

Multiple Forms of Perceived Discrimination and Health among Adolescents and Young Adults

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Abstract

Research on perceived discrimination has overwhelmingly focused on one form of discrimination, especially race discrimination, in isolation from other forms. The present article uses data from the Black Youth Culture Survey, a nationally representative, racially and ethnically diverse sample of 1,052 adolescents and young adults to investigate the prevalence, distribution, and mental and physical health consequences of multiple forms of perceived discrimination. The findings suggest that disadvantaged groups, especially multiply disadvantaged youth, face greater exposure to multiple forms of discrimination than their more privileged counterparts. The experience of multiple forms of discrimination is associated with worse mental and physical health above the effect of only one form and contributes to the relationship between multiple disadvantaged statuses and health. These findings suggest that past research may misspecify the discrimination-health relationship and fails to account for the disproportionate exposure to discrimination faced by multiply disadvantaged individuals.

Keywords

discrimination, disparities, distress, intersectionality, self-rated health, status, stress, youth

Research on perceived discrimination and health has proliferated in the past decade, documenting a detrimental effect of discrimination on mental and physical health (Kessler, Mickelson, and Williams 1999; Mays, Cochran, and Barnes 2007; Paradies 2006; Pascoe and Richman 2009; Williams and Mohammed 2009; Williams, Neighbors, and Jackson 2003). However, many components of the discrimination-health relationship remain underexplored. Given their overwhelming focus on one form of discrimination (especially race discrimination) in isolation from other forms, scholars have overlooked exposure to multiple forms of discrimination. Consequently, little is known about the prevalence of experiences with multiple forms of discrimination and how these experiences are distributed in the population. Further, it is unclear whether there is a singular harmful effect of discrimination on health or, alternatively, if the effect

on health is greater for multiple forms of discrimination. In addition, little is known about youths' exposure to discrimination due to scholars' nearly exclusive focus on adults (Sanders-Phillips et al. 2009; Williams et al. 2003). Research on youth almost exclusively relies on nonrepresentative samples, often only of youth of color, hindering scholars' ability to make larger generalizations.

The present article uses data from the Black Youth Culture Survey (BYCS), a nationally representative sample of adolescents and young adults to investigate the prevalence, distribution, and

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mental and physical health consequences of multiple forms of perceived discrimination. Specifically, this article investigates three research questions. First, are there relationships between multiple forms of perceived discrimination and mental and physical health? If so, is this relationship stronger when these experiences occur more frequently? Second, do youth who belong to disadvantaged groups, particularly multiply disadvantaged youth, face greater exposure to multiple forms of discrimination? Finally, to what extent do multiple forms of perceived discrimination contribute to the relationship between multiple disadvantaged statuses and health?

BACKGROUND

Two theoretical frameworks undergird the research questions investigated in this study: stress theory and intersectionality. In conceptualizing perceived discrimination as a social stressor, stress theory is useful for testing predictions regarding the health consequences of discrimination. Intersectionality reorients research on health disparities to attend to the simultaneity of and intersections among health disparities across various sociodemographic axes (e.g., race, gender) (Schultz and Mullings 2006). Taken together, these theoretical frameworks provide guidance for assessing the distribution of exposure to multiple forms of discrimination and the extent to which these experiences contribute to health disparities.

Perceived Discrimination as a Social Stressor

Stress theory argues that stressors, including major life events, chronic strains, and traumas, can accumulate, compromising individuals' ability to cope. This build up, in turn, can lead to an increased vulnerability to poor health (Pearlin 1989, 1999; Thoits 1995). Stress theory suggests that stressors and coping resources are not equally distributed in the population; rather, disadvantaged groups are exposed to disproportionate amounts of stressors yet afforded fewer coping resources than privileged groups. Empirical investigations have supported these predictions, finding that these disparities in stressors and stress-buffering resources contribute to health disparities (Lantz et al. 2005; Turner and Avison 2003; Turner and Lloyd 1999).

Discrimination—unfair treatment by others on the basis of one's social group membership—is

conceptualized as a social stressor (Thoits 2010). In addition to the detrimental effect of discrimination on one's opportunities and life chances, exposure to discrimination predicts worse health (Mays et al. 2007; Paradies 2006; Pascoe and Richman 2009; Thoits 2010; Williams and Mohammed 2009; Williams et al. 2003). Two mechanisms through which perceived discrimination affects health have been proposed. The first mechanism is the direct challenge of discrimination to psychosocial resources (e.g., mastery, self-efficacy, self-esteem) and beliefs about fairness and justice, which in turn lead to compromised psychological well-being (Broman, Mavaddat, and Hsu 2000; Sanders-Phillips et al. 2009; Yuan 2007; although see Hughes and Demo 1989 and Krieger 1999). The second mechanism is the physiological stress response to discrimination that, when experienced chronically, increases one's vulnerability to physical health problems (Krieger and Sidney 1996; Sanders-Phillips et al. 2009).

