Investigating the Relationship between Perceived Discrimination, Social Status, and Mental Health*

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Abstract

A growing body of evidence suggests that experiences with discrimination have implications for mental health and that these associations may vary by social status. We use data from the Chicago Community Adult Health Study (CCAHS) to examine how two types of perceived discrimination, chronic everyday discrimination and major lifetime discrimination, are linked to mental health, and how this association varies by race/ethnicity, gender, and socioeconomic status. Results indicate that everyday discrimination is generally independently linked to greater depressive symptoms, loneliness, and hostility across all social status groups. Major discrimination is not associated with depressive symptoms or loneliness after adjusting for a host of covariates, but is associated with hostility, especially for certain groups. These findings highlight the need to examine multiple indicators of discrimination and mental health, and to pay attention to both differences and similarities in these associations by social status.

INTRODUCTION

A growing body of research examines the consequences of perceived discrimination, a unique psychosocial stressor, for mental health (Paradies 2006; Williams and Mohammed 2009; Williams, Neighbors, and Jackson 2003).[1] Perceived discrimination is consistently, positively associated with impaired mental health across a vast array of cross-sectional and longitudinal data and has been linked to multiple mental health outcomes including depressive symptoms, psychological distress, anxiety, and psychiatric disorders (Paradies 2006; Pascoe and Richman 2009; Williams and Mohammed 2009; Williams et al. 2003). However, little is known about variation in the association between perceived discrimination and mental health across social status groups such as race/ethnicity, gender, and socioeconomic status (SES), despite theoretical perspectives suggesting that both levels of stress and the association between stress and health may vary across these groups in important ways (Pearlin et al. 2005; Thoits 2010; Turner and Avison 1989, 2003). Indeed, stress is unequally distributed across social status groups, with lower status groups such as blacks, women, and the economically disadvantaged facing disproportionately high levels of

[1]Interpersonal discrimination is "the process by which a member, or members, of a socially defined group is, or are, treated differently (especially unfairly) because of his/her/their membership of that group" (Jary and Jary 1999:169).

stress and having reduced resources to buffer against the negative consequences of stress (Pearlin et al. 2005; Sapolsky 2005; Thoits 2010; Turner and Avison 2003).

Guided by the stress theory perspective, which emphasizes inequalities in the distribution of vulnerability to stress across demographic groups, we examine variation in the mental health consequences of discrimination across social status groups. Using data from the Chicago Community Adult Health Study (CCAHS), a multiethnic population-based sample of adults, we answer two research questions. First, how is major acute perceived discrimination and chronic perceived discrimination independently associated with depressive symptoms, loneliness, and hostility? Second, how does the relationship between perceived discrimination and mental health vary by race/ethnicity, gender, and SES? Our diverse sample allows us to estimate variation in this relationship across demographic groups. Considering that mental health problems are associated with social and economic disadvantages throughout the life course – including financial hardship and difficulty in personal relationships – understanding the antecedents of impaired mental health is important (Coyne 1976; Miech and Shanahan 2000).

BACKGROUND

Perceived Discrimination as a Unique Stressor and Its Dimensions

Stress theory is a useful theoretical framework that helps explain both the unequal distribution of stress across the population and the differential association between stress and health across social status groups (Pearlin et al. 2005; Thoits 2010; Turner and Avison 2003). Stressful life events often arise from distinctive social contexts that characterize the lives of lower status groups such as racial/ethnic minorities, women, and the economically disadvantaged and it follows that disadvantaged groups experience greater stress than their more advantaged counterparts. Lower status groups also lack the resources to cope with stressors (such as social support, leisure time, or financial resources to engage in stress-relieving activities) and, thus, may be more vulnerable to mental health impairments (Pearlin et al. 2005; Sapolsky 2005; Thoits 2010; Turner and Avison 2003). Stressors that are related to ascribed social statuses such as race/ethnicity, gender, or SES may be especially detrimental for mental health, as they often lead to additional burdens for disadvantaged groups by limiting opportunities and threatening identity (Pearlin et al. 2005).

Previous research indicates that perceived discrimination is a unique psychosocial stressor with important implications for physical and mental health inequalities (Clark et al. 1999; Pascoe and Richmond 2009; Thoits 2010). In fact, perceived discrimination and the unfair treatment associated with it is one of the most important classes of psychosocial stressors (Wethington, Brown, and Kessler 1995). Further, the effect of perceived discrimination on mental health is similar in magnitude to the effect of more commonly studied stressors such as job loss, divorce and death of a loved one (Kessler et al. 1999). Much evidence linking perceived discrimination and mental health examines racial/ethnic discrimination among samples of blacks and other non-white minority groups (Paradies 2006; Williams and Mohammed 2009). However, racial discrimination is only one of many forms of discrimination; individuals frequently experience discrimination based on other identifying status-based characteristics (Kessler et al. 1999). Both racial discrimination and discrimination based on other identifying characteristics can lead to mental health impairments (Kessler et al. 1999; Thoits 2010).

Similar to other stressful experiences, discrimination is a multidimensional construct, occurring in multiple domains (e.g., places of employment, restaurants, and neighborhoods) and over time. Examples of major acute discriminatory experiences include being unfairly fired from a job or stopped by the police, and chronic or "everyday" discriminatory

experiences (sometimes referred to as "chronic daily hassles" or "day-to-day experiences") are characterized as frequent irritations and indignities in everyday situations (e.g., being treated with less courtesy than others) (Williams et al. 2003). Although discrimination research most commonly assesses the consequences of major acute discrimination and chronic discrimination separately, there is evidence that these different dimensions of discrimination often co-occur and the relative consequences of them may vary (Bennett et al. 2010; Pascoe and Richman 2009; Williams et al. 2003). Individuals in disadvantaged groups are particularly likely to experience both acute and chronic stressors, and understanding how these stressors are independently associated with mental health can provide insight into the mechanisms linking discrimination to health (Williams et al. 2003). In addition, discrimination often co-occurs with and is compounded by other stressors such as familial conflict, financial strain, and stressful life events (e.g., exposure to violence and death of a spouse or child) leading to chronic and repeated exposures to hardships and stressors across the life course, particularly among vulnerable populations (Kessler et al. 1999; Pearlin et al. 2005; Thoits 2010; Williams et al. 2003).

