are 18,035 5,209, 4,451, 4,771, and 3,604 for the total, white, black, Hispanic, and Asian samples, respectively.

Table 3
Effects of racial harassment by race

	Total		White		Black		Hispanic		Asian	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Lost time from work	0.046	0.208	0.037	0.189	0.059	0.235	0.058	0.235	0.072	0.259
Decreased productivity	0.210	0.407	0.185	0.389	0.257	0.437	0.228	0.420	0.277	0.448
Lost trust in co-workers	0.368	0.482	0.318	0.466	0.468	0.499	0.428	0.495	0.435	0.496
Lost trust in supervisors	0.356	0.479	0.287	0.452	0.512	0.500	0.408	0.491	0.394	0.489
Thoughts about leaving service	0.356	0.479	0.314	0.464	0.456	0.498	0.382	0.486	0.357	0.479
Physical ailments	0.171	0.376	0.130	0.337	0.256	0.436	0.208	0.406	0.213	0.409
Sadness or depression	0.237	0.425	0.201	0.401	0.303	0.460	0.278	0.448	0.313	0.464
Anger or rage	0.558	0.497	0.526	0.499	0.639	0.480	0.570	0.495	0.564	0.496
Stress, anxiety, or fear	0.327	0.469	0.312	0.463	0.365	0.482	0.312	0.463	0.381	0.486
Low self-esteem	0.128	0.335	0.113	0.317	0.133	0.339	0.164	0.371	0.274	0.446
Thoughts of suicide	0.017	0.127	0.012	0.110	0.022	0.146	0.029	0.168	0.018	0.133
Thoughts of harming harasser	0.252	0.434	0.227	0.419	0.296	0.456	0.299	0.458	0.257	0.437
At least one of the above	0.750	0.433	0.716	0.451	0.832	0.374	0.760	0.427	0.767	0.423
Number of observations	10423–10456		2395–2405		3057–3076		2916–2936		2044–2053	

All variables are indicator variables. Sampling weights used. Sample only includes respondents who reported an incident of racial harassment and responded to these questions.

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