Researchers have investigated whether perceived discrimination is systematically distributed in the population and, if so, whether unequal exposure to discrimination contributes to health disparities. Estimates in the United States suggest that two-thirds of adults report exposure to everyday discrimination (e.g., treated as though one is inferior) and one-third report exposure to major lifetime discrimination (e.g., unfairly fired) (Kessler et al. 1999). Disadvantaged groups face a disproportionate amount of discrimination. This pattern is consistent with *minority stress theory* (Meyer 1995), which argues that members of stigmatized groups face additional, group-specific stressors (e.g., discrimination) that supplement their disproportionate exposure to general stressors, leading to larger health disparities (Hatzenbuehler 2009). However, evidence regarding the extent to which perceived discrimination contributes to health disparities is mixed. Some scholars have found that discrimination contributes a great deal to health disparities (Bratter and Gorman 2011; Herek and Garnets 2007; Mays and Cochran 2001). Yet, others have concluded that such experiences contribute little to explaining health disparities once accounting for a comprehensive array of stressors (Taylor and Turner 2002; Thoits 2010).

Two related components of the discrimination-health relationship have been overlooked in previous research, which has potentially contributed to conclusions that discrimination contributes little to health disparities: multiple forms of discrimination and the overall frequency of discrimination. Past

research has overwhelmingly focused on a single form of perceived discrimination, especially race discrimination, in isolation from all other forms (Pascoe and Richman 2009). As such, this research may actually misspecify the relationship between discrimination and health because it fails to account for exposure to multiple forms of discrimination. Similarly, many studies examine the mere presence of discrimination experiences. Yet, there is evidence of a dose-response relationship between discrimination and health, wherein increases in exposure to discrimination is associated with incrementally worse health (Paradies 2006; Williams et al. 2003). Thus, this research overlooks the role that the frequency of exposure to discrimination may play.

The present study examines whether exposure to more forms of discrimination is associated with worse mental and physical health. There may be a singular effect of discrimination on health, regardless of the number of forms experienced. Alternatively, if each form of discrimination is experienced as a distinct stressor, facing more forms of discrimination may be more detrimental to one's health than experiencing only one form. Whereas previous research suggests that the chronicity of discrimination experiences is one factor that drives the detrimental effects of discrimination on health (Gee and Walsemann 2009), this study examines whether experiencing more frequent discrimination overall predicts worse health.

The "Double Disadvantage" Hypothesis and Multiple Forms of Perceived Discrimination

The intersectionality framework calls for the consideration of the interlocking and mutually reinforcing relationships among various systems of oppression (Browne and Misra 2003; Collins 2000). Thus, one form of stratification (e.g., racism) cannot be fully understood without considering how it intersects with and mutually reinforces other forms of stratification (e.g., sexism). As such, scholars must acknowledge that individuals exist on multiple dimensions of privilege and disadvantage and, as a result, examinations of their lives and experiences must consider the simultaneous, intersecting nature of these systems. Of particular concern is the simultaneity of disadvantage, sometimes referred to as the *double burden*, wherein many individuals who are disadvantaged on one axis are also disadvantaged on others (Browne and Misra 2003; Collins 2000; St. Jean

and Feagin 1998). For example, investigations of racial discrimination among people of color masks that women of color may face the additional burdens of gender and social class discrimination.

In light of disparities in health, some scholars have stressed the need to examine whether multiply disadvantaged individuals experience substantially worse health than their more privileged counterparts (Meyer, Schwartz, and Frost 2008; Stuber and Meyer 2008). This proposal, the *double disadvantage hypothesis* (Beale 1970; Dowd and Bengston 1978), has been tested in some studies, yielding mixed findings. Some researchers have found that multiply disadvantaged individuals experience worse health than their privileged and singly disadvantaged counterparts (Cummings and Jackson 2008; Ryff, Keyes, and Hughes 2003), while others found little support for this hypothesis (Ferraro and Farmer 1996; McLeod and Owens 2004).

As argued by Ferraro and Farmer (1996), past research testing the double disadvantage hypothesis is limited by scholars' assumption, rather than explicit measure, of the experience of multiple forms of discrimination among multiply disadvantaged individuals. Few studies have examined experiences of multiple forms of discrimination, including investigations that rely on nonrepresentative samples and/or fail to compare privileged and disadvantaged groups (Diaz et al. 2001; Krieger and Sidney 1997; Meyer et al. 2008). Estimates from nationally representative samples suggest that one-fifth to one-third of adults in the United States report exposure to multiple forms of discrimination (Kessler et al. 1999; Puhl, Andreyeva, and Brownell 2008). Assessments of the distribution of multiple forms of perceived discrimination have yielded mixed findings, wherein some scholars find that disadvantaged groups face more forms of discrimination than their privileged counterparts, while others have found the opposite pattern (Mays and Cochran 2001; Puhl et al. 2008). Further, the findings regarding the health consequences of multiple forms of perceived discrimination are also mixed. Some scholars have found an association between such experiences and health (Meyer et al. 2008; Stuber et al. 2003), while others have found no significant relationship (Kessler et al. 1999).

Given the limited availability of data on experiences with multiple forms of discrimination, several questions remained unanswered. First, we do not yet know how prevalent experiences of multiple forms of discrimination are in the population, especially among youth. Second, researchers have

not investigated whether multiply disadvantaged individuals are exposed to more forms of discrimination than their more privileged counterparts. Finally, scholars have yet to clearly establish whether experiences of multiple forms of discrimination are detrimental to health and further, whether these experiences contribute to the relationship between multiple disadvantaged statuses and health.