Previous Research on Discrimination and Mental Health

A large body of research has examined how perceived discrimination is associated with adverse mental health such as anxiety, depression, fear, frustration, helplessness, hopelessness, paranoia, resentment, and self-esteem (Burgos and Rivera 2009; Clark et al. 1999; Paradies 2006; Rivera et al. 2011; Williams and Mohammed 2009; Williams et al. 2003). Although the majority of this research has used mono-racial samples (often comprised of only blacks) and/or convenience samples that cannot be generalized to other groups, the association between perceived discrimination and poor mental health is also found in population-based multiethnic and multiracial samples (D'Anna, Ponce, and Siegel 2010; Kessler et al. 1999; Williams et al. 1997).

Though the association between discrimination and some mental health outcomes (e.g., depressive symptoms) is well documented, much less is known about how discrimination is associated with outcomes such as loneliness and hostility. Loneliness itself can be characterized as one possible indicator of the larger concept of social exclusion. Research on social exclusion makes clear that discrimination, stressful events, and exclusion from society, particularly due to disadvantaged social status, are bound up together in a life course of exposures that have an adverse impact on mental health (Brown, Bhrolchain and Harris 1975; Brown and Harris 1978; Ross and Mirowsky 1989; Thoits 1982, 2010). Previous research suggests chronic social and marital stresses are associated with greater loneliness (Hawkley et al. 2008), and it is plausible that discrimination (another dimension of stress) operates similarly. Additional research documents how racial discrimination can lead to isolation of individuals in the workplace and in other social settings (Essed 1991; Feagin and McKinney 2003; Forman 2003). Other forms of systemic discrimination, such as residential segregation or political exclusion, could also lead to loneliness (Feagin and McKinney 2003; Williams and Mohammed 2009). However, to our knowledge, no previous empirical research examines the relationship between perceived discrimination and loneliness.

Similarly, discrimination may lead to externalizing reactions such as anger and hostility. Anger can be an important and frequent psychological stress response resulting from race-based discrimination experienced by blacks (Brondolo et al. 2005; Clark et al. 1999; Feagin and Sikes 2004; Gibbons et al. 2010), as well as discrimination faced by other groups such as women (Swim et al. 2001). Indeed, perceptions of discrimination that provoke anger may lead to a coping response such as hostility or aggression (Clark et al. 1999; Feagin 1991). In addition, other research shows that anger and hostility (expression and suppression) may be an important pathway linking experiences with discrimination to substance abuse and/or increased blood pressure (Gibbons et al. 2010; Krieger 1990; Whitbeck et al. 2001).

Research examining the relationship between racial discrimination and anger or hostility has been largely based on mono-racial samples (for exceptions see: Broudy et al. 2007; Rivera et al. 2011).

Variation in Association between Perceived Discrimination and Mental Health

It is well known that certain groups of the population are more frequently exposed to discrimination. Racial/ethnic minorities, compared to whites, experience higher levels of discrimination (Borrell et al. 2010; Thoits 2010; Williams and Mohammed 2009). In addition, black men report higher levels of discrimination than black women (Borrell et al. 2010), which may result from them being stereotyped as threatening and thus experiencing more discriminatory incidents (Carter 2007). These gender differences have also been found among Hispanic populations (Borrell et al. 2010). With respect to SES variation in discriminatory experiences, current research comes to inconsistent conclusions (Brondolo et al. 2009; Dailey et al. 2010; Kessler et al. 1999).

Conceptually, a stressor such as discrimination may be more detrimental to disadvantaged groups such as racial/ethnic minorities, women, and to those facing economic hardship. But relatively little research has examined the association between discrimination and mental health by social status. There are several exceptions. For example, Kessler and colleagues (1999) find that, by and large, the association between perceived discrimination and mental health is consistent across groups (also see McLaughlin et al. 2010; Williams et al. 1997). Others, however, find that discrimination is more harmful to the mental health of Latina women than white women (D'Anna et al. 2010) or black Latinos than non-black Latinos (Burgos and Rivera 2009).

Even less research explores how the relationship between discrimination and mental health varies across SES (D'Anna et al. 2010; Forman 2003). On the one hand, discrimination might be more harmful to high-SES groups, if these groups view discrimination as a threat to their social status. On the other hand, it might be more harmful for low-SES groups who may be treated more harshly due to their lower status and have fewer resources to cope with the stress of discrimination (Williams and Mohammed 2009).

Little research has examined the varying association between discrimination and mental health by race and gender (Williams and Mohammed 2009). Some evidence shows that despite higher reports of self-reported discrimination among minority men than women, the relationship between discrimination and depressive symptoms is stronger for black and Hispanic women compared to black and Hispanic men (e.g., Borrell et al. 2006; Flores et al. 2010). Indeed, discrimination may be particular consequential to black and Hispanic women's psychological health due to their double minority status, burdened by experiences of both racial/ethnic and gender discrimination and occupying multiple roles within the labor force and the home (St. Jean and Feagin 1998; Troxel et al. 2003). Most of this evidence is drawn from mono-racial samples, so comparisons cannot be made across race and gender groups.

METHOD

Data Source

We use data from the Chicago Community Adult Health Study (CCAHS), a cross-sectional survey designed to examine the biological, social, and environmental correlates of adult physical and mental health. The CCAHS is a multi-stage probability sample of 3,105 adults (18 years and older) living in Chicago, stratified into 343 neighborhood clusters as defined by the Project on Human Development in Chicago Neighborhoods (Sampson, Raudenbush, and Earls 1997). Face-to-face interviews were conducted with one respondent per household

between May 2001 and March 2003, and the response rate was 72%. The analytic sample for this paper comprises 3,102 individuals.

Key Variables

Mental health—We examine three mental health indicators: depressive symptoms, loneliness, and hostility. Depressive symptoms is measured with a modified version of the Center for Epidemiologic Studies Depression Scale (CES-D) commonly used to measure distress (Radloff 1977). We average responses to respondents' reports of the following 11 symptoms in the past week (1 = *never*, 2 = *hardly ever*, 3 = *some of the time*, 4 = *most of the time*): I felt depressed; I felt that everything I did was an effort; my sleep was restless; I was happy; I felt lonely; people were unfriendly; I enjoyed life; I did not feel like eating; I felt sad; I felt that people disliked me; I could not get going (alpha = 0.85). Loneliness, measured with a shortened version of the Revised UCLA Loneliness Scale, is the average of the following (1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *often*): I lack companionship; I feel left out; I feel isolated from others (alpha = 0.77) (Hughes et al. 2004). Finally, hostility is an average of respondents' responses to the following (1 = *disagree strongly*, 2 = *disagree somewhat*, 3 = *agree somewhat*, 4 = *agree strongly*): most people inwardly dislike putting themselves out to help other people; most people will use somewhat unfair means to gain profit or an advantage rather than lose it; no one cares much what happens to you; I think most people would lie in order to get ahead; I commonly wonder what hidden reasons another person may have for doing something nice for me (alpha = 0.74) (Cook and Medley 1954). Higher values on each of the scales indicate worse mental health.