Perceived Discrimination among Youth

Researchers have overwhelmingly focused on perceived discrimination among adults. However, children begin to develop an awareness of discrimination by age five (Brown and Bigler 2005). As children age, they develop a more complex understanding of discrimination, and by middle school, many begin to report exposure to discrimination. Adolescents and young adults face discrimination in employment and the workplace, interactions with police, public accommodations, and in school and peer contexts (Brody et al. 2006; Caldwell, Guthrie, and Jackson 2006; Gee and Walsemann 2009; Leaper and Brown 2008). Similar to adults, youths' experiences with discrimination are associated with poorer mental and physical health (Seaton et al. 2008; Taylor and Turner 2002; see Sanders-Phillips et al. 2009 for a review). This relationship has been confirmed by longitudinal research, wherein perceived discrimination predicts worse health, but poor health does not predict later reports of discrimination (Gee and Walsemann 2009).

Given the potential long-term effects on adjustment, life chances, and well-being in adulthood, it is crucial to examine discrimination in adolescence and young adulthood. For example, some evidence suggests that early experiences with discrimination are associated with health problems, poor academic performance, and delinquency (Brody et al. 2006; Simons et al. 2006). Similar to sexual harassment (Houle et al. 2011), victims of discrimination in early life may be more likely to be victimized again in adulthood (Greene, Way, and Pahl 2006), and early life experiences with discrimination may affect one's health in adulthood. Accordingly, a more comprehensive assessment of youths' experiences with discrimination may

improve our understanding of the discrimination-health relationship in adulthood.

Despite the importance of examining perceived discrimination during this pivotal developmental stage, scholars have yet to assess these experiences, including exposure to multiple forms of discrimination, among youth. The present article uses a nationally representative, racially and ethnically diverse sample to investigate the prevalence, distribution, and mental and physical health consequences of multiple forms of discrimination among adolescents and young adults. This study assesses whether multiple forms of perceived discrimination is more detrimental to health than the experience of a single form of discrimination or, alternatively, if there is a singular detrimental to health. It also examines whether disadvantaged groups, particularly multiply disadvantaged individuals, face greater exposure to multiple forms of discrimination than their more privileged counterparts. Finally, this study investigates the extent to which these experiences contribute to the relationship between multiple disadvantaged statuses and health.

DATA AND METHODS

Data

The present article uses data from the Black Youth Culture Survey (BYCS) of the Black Youth Project, a multimethod research project conducted at the University of Chicago in 2005 (Cohen 2005; see Cohen 2007 for a detailed description). The BYCS is a nationally representative survey of 1,590 15- to 25-year-olds in the United States with oversamples of black and Latina/o youth. The BYCS employed a complex survey design including two sampling strategies. First, the BYCS used random-digit-dial (RDD) sampling of all households with a telephone to yield a nationally representative sample. Second, it used RDD sampling of households in areas where at least 15 percent of the population was Latina/o or black to oversample Latina/o and black households. The data were collected using computer-assisted phone interviews, yielding a response rate of 62 percent. Whereas data are missing at random, listwise deletion for missing information on independent and dependent variables

was employed. This resulted in the exclusion of 65 respondents, yielding a final sample of 1,052 respondents.

Measures

Health. The present study examines mental and physical health outcomes. Depressive symptoms is measured using two items that assess the number of days respondents felt “down, depressed, or helpless” ($M = 3.5$ days) and experienced “little interest or pleasure in doing things” ($M = 4.8$ days) in the past month. These two measures were scaled additively, yielding a Cronbach’s alpha of .66 and a range from 0 (no days of depressive symptoms) to 60 (experienced both depressive symptoms every day in the past month) ($M = 8.28$); the patterns yielded using this scale are similar to those found in analyses using these two items separately.

A global assessment of physical health is measured using respondents’ self-reports of their health: (3) excellent, (2) very good, (1) good, and (0) fair/poor ($M = 1.77$). The results presented here are similar to those yielded when treating “fair” and “poor” as distinct categories (available upon request). Self-reports of physical health have been found to be generally stable over time and serve as an accurate measure of physical health status for youth (Boardman 2006; Fosse and Haas 2009). These measures of mental and physical health are similar to those of the CDC Health-Related Quality of Life Measures (Hennessy et al. 1994).

Perceived discrimination. In the BYCS, respondents were asked a series of questions regarding their experiences with discrimination using the prompt, “How often have you been discriminated against because of your . . . race; sex meaning male or female; sexual orientation; class or how much money you or your parents make.” Survey interviewers did not provide respondents with additional information, such as a definition of discrimination. Respondents were asked to report the frequency of each of these forms of discrimination, using the response categories never, rarely, every now and then, often, or very often. The frequency of each form of discrimination is measured as an ordinal variable, ranging from 0 (never) to 4 (very often).

To investigate experiences of multiple forms of discrimination, two additional variables were created: a count of the number of forms of discrimination

reported and a scale of the overall frequency of discrimination reported. The number of forms of perceived discrimination is a sum total of the forms of discrimination reported (0 to 4). The overall frequency of perceived discrimination is measured by a sum of the frequency of each form of discrimination reported (0 to 16). The overall frequency of discrimination scale captures both the number of forms and frequency of discrimination reported.