Perceived discrimination—We examine two indicators of perceived discrimination: everyday discrimination (Williams et al. 1997) and major discrimination (Kessler et al. 1999; Williams et al. 1997). The everyday discrimination scale assesses the occurrence and frequency of perceived chronic interpersonal discrimination that individuals experience. Respondents were asked to report how often the following occurs (0 = *never*, 1 = *less than once a year*, 2 = *a few times a year*, 3 = *a few times a month*, 4 = *at least once a week*): you are treated with less courtesy or respect than other people; you receive poorer service than other people at restaurants or stores; people act as if they think you are not smart; people act as if they were afraid of you; and you are threatened or harassed (alpha = 0.75). We sum individuals' responses to the five questions. Major discrimination assesses the frequency of acute discriminatory events. Respondents reported if, at some point during the lives, they experienced the following (0 = *no*, 1 = *yes*): were unfairly fired from a job or were unfairly denied a promotion; were not hired for a job for unfair reasons; were unfairly stopped, searched, questioned, physically threatened, or abused by the police; and were unfairly prevented from moving into a neighborhood because the landlord or realtor refused to sell or rent you a house or apartment. As with everyday discrimination, we sum responses to the individual questions and higher values indicate more experiences of major lifetime discrimination.[2] The correlation between everyday and major discrimination is 0.42 ($p < 0.001$).

Key demographic variables—We adjust for demographic variables including race/ethnicity, gender, and household income. Race/ethnicity is measured with the following four dummy variables: non-Hispanic white (reference category), non-Hispanic black, Hispanic, and non-Hispanic other race (includes American Indian, Asian, and Pacific Islander). Respondents had the option to report more than one race; those who reported being white, in

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[2]In analyses not presented, we substitute our continuous indicators of everyday and major discrimination with dichotomous variables that indicate whether a respondent *ever* experienced discrimination. Results for the full sample are robust to this specification, but we present results using the continuous measure because we are primarily interested in the accumulation of discrimination.

addition to another race (e.g., black), were considered to be the other, non-white race (e.g., a respondent who reports being both black and white is consider black). A dummy variable indicates the respondent is female. Annual household income is measured with the following dummy variables: less than $10,000; $10,000 to less than $30,000; $30,000 to less than $50,000; and $50,000 or greater (reference category).

Additional control variables—Age, measured in years, is represented by the following dummy variables: 18-29 (reference category), 30-39, 40-49, 50-59, 60-69, and 70 and older. Immigrant status includes the following dummy variables: first generation, second generation, and third generation or higher (reference category). Education includes the following categories: less than 12 years, 12 years to 15 years, and 16 years or greater (reference category). A dummy variable indicates the respondent is currently working, and homeownership and living alone are also dummy variables. Marital status includes the following categories: married, separated, divorced or widowed, and never married (reference category). We also control for major life events. Respondents were asked to report the occurrence of 15 major life events within the last five years, such as experiencing the death of a child/spouse or being the victim of a serious physical attack. We summed affirmative responses, with greater values indicating more stressful events. Informal social integration is measured by averaging responses to two questions about 1.) the frequency of getting together with friends, neighbors, or relatives and 2.) the frequency of talking on the telephone or exchanging emails with friends, neighbors, or relatives (1 = *never* to 6 = *more than once a week*) (alpha = 0.58). Perceived social support comprises an average of responses to reports of the following (1 = *none of the time* to 5 = *all of the time*): have someone to confide in or talk to about yourself or your problems; have someone to take you to the doctor if you had to go; have someone to help you with your daily chores if you were sick; have someone to loan you a small amount of money (alpha = 0.78).[3] Finally, respondents were asked about the presence of both friends and kin members in their neighborhood: 1 = *none* to 5 = *ten or more*. The final measure of friends and kin networks averages responses to these questions.

Analytic Plan

Our analytic strategy proceeds in three stages. In the first stage, we calculate the means of everyday and major perceived discrimination for the following demographic groups: race/ethnicity, gender, income, and race/gender. We use t-tests to compare the difference in means across groups. In the second stage, we use ordinary least squared regression models to estimate depressive symptoms, loneliness, and hostility. Everyday and major perceived discrimination are included in the first and all subsequent models. The second set of models includes the following demographic controls: age, gender, race/ethnicity, immigrant status, education, income, employment, homeownership, marital status, and living situation. The third set of models adjusts for all variables in Model 2 and the following: major life events, informal social integration, perceived social support, and friend and kin networks. Finally, in the third stage of our analyses, we examine the association between perceived discrimination and mental health for race/ethnicity, gender, income, and race/gender subgroups. We use adjusted Wald tests to compare the strength of association between perceived discrimination and mental health across social status subgroups (Brame, Paternoster, Mazerolle, and Piquero 1998).

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[3]The social support measure was derived from social support scale items included in the Americans' Changing Lives (ACL) Survey (House 2010) and is based on previous work examining the measurement and use of social support scales for health research (Cohen and Syme 1985; Cohen and Wills 1985; House et al. 1985).

All analyses were weighted to account for differential selection into the sample, non-response, and household size. With respect to age, race/ethnicity, and gender, the distribution of the weighted sample and the 2000 Census estimates are comparable (Morenoff et al. 2007). Prior to data release, the CCHAS data team imputed variables missing fewer than 10% of observations. They used both case-by-case imputation (relying on interviewer comments when available) and a single regression-based imputation (based on demographic, economic, and psychological variables) to preserve these missing observations. The CCHAS data team did not impute household income, as 19% of respondents did not report their income, and we used multiple imputation to preserve these observations (IVEware via SAS, see Raghunathan et al. 2001) providing us with an analytical sample of 3,102 respondents.[4] All multivariate analyses were conducted using Stata's MI commands.

Sample Description

Table 1 presents weighted descriptive statistics of all variables. Respondents report an average of 3.670 on the everyday discrimination scale (range: 0 to 20) and an average of 0.672 on the major discrimination scale (range: 0 to 4). The overall sample comprises about 38% whites, 32% blacks, 26% Hispanics, and 4% other race individuals. More than half of respondents (53%) are women, and about two-fifths are first- or second-generation immigrants. Respondents range in age from 18 to 92 (descriptives not shown). About 28% of the sample is between 18 and 29 years of age, 23% is between 30 and 39 years old, 19% is between 40 and 49 years old, and the rest of respondents are 50 years old or older. In terms of SES, nearly one-fourth of respondents (23%) did not graduate from high school and an additional 49% do not have a college degree. About 64% are employed and 41% own their own home. The modal respondent is married (42%), though 37% report never being married.

RESULTS

Perceived Discrimination Across Social Status Groups

Table 2 displays the weighted means of everyday and major perceived discrimination by race, gender, income, and race/gender. Consistent with prior research, blacks report more everyday and major discrimination than whites. Hispanics report more major discrimination, but not more everyday discrimination, than whites. Men report more everyday and major discrimination than women. However, the combination of race and gender is important, as black women report higher levels of discrimination than white men. There are also striking differences in everyday and major discrimination by income. Individuals with household incomes of less than $10,000 report significantly more everyday and major discrimination than their counterparts who report greater household income.

Estimating Mental Health as a Function of Perceived Discrimination

We next estimate three indicators of mental health – depressive symptoms, loneliness, and hostility – as a function of everyday and major perceived discrimination. As displayed in Table 3, the unadjusted model shows that both everyday and major discrimination are

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[4]IVEware (Imputation and Variance Estimation Software) was developed by researchers at the Survey Methodology Program, Survey Research Center, Institute for Social Research (http://www.isr.umich.edu/src/smp/ive/). There are some important differences between individuals who report household income and those who do not report household income. For example, those missing data on household income are less likely to report both major discrimination and everyday discrimination. They also report fewer depressive symptoms, but report similar levels of loneliness and hostility. Individuals missing data on household income are more likely to be women, less likely to be non-Hispanic black, more likely to be a first-generation immigrant, and have lower levels of education ($p < 0.05$). In analyses not presented, we did not impute household income but instead included a dummy variable indicating observations that were missing data on household income. Results that use this alternative strategy are substantively similar to those presented.

independently associated with depressive symptoms. A one-unit increase in everyday discrimination is associated with a 0.042-point increase in depressive symptoms ($p < 0.001$). Similarly, a one-unit increase in major discrimination is associated with a 0.040-point increase in depressive symptoms ($p < 0.01$). Adjusting for demographic and socioeconomic characteristics in Model 2 does little to attenuate the association between discrimination and depressive symptoms. In the final model, which includes a more extensive set of controls, the coefficient of everyday discrimination is reduced by 26%, though there remains a statistically significant relationship between everyday discrimination and depressive symptoms (0.031, $p < 0.001$). However, the association between major discrimination and depressive symptoms falls to statistical insignificance.

As in the case of depressive symptoms, higher values on the everyday discrimination scale are associated with increased levels of loneliness and hostility, and this positive association persists across all three models. The final model shows that a one-unit increase in everyday discrimination is associated with a 0.030-point increase in loneliness ($p < 0.001$) and a 0.023-point increase in hostility ($p < 0.001$). Although there is no association between major discrimination and loneliness, the association between major discrimination and hostility is statistically significant. The final model indicates that a one-unit increase in major discrimination is associated with a 0.044-point increase in hostility ($p < 0.01$).

One important limitation to the analyses presented is that the major discrimination scale measures *lifetime* events, and it is possible that recent experiences with major discrimination are more strongly associated with mental health than distally occurring experiences with major discrimination. Respondents were asked to report if each experience of major discrimination occurred in the past year or prior to the past year and, in analyses not presented, we exploit the temporal variation in discrimination. Similar to the analyses presented in Table 3, that do not consider the timing of discrimination, neither recently (in the past year) nor distally (prior to the past year) occurring major discrimination is associated with depressive symptoms or loneliness. We find that recently occurring major discrimination is significantly associated with hostility ($p < 0.05$) and distally occurring major discrimination is only marginally significantly associated with hostility ($p < 0.10$), but these coefficients are not statistically different from each other. Taken together, these findings may suggest that it is the occurrence and frequency of major discrimination, not the timing of major discrimination, that is associated with mental health impairments. However, it is important to note that these sensitivity analyses cannot rule out the possibility that recall bias might be occurring. Longitudinal data containing information on both current and lifetime reports of discrimination (and mental health) at multiple time points would be necessary to study the association between timing of discrimination and mental health.

Though not the central focus of this manuscript, other coefficients are associated with mental health in ways that are consistent with expectations. Women, for example, report more depressive symptoms and less hostility than men. Blacks and Hispanics, compared to their white counterparts, report less loneliness and more hostility. Education is negatively correlated with depressive symptoms and hostility. As expected, major life events are associated with more depressive symptoms, and perceived social support is inversely related to mental health impairments.

Subgroup Variation in the Association between Perceived Discrimination and Mental Health

In Table 4, we estimate the association between discrimination and mental health separately by race, gender, and income subgroups (controlling for all covariates in Model 3 of Table 3). The first panel of Table 4 presents the race-stratified results.[5] The subgroup analyses show that the association between everyday discrimination and mental health is consistent across

race/ethnicity. For whites, blacks, and Hispanics, everyday discrimination is associated with more depressive symptoms, more loneliness, and more hostility. Post-hoc tests of equality (adjusted Wald tests, not presented) that compare the strength of the associations across race show that the association between everyday discrimination and hostility is stronger for Hispanics than blacks ($p < 0.05$). With respect to major discrimination, the subgroup analyses show that major discrimination is differentially associated with impaired mental health. There is no association between major discrimination and mental health among blacks and Hispanics, but major discrimination is associated with more loneliness (0.083, $p < 0.05$) and more hostility (0.074, $p < 0.05$) among whites. Post-hoc tests of equality suggest these differences in the association between major discrimination and loneliness are at least marginally statistically significant ($p < 0.05$ for the difference between whites and blacks, $p < 0.10$ for the difference between whites and Hispanics). However, these post-hoc tests of equality show no statistically significant racial variation in the association between major discrimination and hostility.

The second panel of Table 4 presents gender-stratified results. These subgroup analyses show that, for both men and women, everyday discrimination is associated with worse mental health outcomes. Post-hoc tests of equality show that everyday discrimination is more strongly associated with depressive symptoms ($p < 0.05$) and loneliness ($p < 0.05$) for women than for men. Women's and men's hostility is equally affected by everyday discrimination. Though women's experiences with everyday discrimination are generally more strongly linked to impaired mental health, men are more likely to suffer from major discrimination. For men but not women, major discrimination is associated with more depressive symptoms (0.046, $p < 0.05$) and hostility (0.067, $p < 0.01$). Post-hoc tests of equality suggest statistically significant gender differences in the association between major discrimination and depressive symptoms ($p < 0.05$) and between major discrimination and loneliness ($p < 0.10$).