Sociodemographic characteristics. The present study examines the effects of race-ethnicity, gender, sexual identity, and socioeconomic status on reports of discrimination to investigate the sociodemographic distribution of these experiences. Race-ethnicity are measured by dichotomous variables for non-Hispanic blacks (1 = yes) and Latina/os (1 = yes), with non-Hispanic whites used as the reference group for each. Gender is measured by a dichotomous variable (1 = female). Sexual identity is measured by a dichotomous variable, where 1 = sexual minority (i.e., gay, lesbian, bisexual, queer) and 0 = heterosexual. A dichotomous indicator of past family welfare reciprocity (1 = welfare recipient) is used as a measure of socioeconomic status. This indicator of socioeconomic status is generally more accurate than youths’ reports of their parents’ education (Ridolfo and Maitland 2011). In addition, a count of the number of disadvantaged statuses respondents hold (0-4) was created, including racial-ethnic minority, female, sexual minority, and welfare recipient status. Controls are also included for age and nativity. Age is measured as a dichotomous variable where 1 = adolescent (15-17 years old) and 0 = young adult (18-25 years old). Nativity is measured as a dichotomous variable where 1 = immigrant (i.e., born outside of the U.S.) and 0 = U.S. born.

Analysis Plan

The analyses presented here include the following steps. First, ordinal logistic regression modeling is used to assess whether there are sociodemographic differences (i.e., race-ethnicity, gender, sexual identity, and welfare reciprocity) in the frequency of race, gender, sexual identity, and social class discrimination reported, controlling for age and nativity. Second, the effect of any and each form of perceived discrimination is estimated for depressive symptoms in the past month (negative binomial regression) and self-rated health (ordinal logistic

regression). This step will confirm whether the detrimental effect of perceived discrimination on health found in past research is reflected in the BYCS sample.

In the third step, negative binomial regression modeling is used to investigate whether sociodemographic differences exist in reports of multiple forms of discrimination. In particular, this step examines whether disadvantaged groups, including multiply disadvantaged individuals, face more forms of discrimination and more frequent discrimination overall. Fourth, the effect of multiple forms of perceived discrimination is estimated for depressive symptoms (negative binomial regression) and self-rated health (ordinal logistic regression) to determine whether there is an effect on health that is larger than that of a single form of discrimination. Finally, negative binomial and ordinal logistic regression models are estimated for the effect of number of disadvantaged statuses on mental and physical health, respectively, controlling for multiple forms of discrimination. This final step investigates whether experiences of multiple forms of discrimination contribute to the relationship between multiple disadvantaged statuses and health.

RESULTS

Descriptive Statistics

Table 1 presents the reports of each form of discrimination and multiple forms of discrimination and the mental and physical health status of the sample. Over three-fourths of the sample reports having experienced discrimination: 67 percent report race discrimination, 51 percent report gender discrimination, 20 percent report sexual identity discrimination, and 50 percent report social class discrimination. However, the frequency of discrimination experienced ranges between .30 and 1.14, suggesting that these experiences occur rarely on average (rarely = 1).

The majority of the sample (60 percent) reports experiencing two or more forms of discrimination. While only 19 percent report one form, 24 percent report two, 23 percent report three, and 13 percent report all four forms. Accounting for both the number of forms and frequency of discrimination reported, the average overall discrimination frequency (0-16) for the sample is 3.26. The overall

health profile of the sample is generally similar to other national estimates of mental and physical health of youth (Boardman 2006; Kobau et al. 2004), with a mean of 8.28 for depressive symptoms (0-60) and 1.77 for self-rated health (close to very good = 2). See the online supplement Appendix A for the race-ethnicity, gender, sexual identity, and social class group-specific descriptive statistics.

Perceived Discrimination and Health

Table 2 presents the odds ratios for the frequency of each form of perceived discrimination, controlling for age and nativity. Blacks (odds ratio [OR]: 2.70) and Latina/os (OR: 1.44) report significantly more frequent race discrimination than whites. Females (OR: 2.45) report significantly more frequent gender discrimination than males. Similarly, sexual minorities (OR: 8.95) report significantly more frequent sexual identity discrimination than heterosexuals. Welfare recipients report significantly more frequent social class discrimination (OR: 1.28), as well as race (OR: 1.46) and sexual identity discrimination (OR: 1.84), compared to nonrecipients. In sum, disadvantaged groups report significantly more frequent status-specific discrimination: more frequent race discrimination among Latina/os and blacks, gender discrimination among females, sexual identity discrimination among sexual minorities, and social class discrimination among welfare recipients compared to their respective privileged counterparts.

Table 3 displays the odds ratios for the effects of the frequency of each form of perceived discrimination on depressive symptoms and self-rated physical health. The effects of any and each form of discrimination on mental and physical health are examined separately, first unadjusted and then adjusted for race-ethnicity, gender, sexual identity, welfare reciprocity, age, and nativity. In the unadjusted models, the experience of any discrimination and more frequent experiences of each form of discrimination predict significantly more depressive symptoms and worse self-rated health. The adjusted regression models yield similar findings: Controlling for sociodemographic characteristics, respondents who report any discrimination and, for each form, more frequent discrimination experience significantly more depressive symptoms and

Table 1. Black Youth Culture Survey (BYCS) Descriptive Statistics, Means, and Standard Deviations (N = 1,052)

	M	SD
Any perceived discrimination		
Any discrimination (yes = 1)	.78	—
Any race (yes = 1)	.67	—
Any gender (yes = 1)	.51	—
Any sexual identity (yes = 1)	.20	—
Any social class (yes = 1)	.50	—
Frequency of perceived discrimination		
Race (very often = 4)	1.14	1.09
Gender (very often = 4)	.85	1.04
Sexual identity (very often = 4)	.30	.71
Social class (very often = 4)	.97	1.20
Multiple forms of perceived discrimination		
No Forms (yes = 1)	.22	—
One form (yes = 1)	.19	—
Two forms (yes = 1)	.24	—
Three forms (yes = 1)	.23	—
Four forms (yes = 1)	.13	—
Overall discrimination frequency (never = 0; very often = 16)	3.26	2.92
Health		
Depressive symptoms, in past month (zero days = 0; 30 days = 60)	8.28	11.82
Self-rated health (excellent = 3)	1.77	.97