Finally, the third panel of Table 4 shows little variation in the association between discrimination and mental health by income. By and large, everyday discrimination but not major discrimination is linked to less favorable mental health. There is one exception. Among those with incomes between $10,000 and $30,000, there is a positive association between major discrimination and hostility. Post-hoc tests of equality find no variation in the association between discrimination and mental health by income.

Variation in the Association between Perceived Discrimination and Mental Health by Race and Gender

In Table 5, we present results for the following six subgroups: white men, white women, black men, black women, Hispanic men, and Hispanic women. We find limited evidence that discrimination is negatively associated with mental health among minority men. Among both black and Hispanic men, everyday discrimination is associated with more depressive symptoms (0.020, $p < 0.01$ for black men; 0.024, $p < 0.01$ for Hispanic men). Everyday discrimination, however, is not associated with loneliness or hostility among these subgroups, though it is associated with all three mental health outcomes for women. Additionally, we find that major discrimination is strongly linked to loneliness and hostility among white men but not white women. Post-hoc tests of equality generally show that both types of perceived discrimination equally affect the mental health of these six subgroups.

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[5]Given the small number of non-Hispanic other race individuals in the sample (n = 80), we do not present results for this group.

DISCUSSION

We use a multiethnic, population-based sample of adults in Chicago to examine the relationship between perceived discrimination and mental health. Consistent with expectations, we find a strong, robust relationship between everyday perceived discrimination and all three indicators of mental health. Chronic stressors such as everyday discrimination can capture persistent, ongoing negative exposures, and the insidious effects of these constant indignities may produce chronic helplessness and hopelessness that may lead to depression, loneliness, or hostility (Clark et al. 1999; Williams and Mohammed 2009).

Additionally, our results point to an inconsistent association between major discrimination and mental health; major discrimination is not associated with loneliness, is not associated with depressive symptoms once we adjust for major life events and social relationships, and is robustly associated with hostility. Estimates of depressive symptoms mirror results of previous work that finds, in models controlling for both everyday and major discrimination, the relationship between major discrimination and mental health is reduced to statistical insignificance (Bennett et al. 2010; Williams et al. 1997). The fact that major discrimination is strongly associated with hostility is consistent with our expectations. Major discrimination often represents large-scale, emotionally challenging and traumatic experiences with unfair treatment. Ethnographic research highlights how feelings of anger can emerge after being unfairly stopped and harassed by the police or being passed over for a job because of race (Feagin and Sikes 1994). These more acute experiences may engender intense and lasting emotional reactions. Indeed, the desire for retribution that has been unmet (e.g., a police officer is not reprimanded for unfairly stopping or harassing someone due to their race) may be more salient to feelings of hostility rather than to feelings of loneliness and depression.

Taken together, these findings highlight the need for researchers to analyze discrimination comprehensively and to consider a wide array of mental health outcomes (Williams and Mohammed 2009). Both dimensions of discrimination have important, unique associations with mental health. Failing to measure both dimensions may lead to an underestimation of the influence of discriminatory-stress on mental health (Williams and Mohammed 2009). It should be noted that although the magnitude of these discrimination coefficients are not large, they are similar in magnitude of more commonly studied stressors such as major life events (see Kessler et al. 1999). But the fact that discrimination remains significantly associated with mental health after the inclusion of a wide array of covariates (including demographics, social support, and stress) underscores the independent importance of discrimination as a unique social stressor.

The second goal of this paper was to examine subgroup variation in the association between discrimination and mental health. By and large, the subgroup analyses and post-hoc tests for equality suggest that perceived discrimination is an equal opportunity risk factor for mental health impairments among the three racial/ethnic subgroups we examined. There are a couple of exceptions, with the association between major discrimination and loneliness being stronger among whites than blacks and the association between everyday discrimination and hostility being stronger among Hispanics than blacks. The stronger associations between perceived discrimination and health for whites is not necessarily indicative of discrimination being more detrimental for the overall health of whites than blacks. As research in both stress theory and discrimination indicates, what makes discrimination harmful to vulnerable populations is the repeated and chronic experiences of discrimination over time compounded by the addition of multiple stressors that are fundamentally born out of disadvantaged social contexts (Pearlin et al. 2005; Sternthal, Slopen, and Williams 2011; Thoits 2010; Turner and Avison 2003).

Though we find little variation in the consequences of discrimination for mental health by race/ethnicity, our results provide some evidence that the association between perceived discrimination and mental health varies by gender. We find that everyday discrimination is generally more strongly associated with mental health for women than men, and that major discrimination is generally more strongly associated with mental health for men. Perhaps, because experiences of acute discrimination are salient to important aspects of male identity (e.g., the ability to acquire, excel in and maintain a job to provide for a family), these experiences might have a more profound effect on men's mental health than they do for women's mental health (Cohen 2001). Previous research shows mixed findings on differential associations between discrimination and mental health across gender and more theoretical and empirical work (particularly in diverse samples) needs to be done to better understand the role of gender, particularly as it relates to race and class, to more fully explicate the patterns that have been found (Williams and Mohammed 2009; also see Hahm et al. 2010).

Major discrimination and mental health varies across social status subgroups, with subgroup analyses finding that major discrimination may be associated with mental health primarily for white men. However, posthoc tests of equality do not find support for this. Nevertheless, it is important to interpret these findings with discretion because they rely on small sample sizes. It is possible that major experiences with unfair treatment are particularly stressful for white men, given their privileged social status, and, therefore, may lead to feelings of loneliness and hostility. Unlike minority groups who have experienced historical and continued discrimination and may have learned to cope with such discrimination, it is possible that whites, particularly white men, have not developed successful coping abilities due to their relatively privileged social status. It might also be the case that lower levels of exposure to discrimination are associated with greater reactivity to it because of the novelty. Indeed, white men experience lower levels of major discrimination compared to black and Hispanic men and black women. In our sample, only 42% of white men reported lifetime major discrimination, compared to 74% of black men, 52% of Hispanic men and 50% of black women (see Table 2).

In general, these findings point to the notion that perceived discrimination is an important stressor for all population groups and a growing body of research supports the fact that experiences of unfair treatment and daily hassles for any reason can have an impact on mental and physical health (see Williams and Mohammed 2009 for a review). Although it is clear that more work needs to be done to accurately conceptualize and assess different types of discrimination (Williams and Mohammed 2009), it may also be worthwhile to consider not only the type of stressors faced by different social status groups but to also consider that the disproportionate number of stressors faced by disadvantaged social groups might differentially affect their mental and physical health (Evans and Kim 2010; Sternthal et al. 2011; Turner and Avison 2003). For example, the poorer health of African American women is not only related to experiences of discrimination, but also related to social contexts of higher levels of poverty, food insecurity, life events, and neighborhood instability that combined serve to impact health (Geronimus 1992, 2001).

These findings should be interpreted with caution. For one, the cross-sectional data make it difficult to discern causal ordering. Though theoretical perspectives make it easy to imagine that perceptions of discrimination adversely affect mental health outcomes, it is possible that impaired mental health influences how a person experiences, interprets, and reacts to adverse events (Brondolo et al. 2008). A person with a negative affect may incorrectly recall the intensity and frequency of past experiences as discriminatory, even though these experiences would not be assessed similarly by a person without negative affect (Brondolo et al. 2008), or negative affect might cause others to act negatively or discriminatorily.

Indeed, this is a persistent issue with measures of chronic stress exposure such as everyday discrimination, and this is also likely true of major discriminatory events. Though it is likely that recall accuracy may be affected by both depressed and hostile mood (particularly in a cross-sectional study), there is no research that indicates loneliness would affect recall accuracy. Given our results are generally consistent across outcomes, this lends credence to our hypotheses that the causal pathway goes from discrimination to mental health. Additionally, our findings are strengthened by the few longitudinal studies suggesting a causal effect of discrimination on mental health (e.g., Brown et al., 2000; Jackson et al., 1996; Pavalko, Mossakowski, and Hamilton 2003; Schultz et al. 2006). Similarly, research links experiences with discrimination to physical health such as hypertension, obesity, and waist circumference (Hunte 2011; Hunte and Williams 2009; Williams and Mohammed 2009), a relationship less susceptible to reverse causality. Future data collection efforts, though, should include longitudinal indicators of everyday discrimination, major discrimination, and mental health for a large, representative, and diverse sample of adults, as we cannot ascertain causal estimates with our cross-sectional data.

It should also be noted that the measure of loneliness used in the paper, although rapidly becoming a standard measure of assessing this construct, focuses on the psychological manifestation of loneliness rather than objective characteristics associated with loneliness such as social isolation or lack of social integration. There is more precedent in the life events literature for studying objective characteristics of social integration as an outcome because of the impact that certain life events have on personal networks (e.g., Thoits 1982, 1984). This may help to explain why major discriminatory events are not related to loneliness. Loneliness is an indicator, but not equivalent to the aspects of social relationships that major discriminatory events would be predicted to affect negatively (e.g., loss of social networks such as co-workers after being unfairly fired).

It is also possible that discrimination is measured imprecisely. Our measures of chronic and acute discrimination could be based on multiple social status characteristics. Although this measurement allows for application across demographic subgroups, we lose the comprehensiveness and nuance that other measures of discrimination might afford. For example, one reason for differences in the association between discrimination and mental health evidenced across studies may be due to the fact that discrimination has been measured a variety of ways across multiple studies (see Williams and Mohammed 2009 for a recent review). Indeed, there is no consensus on the best way to measure discrimination in studies of health (Williams and Mohammed 2009). Given our research focus on the variation in the association between discrimination and mental health across social status groups, one way to create a more comprehensive measure of discrimination is to consider including additional dimensions of discrimination, such as measures of anticipation of future occurrences of discrimination or vigilance, which may have important links to mental health in ways that differ from past experiences. The idea of vigilance as a stressor has been discussed in the public health and psychology literature (see Williams and Mohammed 2009 for a recent review) and has also been described in ethnographic work in both sociology (e.g., Feagin and Sikes 1994) and public health (e.g., Nuru-Jeter et al. 2009). Examining these relationships may also disentangle possible reasons for the association between discrimination and mental health among subgroups that experience low levels of discrimination. Since it is possible that those who experience low levels of discrimination might not anticipate the possibility of discrimination in the future (as an additional stressor) in the same ways that those who experience higher levels of discrimination would, we might see more differences in the association between perceived discrimination and health across social status subgroups. In addition, although the focus of this analysis is not solely based on race, using questions that explore the race-specific discriminatory stress such as the question, "How often do you think about your race?" developed by the CDC Measures of

Racism Working Group (2002) might provide additional information and insight about reactions to more subtle and insidious forms of discrimination and institutionalized racism (Jones 2001) that might impact the relationships between experiences with discrimination and health.

Despite these limitations, this study provides new insight into the consequences of discrimination on mental health in a multiethnic, population-based sample of adults. We extend prior research in the following ways: 1.) by examining the independent contributions of everyday discrimination and major discrimination to mental health; 2.) by considering two indicators of mental health that are not commonly considered, loneliness and hostility; and 3.) by examining subgroup variation in the association between discrimination and mental health. The findings highlight the need to examine multiple indicators of both discrimination and mental health as well as to pay particular attention to both differences and similarities in the associations between discrimination and mental health across race/ethnicity, gender and SES. Given that the association between discrimination and mental health is stronger, or similar in magnitude, for majority compared to minority racial/ethnic groups, despite the fact that reports of discrimination are higher among minority racial/ethnic groups, suggests that more research attention should be paid to the differential coping and responses to stress by race (Jackson, Knight, and Rafferty 2010; Williams and Mohammed 2009), as well as racial differences in the quantities and magnitude of stressors faced by disadvantaged groups (Sternthal et al. 2011, Turner and Avison 2003). Finally, the findings suggest far-reaching consequences of discrimination. Future work should continue to unpack how multiple dimensions of discrimination may have implications for the health of the entire population and for health inequalities.