Table 2. Ordinal Logistic Odds Ratios (OR) for the Frequency of Perceived Discrimination by Form (N = 1,052)

	Race discrimination		Gender discrimination		Sexual identity discrimination		Social class discrimination	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Black	2.707***	(2.0-3.6)	.973	(.7-1.3)	1.008	(.7-1.5)	1.024	(.8-1.4)
Latina/o	1.440* ^a	(1.1-1.9)	.699* ^a	(.5-0.9)	.777	(.5-1.2)	1.020	(.8-1.4)
Female	.831	(.7-1.0)	2.453***	(1.9-3.1)	1.345	(1.0-1.8)	1.114	(.9-1.4)
Sexual minority	.814	(.5-1.5)	1.725	(1.0-3.1)	8.947***	(4.7-17.0)	.999	(.6-1.8)
Welfare recipient	1.456**	(1.1-1.8)	1.191	(.9-1.5)	1.841***	(1.3-2.6)	1.283*	(1.0-1.6)

Note: Exponentiated coefficients are presented, with 95 percent confidence intervals (CI) in parentheses. Controls include age and nativity. Whites are the reference racial-ethnic category.

^aLatina/os significantly differ from blacks ($p < .05$).

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed test).

worse physical health. However, in the adjusted model, the effect of sexual identity discrimination on self-rated health becomes nonsignificant. Thus, in general, discrimination, regardless of form, predicts significantly worse mental and physical health among adolescents and young adults.

Multiple Forms of Perceived Discrimination and Health

Table 4 presents the odds ratios for the number of forms of discrimination reported (Models 1 and 2) and overall discrimination frequency (Models 3

Table 3. Odds Ratios for Depressive Symptoms and Self-Rated Health on Perceived Discrimination by Form ($N = 1,052$)^a

	Depressive symptoms		Self-rated health	
	OR ^b	95% CI	OR ^c	95% CI
Any discrimination				
Without controls	1.794***	(1.4-2.3)	.599***	(.5-.8)
With controls	1.740***	(1.4-2.2)	.637**	(.5-.8)
Race discrimination				
Without controls	1.259***	(1.2-1.4)	.774***	(.7-.9)
With controls	1.221***	(1.1-1.3)	.745***	(.7-.8)
Gender discrimination				
Without controls	1.290***	(1.2-1.4)	.720***	(.6-.8)
With controls	1.273***	(1.2-1.4)	.752***	(.7-.8)
Sexual identity discrimination				
Without controls	1.257***	(1.1-1.4)	.845*	(.7-1.0)
With controls	1.243**	(1.1-1.4)	.880	(.7-1.0)
Social class discrimination				
Without controls	1.210***	(1.1-1.3)	.792***	(.7-.9)
With controls	1.183***	(1.1-1.3)	.807***	(.7-.9)

Note: Exponentiated coefficients are presented, with 95 percent confidence intervals (CI) in parentheses. Controls include race-ethnicity, gender, sexual identity, welfare reciprocity, age, and nativity.

^aSeparate analyses were estimated for the effect of each form of perceived discrimination on depressive symptoms in the past month and self-rated health.

^bNegative binomial regression odds ratios.

^cOrdinal logistic regression odds ratios.

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed test).

and 4). In Models 1 and 3, the two measures of multiple forms of perceived discrimination are regressed on race-ethnicity, gender, sexual identity, and welfare reciprocity, controlling for age and nativity. Models 2 and 4 estimate the effects of the number of disadvantaged statuses on multiple forms of discrimination, controlling for age and nativity. In these models, number of disadvantaged statuses is coded as a set of dichotomous variables, with respondents who hold no disadvantaged statuses as the reference group (i.e., white heterosexual nonrecipient males).

For number of forms of perceived discrimination (Model 1), females (OR: 1.18) and welfare recipients (OR: 1.13) report significantly more forms of discrimination than males and nonrecipients, respectively. For overall discrimination frequency (Model 3), blacks (OR: 1.28), females (OR: 1.13), sexual minorities (OR: 1.37), and welfare recipients (OR: 1.22) report significantly more frequent discrimination overall than their respective privileged counterparts. Thus, in accounting for

number of forms of discrimination reported *and* the frequencies of these experiences, these findings suggest that disadvantaged groups, with the exception of Latina/os, report a greater overall exposure to discrimination than their privileged counterparts.

Respondents who hold at least two disadvantaged statuses report significantly more forms of discrimination and more frequent discrimination overall than those who hold no disadvantaged statuses. Compared to respondents who are singly disadvantaged, respondents who hold two or more disadvantaged statuses report more frequent discrimination overall and respondents who hold three or four disadvantaged statuses report significantly more forms of discrimination. Further, respondents who hold four disadvantaged statuses report significantly more frequent discrimination overall than respondents who hold three or fewer disadvantaged statuses. Thus, in general, respondents who are multiply disadvantaged report more forms of discrimination and more frequent discrimination overall than their more privileged counterparts.

Table 4. Negative Binomial Odds Ratios for Multiple Forms of Perceived Discrimination on Disadvantaged Statuses^a (N = 1,052)

	Number of forms of discrimination		Overall discrimination frequency	
	Model 1	Model 2	Model 3	Model 4
Black	1.038 (.9-1.2)		1.278*** (1.1-1.5)	
Latina/o	.939 (.8-1.1)		1.060 ^b (.9-1.2)	
Female	1.176*** (1.1-1.3)		1.134* (1.0-1.3)	
Sexual minority	1.222 (1.0-1.5)		1.374* (1.0-1.8)	
Welfare recipient	1.131** (1.0-1.2)		1.221*** (1.1-1.4)	
One disadvantaged status (n = 325)		1.097 (.9-1.3)		1.195 (1.0-1.4)
Two disadvantaged statuses (n = 369)		1.225** (1.1-1.4)		1.522*** ^c (1.3-1.8)
Three disadvantaged statuses (n = 201)		1.326*** ^c (1.1-1.6)		1.593*** ^c (1.3-2.0)
Four disadvantaged statuses (n = 11)		1.725*** ^c (1.2-2.5)		2.845*** ^{c,d,e} (1.7-4.8)

Note: Exponentiated coefficients are presented, with 95 percent confidence intervals in parentheses. Controls include age and nativity. In Models 1 and 3, whites are the reference racial-ethnic group. In Models 2 and 4, privileged respondents (i.e., white heterosexual male welfare nonrecipients) are the reference category (n = 146).

^aDisadvantaged statuses included are race-ethnicity (black or Latina/o), gender (female), sexual identity (sexual minority), and social class (welfare-recipient).

^bLatina/os significantly differ from blacks ($p < .05$).

^cSignificantly differs from one disadvantaged status ($p < .05$).

^dSignificantly differs from two disadvantaged status ($p < .05$).

^eSignificantly differs from three disadvantaged status ($p < .05$).

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed test).

Table 5 presents odds ratios for the effects of multiple forms of perceived discrimination on mental and physical health, controlling for race-ethnicity, gender, sexual identity, welfare reciprocity, age, and nativity. Models 1 and 2 present the odds ratios for depressive symptoms on the number of forms of discrimination reported and overall discrimination frequency, respectively. Models 3 and 4 present the odds ratios for self-rated health on the number of forms of discrimination reported and overall discrimination frequency, respectively.

Preliminary analyses suggest that respondents who report more forms of discrimination and those who report more frequent discrimination overall experience more depressive symptoms and worse self-rated health than those who report fewer forms

and less frequent discrimination overall, respectively (see the online supplement Appendix B). To test whether the relationship between number of forms of discrimination reported and health is linear, dichotomous variables for each count of reported forms of discrimination are used in Models 1 and 3 of Table 5. Respondents who report two or more forms of discrimination experience significantly more depressive symptoms than respondents reporting fewer forms. Respondents who report three or four forms of discrimination experience worse self-rated health than respondents reporting fewer forms. For depressive symptoms, respondents reporting only one form of discrimination and, for self-rated health, those reporting one or two forms of discrimination do not significantly differ from those

Table 5. Odds Ratios for Depressive Symptoms and Self-Rated Health on Multiple Forms of Perceived Discrimination (N = 1,052)

	Depressive symptoms ^a		Self-rated health ^b	
	Model 1	Model 2	Model 3	Model 4
One form of discrimination	1.240 (.9-1.7)		.948 (.7-1.3)	
Two forms of discrimination	1.677*** ^c (1.3-2.2)		.759 (.5-1.1)	
Three forms of discrimination	1.998*** ^c (1.5-2.7)		.432*** ^{c,d} (.3-.6)	
Four forms of discrimination	2.250*** ^c (1.6-3.1)		.448*** ^{c,d} (.3-.7)	
Overall discrimination frequency (1)		1.069 (.7-1.5)		1.134 (.7-1.7)
Overall discrimination frequency (2)		1.350 (1.0-1.8)		.888 (.6-1.3)
Overall discrimination frequency (3-4)		1.732*** ^e (1.3-2.3)		.532*** ^{e,f} (.4-.7)
Overall discrimination frequency (5-8)		2.065*** ^{e,f} (1.6-2.7)		.517*** ^{e,f} (.4-.7)
Overall discrimination frequency (9-16)		2.929*** ^{e,f,g} (1.9-4.6)		.225*** ^{e,f,g,h} (.1-.4)

Note: Exponentiated coefficients are presented, with 95 percent confidence intervals in parentheses. In Models 2 and 6 and Models 4 and 8, respondents who report no forms of discrimination are the reference category ($n = 267$).

Controls include race-ethnicity, gender, sexual identity, welfare reciprocity, age, and nativity.

^aNegative binomial regression odds ratios.

^bOrdinal logistic regression odds ratios.

^cSignificantly differs from one form of discrimination.

^dSignificantly differs from two forms of discrimination.

^eSignificantly differs from a score of 1 on the overall discrimination frequency scale.

^fSignificantly differs from a score of 2 on the overall discrimination frequency scale.

^gSignificantly differs from scores of 3 and 4 on the overall discrimination frequency scale.

^hSignificantly differs from scores between 5 and 8 on the overall discrimination frequency scale.

* $p < .05$. ** $p < .01$. *** $p < .001$.

reporting no discrimination. Overall, while multiple forms of perceived discrimination are associated with worse mental and physical health, the relationship does not appear to be linear.