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Table 1

Weighted Descriptive Statistics of Variables Included in Analysis

	Mean	Standard error
Depressive symptoms (range: 1-4)	1.815	(0.014)
Loneliness (range: 1-4)	1.921	(0.018)
Hostility (range: 1-4)	2.524	(0.017)
Perceived everyday discrimination scale (range: 0-20)	3.670	(0.096)
Perceived major discrimination scale (range: 0-4)	0.672	(0.023)
Age		
18–29	0.275	(0.012)
30–39	0.226	(0.009)
40–49	0.187	(0.009)
50–59	0.129	(0.007)
60–69	0.090	(0.007)
70 or older	0.092	(0.006)
Female	0.526	(0.012)
Race/Ethnicity		
White	0.384	(0.021)
Black	0.321	(0.023)
Hispanic	0.257	(0.017)
Other race	0.038	(0.006)
Immigrant status		
First generation	0.268	(0.015)
Second generation	0.137	(0.009)
Third generation	0.595	(0.019)
Education		
Less than 12 years	0.234	(0.012)
12 to 15 years	0.487	(0.014)
16 years or greater	0.279	(0.018)
Income		
< $10K	0.130	(0.009)
$10K to < $30K	0.317	(0.013)
$30K to < $50K	0.227	(0.011)
$50K	0.327	(0.015)
Employed	0.644	(0.012)
Homeowner	0.412	(0.015)
Marital status		
Married	0.419	(0.013)
Separated	0.040	(0.004)
Divorced or widowed	0.175	(0.008)
Never married	0.367	(0.013)
Lives alone	0.182	(0.011)

	Mean	Standard error
Major life events (range: 0-11)	2.227	(0.042)
Informal social integration (range: 1-6)	4.496	(0.029)
Perceived social support (range: 1-5)	4.100	(0.020)
Friend and kin networks (range: 1-5)	2.634	(0.024)
N	3,102	

Table 2
Weighted Means of Perceived Discrimination

	Perceived everyday discrimination	Perceived major discrimination	N
Race/ethnicity			
White	3.334	0.468	983
Black	4.699 ***	1.013 ***	1,240
Hispanic	2.921	0.565 *	800
Other race	3.447	0.578	80
Gender			
Male	3.934 **	0.845 ***	1,234
Female	3.432	0.516	1,868
Income			
< $10K	4.035	0.778	459
$10K to < $30K	3.531 ***	0.674 ***	1,002
$30K to < $50K	3.529 ***	0.637 ***	713
>= $50K	3.758 ***	0.652 ***	868
Race/ethnicity and gender			
White male	3.541	0.580	432
White female	3.129	0.359 ***	551
Black male	5.141 ***	1.316 ***	416
Black female	4.372 **	0.788 **	823
Hispanic male	3.236	0.761 *	346
Hispanic female	2.624 **	0.380 **	454
Other race male	3.797	0.703	40
Other race female	2.985	0.413	40

Note:

Asterisks compare Whites to blacks, Hispanics, and other race; males to females; those with income of less than $10K to other income groups; and white males to other race/gender groups.

*
p < 0.05

**
p < 0.01

***
p < 0.001.

Table 3

OLS Regression Models Estimating Mental Health Outcomes as a Function of Perceived Discrimination

	Depressive symptoms			Loneliness			Hostility		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Perceived everyday discrimination	0.042 *** (0.003)	0.041 *** (0.003)	0.031 *** (0.003)	0.035 *** (0.005)	0.039 *** (0.005)	0.030 *** (0.005)	0.024 *** (0.004)	0.028 *** (0.004)	0.023 *** (0.004)
Perceived major discrimination	0.040 ** (0.014)	0.041 ** (0.014)	0.006 (0.014)	0.007 (0.020)	0.018 (0.020)	0.001 (0.020)	0.095 *** (0.016)	0.048 ** (0.015)	0.044 ** (0.014)
Age									
18–29 (reference)		---	---		---	---		---	---
30–39		0.038 (0.032)	0.005 (0.031)		0.118 * (0.050)	0.068 (0.050)		−0.025 (0.036)	−0.055 (0.036)
40–49		0.068 (0.041)	0.015 (0.038)		0.132 * (0.059)	0.046 (0.059)		−0.063 (0.041)	−0.115 ** (0.042)
50–59		0.050 (0.047)	0.002 (0.044)		0.114 (0.070)	0.029 (0.070)		−0.009 (0.053)	−0.064 (0.052)
60–69		0.074 (0.051)	0.062 (0.050)		0.187 * (0.077)	0.136 (0.079)		−0.088 (0.055)	−0.127 * (0.056)
70 or older		−0.014 (0.057)	−0.027 (0.057)		0.182 * (0.089)	0.120 (0.087)		−0.161 ** (0.059)	−0.210 ** (0.060)
Female		0.124 *** (0.024)	0.124 *** (0.023)		0.039 (0.033)	0.039 (0.034)		−0.135 *** (0.027)	−0.131 *** (0.027)
Race/Ethnicity									
White (reference)		---	---		---	---		---	---
Black		−0.042 (0.029)	−0.041 (0.028)		−0.171 *** (0.045)	−0.188 *** (0.044)		0.292 *** (0.032)	0.279 *** (0.031)
Other race		−0.003 (0.080)	−0.015 (0.075)		0.083 (0.145)	0.051 (0.148)		0.142 (0.087)	0.119 (0.084)
Hispanic		−0.005 (0.039)	−0.009 (0.038)		−0.125 * (0.057)	−0.131 * (0.056)		0.108 ** (0.040)	0.101 * (0.039)
Immigrant status									
First generation		−0.063 (0.038)	−0.059 (0.037)		0.053 (0.056)	0.037 (0.057)		0.151 *** (0.042)	0.137 ** (0.042)
Second generation		−0.040 (0.041)	−0.025 (0.040)		−0.151 ** (0.056)	−0.136 * (0.055)		0.004 (0.041)	0.009 (0.041)