To assess whether these relationship between the overall frequency of discrimination and health is linear, dichotomous variables for specific cut-points on the overall discrimination frequency scale (0-16) are used in Models 2 and 4 of Table 5: Scores of 1, 2, 3-4, 5-8, and 9-16 are compared to the reference category of a score of 0 (i.e., no discrimination). Similar to number of forms of discrimination, the health of respondents who report lower frequencies of discrimination (i.e., scores of 1 or 2) does not significantly differ from that of

respondents who report no discrimination. However, respondents reporting moderate to high levels of discrimination frequency experience more depressive symptoms and worse self-rated health than those reporting lower levels. Although a threshold may exist at moderate levels of discrimination (i.e., scores of 3-4), the relationships between frequency of discrimination and mental and physical health is generally linear.

In sum, these analyses provide evidence of an association between multiple forms of perceived discrimination and mental and physical health over and above the health consequences of experiencing only one form of discrimination. In fact, significant disadvantages for health for adolescents and

Table 6. Odds Ratios for Depressive Symptoms and Self-Rated Health on Disadvantaged Statuses^a (N = 1,052)

	Depressive symptoms ^b			Self-rated health ^c		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Disadvantaged statuses (0-4)	1.196*** (1.1-1.3)	1.162** (1.1-1.3)	1.121* (1.0-1.2)	.795*** (.7-.9)	.836** (.7-.9)	.845** (.8-.9)
Number of forms of discrimination (0-4)		1.232*** (1.1-1.3)			.785*** (.7-.9)	
Overall discrimination frequency (0-16)			1.109*** (1.1-1.1)			.893*** (.9-.9)

Note: Exponentiated coefficients are presented, with 95 percent confidence intervals in parentheses. Controls include age and nativity.

^aDisadvantaged statuses included are race-ethnicity (black or Latina/o), gender (female), sexual identity (sexual minority), and social class (welfare reciprocity).

^bNegative binomial regression odds ratios.

^cOrdinal logistic regression odds ratios.

* $p < .05$. ** $p < .01$. *** $p < .001$.

young adults who report discrimination do not appear until two forms of discrimination for mental health and three forms of discrimination for physical health relative to fewer forms. In addition, significant health gaps emerge at moderate levels of overall discrimination frequency.

Multiple Disadvantaged Statuses, Multiple Forms of Perceived Discrimination, and Health

The next set of analyses investigates whether experiences of multiple forms of discrimination contribute to the relationships between disadvantaged statuses and poorer mental and physical health. Table 6 presents the odds ratios for depressive symptoms (Models 1-3) and self-rated physical health (Models 4-6) on number of disadvantaged statuses (0-4, including race-ethnicity, gender, sexual identity, and welfare reciprocity), controlling for age and nativity. Models 2 and 5 add controls for number of forms of perceived discrimination, and Models 3 and 6 include controls for overall discrimination frequency.

Multiply disadvantaged respondents experience significantly more depressive symptoms and worse self-rated health than their more privileged counterparts. Thus, in this sample, there is evidence of a “double disadvantage” in health for multiply disadvantaged individuals. Exposure to multiple forms of discrimination is associated with

significantly more depressive symptoms and worse self-rated physical health. In comparing the coefficients (available upon request) for number of disadvantaged statuses in Model 1 to those in Models 2-3, and in Model 4 to those in Models 5-6, it appears that the experience of multiple forms of discrimination partially mediates the relationships between disadvantaged statuses and mental and physical health. The inclusion of number of forms of perceived discrimination reduces the coefficients for disadvantaged statuses by 16 percent for depressive symptoms (Model 2) and 23 percent for self-rated health (Model 5). The inclusion of overall discrimination frequency reduces the coefficients for disadvantaged statuses by 36 percent for depressive symptoms (Model 3) and 26 percent for self-rated health (Model 6). Sobel tests (Sobel 1982) for mediation (available upon request) confirm that the experience of multiple forms of perceived discrimination significantly mediates the relationship between disadvantaged statuses and health.

DISCUSSION

Despite the proliferation of research on discrimination and health, many gaps in the literature remain. Generally, researchers have relied on adult samples to examine a single form of perceived discrimination in isolation from all other forms. As such, little is known about the prevalence of

exposure to multiple forms of discrimination and its consequences for health, and the extent to which exposure to multiple forms of discrimination contributes to the relationship between social statuses and health.

The present article contributes to research on discrimination by examining the prevalence, distribution, and mental and physical health consequences of multiple forms of perceived discrimination among a nationally representative sample of adolescents and young adults. In addition, it assesses the extent to which experiences of multiple forms of discrimination contribute to the relationship between disadvantaged statuses and health. The majority of youth reported discrimination, though these experiences occurred rarely, on average. Most strikingly, the majority of respondents reported at least two forms of discrimination.

The present study offers three key findings. First, the findings suggest that exposure to discrimination is not equally distributed among youth. Rather, disadvantaged groups—Latina/os and blacks, females, sexual minorities, and lower socioeconomic status individuals—faced greater exposure to discrimination than their privileged counterparts. In addition, females and welfare recipients experienced more forms of discrimination than males and nonrecipients, respectively, and every disadvantaged group, with the exception of Latina/os, experienced more frequent discrimination overall than their respective privileged counterparts. Further, multiply disadvantaged respondents reported more forms of discrimination and more frequent discrimination overall than their more privileged counterparts, providing evidence of the double burden (St. Jean and Feagin 1998). These findings suggest that past work that examines one form of discrimination in isolation may underestimate the prevalence of discrimination and misses the disproportionate exposure to discrimination faced by multiply disadvantaged individuals.

Surprisingly, singly disadvantaged respondents did not differ from their privileged counterparts in reports of multiple forms of discrimination. One possible explanation is that the discrimination associated with one disadvantaged status may make one more aware of the discrimination associated with another disadvantaged status. Due to the small subsample sizes of the 16 possible race-ethnicity-gender-sexual identity-welfare reciprocity subgroups,

the present article could not comprehensively assess whether particular subgroups face more frequent discrimination and more forms of discrimination (analyses available upon request). Future research should assess whether particular combinations of disadvantaged statuses are associated with more forms of and more frequent discrimination.

The second key finding is that exposure to multiple forms of discrimination had a detrimental effect on health over and above the effect of only one form. However, the health of respondents reporting fewer forms of discrimination did not differ from those reporting no discrimination. Respondents who reported more frequent discrimination overall experienced more depressive symptoms and worse self-rated health than those who reported less frequent discrimination. For both the number of forms of discrimination and the overall frequency of these experiences, there appears to be a threshold at moderate levels for the health consequences of discrimination. While these findings do not suggest that the relationship between number of forms of discrimination and health is linear, they do provide evidence for a linear relationship between overall discrimination frequency (which accounts for the number of forms of discrimination experienced) and health. Indeed, these conditions are consistent with stress theory's emphasis on the accumulation and chronicity of stressors to affect health.

Research that examines a singular form of perceived discrimination and/or the presence or absence of discrimination may misspecify the relationship between discrimination and health. It may not be exposure to discrimination per se that predicts worse health; rather, it is the accumulation of forms and chronicity of discrimination that compromises health (Gee and Walsemann 2009; Mays et al. 2007). In subsequent analyses considering each form of discrimination separately (available upon request), gender and race discrimination had the largest detrimental effects on mental health and physical health, respectively, while sexual identity discrimination had the smallest. Further, when accounting for every form of perceived discrimination simultaneously, only gender and social class discrimination, and race, gender, and social class discrimination had significant, independent effects on mental and physical health, respectively. Thus, scholars may need to conceptualize each form of discrimination as a unique stressor, for these forms

may vary qualitatively in how and why they occur and quantitatively in the extent to which they affect health.

Finally, the present article offers an estimate of the extent to which experiences of multiple forms of discrimination contribute to the relationship between multiple disadvantaged statuses and health. The results suggest that the experience of multiple forms of discrimination partially mediates the relationships between multiple disadvantaged statuses and health. This finding runs counter to other scholars' conclusions that discrimination contributes little to health disparities (Kessler et al. 1999; Taylor and Turner 2002; Thoits 2010). These conclusions, however, have been based on investigations of one form of discrimination. Thus, the present article gives weight to Ferraro and Farmer's (1996) call for scholars to explicitly examine the role of multiple forms of discrimination when investigating the relationship between multiple disadvantaged statuses and health. As such, future research should include indicators of multiple forms of discrimination in comprehensive assessments of negative life events, chronic stressors, and traumas (Taylor and Turner 2002).

Although this article makes significant contributions to the study of discrimination and health, it has a few limitations. First, the data are cross-sectional; thus, it is not possible to assess whether poor health influences later reports of multiple forms of discrimination or vice versa. However, longitudinal studies have confirmed that discrimination experiences predict health, but health status does not predict later reports of discrimination (Gee and Walsemann 2009; Paradies 2006; Williams and Mohammed 2009). Second, the present study relies on a measure of discrimination that is neither context- nor time-specific. Third, it is not possible to discern whether respondents experienced multiple forms simultaneously (e.g., gendered racism; St. Jean and Feagin 1998) or at separate times and/or in different contexts.

Finally, the present article focuses on interpersonal discrimination based on respondents' subjective reports. Given the ambiguity of potentially discriminatory and unfair experiences (Major, Quinton, and McCoy 2002), any reports of discrimination may under- or overstate actual occurrences of unfair treatment (Pager and Shepherd 2008). However, there is some evidence that

subjective reports of discrimination reflect actual discriminatory practices (Gee, Pavalko, and Long 2007). Further, subsequent analyses (available upon request) suggest that beliefs about inequality and discrimination were associated with reports of discrimination (also see Leaper and Brown 2008; Major et al. 2002), yet these beliefs did not mediate the relationship between discrimination and health. It may be the case, as suggested by some longitudinal research (Pavalko, Mossakowski, and Hamilton 2003), that beliefs about fairness and equality do not precipitate reports of discrimination; rather, these beliefs may be the result of exposure to discrimination.

Despite these limitations, the present article offers some of the first estimates of the prevalence and distribution of multiple forms of discrimination among youth. It extends our understanding of the discrimination-health relationship by documenting the mental and physical health consequences of multiple forms of perceived discrimination. In particular, these findings highlight that past research on perceived discrimination (1) may misspecify the discrimination-health relationship by overlooking the experience of multiple forms of discrimination and (2) overlooks the disproportionate exposure to discrimination faced by multiply disadvantaged individuals. In light of previous evidence that suggests a relationship between multiple forms of discrimination and health, future research is necessary to ascertain whether the findings yielded in the present study are reflected in adult populations. As argued by black feminist scholars (Browne and Misra 2003; Collins 2000), it is crucial that researchers examine the simultaneous, intersecting experiences of multiple systems of oppression. Indeed, individuals' lives are not shaped and constrained solely by one system of stratification.

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Bio

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