	Depressive symptoms			Loneliness			Hostility		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Third generation (reference)	---	---	---		---	---		---	---
Education									
Less than 12 years		0.150 *** (0.040)	0.112 ** (0.038)		0.056 (0.058)	0.002 (0.057)		0.235 *** (0.041)	0.203 *** (0.040)
12 to 15 years		0.081 ** (0.031)	0.068 * (0.029)		0.004 (0.046)	−0.010 (0.045)		0.136 *** (0.031)	0.127 *** (0.031)
16 years or greater (reference)		---	---		---	---		---	---
Income									
< $10K		0.104 (0.054)	0.084 (0.052)		0.143 (0.077)	0.124 (0.076)		0.099 (0.054)	0.087 (0.052)
$10K to < $30K		0.112 ** (0.036)	0.084 * (0.033)		0.115 * (0.053)	0.087 (0.051)		0.062 (0.041)	0.045 (0.040)
$30K to < $50K		0.020 (0.032)	0.015 (0.031)		0.018 (0.055)	0.014 (0.054)		0.017 (0.040)	0.013 (0.038)
$50k (reference)		---	---		---	---		---	---
Employed		.113 *** (0.027)	−0.088 ** (0.027)		−0.089 * (0.044)	−0.066 (0.043)		0.033 (0.033)	−0.049 (0.032)
Homeowner		−0.013 *** (0.028)	−0.094 *** (0.026)		−0.076 (0.041)	−0.038 (0.039)		0.032 ** (0.032)	−0.069 * (0.032)
Marital status									
Married		−0.065 (0.036)	−0.066 (0.035)		−0.135 ** (0.048)	−0.137 ** (0.047)		0.039 (0.039)	0.052 (0.038)
Separated		−0.012 (0.058)	−0.021 (0.054)		−0.010 (0.098)	−0.021 (0.099)		0.064 * (0.064)	0.141 * (0.063)
Divorced or widowed		0.046 (0.037)	0.018 (0.035)		0.086 (0.057)	0.075 (0.056)		0.041 ** (0.041)	0.111 ** (0.040)
Never married (reference)		---	---		---	---		---	---
Lives alone		0.054 (0.032)	0.031 (0.031)		0.116 * (0.045)	0.080 (0.043)		0.035 (0.035)	−0.028 (0.034)
Major life events			0.039 *** (0.007)			0.014 (0.010)			−0.002 (0.007)
Informal social integration			−0.011 (0.011)			−0.034 * (0.016)			−0.026 * (0.012)

	Depressive symptoms			Loneliness			Hostility		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Perceived social support			-0.163 *** (0.013)			-0.187 *** (0.023)			-0.106 *** (0.017)
Friend and kin networks			-0.006 (0.011)			-0.052 ** (0.018)			-0.021 (0.014)
Constant	1.635 ***	1.583 ***	2.318 ***	1.788 ***	1.770 ***	2.916 ***	2.372 ***	2.204 ***	2.887 ***
R^2	0.099	0.192	0.261	0.029	0.087	0.137	0.058	0.181	0.208
N	3,102	3,102	3,102	3,102	3,102	3,102	3,102	3,102	3,102

Note:

*
$p<0.05$

**
$p<0.01$

***
$p<0.001$.

Table 4

OLS Regression Models Estimating Mental Health Outcomes, by Race/Ethnicity, Gender, and Income

	Depressive symptoms	Loneliness	Hostility
Race/Ethnicity			
White (n=983)			
Perceived everyday discrimination	0.030 *** (0.006)	0.024 ** (0.008)	0.022 *** (0.006)
Perceived major discrimination	0.024 (0.026)	0.083 * (0.038)	0.074 * (0.030)
Black (n=1,239)			
Perceived everyday discrimination	0.029 *** (0.005)	0.023 ** (0.007)	0.017 ** (0.006)
Perceived major discrimination	0.003 (0.018)	−0.015 (0.029)	0.036 (0.019)
Hispanics (n=800)			
Perceived everyday discrimination	0.036 *** (0.007)	0.043 *** (0.009)	0.033 *** (0.008)
Perceived major discrimination	−0.014 (0.029)	−0.010 (0.042)	0.019 (0.032)
Gender			
Males (n=1,234)			
Perceived everyday discrimination	0.023 *** (0.004)	0.020 ** (0.007)	0.020 *** (0.005)
Perceived major discrimination	0.046 * (0.020)	0.039 (0.029)	0.067 ** (0.021)
Females (n=1,868)			
Perceived everyday discrimination	0.039 *** (0.004)	0.040 *** (0.007)	0.028 *** (0.005)
Perceived major discrimination	−0.026 (0.018)	−0.037 (0.028)	0.021 (0.020)
Income			
< $10K (n=365)			
Perceived everyday discrimination	0.030 ** (0.009)	0.027 * (0.013)	0.022 * (0.009)
Perceived major discrimination	0.063 (0.043)	−0.070 (0.067)	0.072 (0.041)
$10K to < $30K (n=876)			
Perceived everyday discrimination	0.035 *** (0.006)	0.027 ** (0.008)	0.024 *** (0.006)
Perceived major discrimination	0.012 (0.028)	0.018 (0.035)	0.063 * (0.030)
$30K to < $50K (n=581)			
Perceived everyday discrimination	0.032 *** (0.007)	0.041 *** (0.010)	0.017 * (0.008)
Perceived major discrimination	−0.038 (0.027)	−0.037 (0.037)	0.046 (0.032)

	Depressive symptoms	Loneliness	Hostility
$50K (n=698)			
Perceived everyday discrimination	0.028 *** (0.006)	0.025 ** (0.009)	0.025 *** (0.007)
Perceived major discrimination	0.011 (0.023)	0.037 (0.036)	0.019 (0.029)

Note:

All models include covariates from Model 3 of Table 3.

*
  p < 0.05

**
  p < 0.01

***
  p < 0.001.

Table 5

OLS Regression Models Estimating Mental Health Outcomes, by Race/Ethnicity and Gender Subgroups

	Depressive symptoms	Loneliness	Hostility
White males (n=432)			
Perceived everyday discrimination	0.024 ** (0.008)	0.013 (0.011)	0.019 * (0.009)
Perceived major discrimination	0.058 (0.037)	0.112 * (0.050)	0.096 * (0.046)
White females (n=551)			
Everyday discrimination	0.036 *** (0.008)	0.038 *** (0.012)	0.025 ** (0.008)
Major discrimination	−0.024 (0.034)	0.046 (0.053)	0.070 (0.037)
Black males (n=416)			
Everyday discrimination	0.020 ** (0.007)	0.019 (0.011)	0.013 (0.008)
Major discrimination	0.016 (0.026)	−0.011 (0.046)	0.040 (0.029)
Black females (n=823)			
Everyday discrimination	0.036 *** (0.006)	0.026 ** (0.010)	0.025 ** (0.007)
Major discrimination	−0.003 (0.025)	−0.020 (0.039)	0.033 (0.029)
Hispanic males (n=346)			
Everyday discrimination	0.024 ** (0.009)	0.017 (0.013)	0.020 (0.010)
Major discrimination	0.025 (0.035)	0.058 (0.054)	0.047 (0.044)
Hispanic females (n=454)			
Everyday discrimination	0.049 *** (0.011)	0.066 *** (0.014)	0.039 *** (0.011)
Major discrimination	−0.040 (0.051)	−0.073 (0.063)	0.001 (0.048)

Note:

All models include covariates from Model 3 of Table 3.

*
$p < 0.05$

**
$p < 0.01$

***
$p < 0.001$.