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Perceived Discrimination, Perceived Stress, and Mental and Physical Health Among Mexican-Origin Adults

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This study provided a test of the minority status stress model by examining whether perceived discrimination would directly affect health outcomes even when perceived stress was taken into account among 215 Mexican-origin adults. Perceived discrimination predicted depression and poorer general health, and marginally predicted health symptoms, when perceived stress was taken into account. Perceived stress predicted depression and poorer general health while controlling for the effects of perceived discrimination. The influence of perceived discrimination on general health was greater for men than women, and the effect of perceived stress on depression was greater for women than men. Results provide evidence that discrimination is a source of chronic stress above and beyond perceived stress, and the accumulation of these two sources of stress is detrimental to mental and physical health. Findings suggest that mental health and health practitioners need to assess for the effects of discrimination as a stressor along with perceived stress.

Keywords: *perceived discrimination; perceived stress; depression; physical health; Mexican-origin adults*

Scholars have argued that racial disparities in health can be attributed to the larger structure of social, economic, and racial/ethnic inequality in the United States (Spalter-Roth, Lowenthal, & Rubio, 2005; Williams,

Lavizzo-Mourey, & Warren, 1994). Specifically, researchers have noted that people who are exposed to multiple adverse conditions such as poverty, crowded housing, unsafe neighborhoods, unequal health care treatment, and racial discrimination tend to suffer from poorer mental and physical health (Spalter-Roth et al., 2005; Williams, Yu, Jackson, & Anderson, 1997). Sociological and psychological researchers have promoted the conceptualization that groups occupying multiple disadvantaged social categories (e.g., race, ethnicity, gender, socioeconomic status [SES]), particularly stigmatized minority groups, are exposed to multiple risk factors and stressful social environments that may increase their vulnerability to the effects of stress and compromise their health (Allison, 1998; Meyer, 2003; Williams et al., 1994). Investigators have argued that ethnic minorities experience stressors associated with their minority status, in addition to the daily life stressors that nonminorities face, and that this heightened stress places them at increased risk for health and mental health problems (Allison, 1998; Harrell, 2000; Turner & Avison, 2003; Williams et al., 1997). The *minority status stress model* describes the unique or excess stress, as compared to general stress, to which individuals in oppressed groups are exposed as a result of their minority status in society (Allison, 1998; Meyer, 2003). A central contributor to the minority status stress experience is racial/ethnic discrimination. There is growing evidence that the subjective experience of racial/ethnic discrimination is a major stressor that directly and indirectly affects the mental and physical health status of ethnic minority populations (Jackson et al., 1996; Ren, Amick, & Williams, 1999; Williams, Neighbors, & Jackson, 2003).

In particular, perceived discrimination, which is the subjective experience of being treated unfairly relative to others in everyday experience, has been linked to health (Dion, Dion, & Pak, 1992; Williams et al., 2003). In studies of African Americans, perceived discrimination has been associated with physical health outcomes such as hypertension (Krieger & Sidney, 1996;

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Williams & Neighbors, 2001), cardiovascular function (Anderson, 1989; Troxel, Matthews, Bromberger, & Sutton-Tyrrell, 2003), and negative physiological reactions (Jones, Harrell, Morris-Prather, Thomas, & Omowale, 1996). Mental health status has been the most common outcome examined in studies of the effects of perceived discrimination on health. Among African Americans, perceived discrimination has been associated with higher levels of psychological distress (Broman, Mavaddat, & Hsu, 2000; Jackson et al., 1996), depression and anxiety (Kessler, Mickelson, & Williams, 1999), and problem drinking (Martin, Tuch, & Roman, 2003). In addition, perceived discrimination has been associated with increased depression among Asian Americans (Lee, 2005; Mossakowski, 2003) and Southeast Asian refugees in Canada (Noh, Beiser, Kaspar, Hou, & Rummens, 1999).

There are few empirical studies investigating the influence of perceived discrimination on mental and physical health among Latinos, as described below. This study contributes to the limited literature on Latinos by testing the notion set forth in the minority status stress model that perceived discrimination is additive to the general stress experienced by Mexican immigrants and Mexican Americans. While perceived discrimination may have an indirect impact on the general stressors experienced by those of Mexican origin, we expected that perceived discrimination would directly affect health outcomes even when general stress was taken into account. The current study used an expanded measure of chronic discrimination stress in everyday life to examine the effects of perceived discrimination on mental and physical health among Mexican-origin men and women. In addition, we examined whether there were gender differences in the effects of perceived discrimination on health.

Background

Minority Status Stress

The minority status stress model, which is based on an expansion of general stress theory, provides an important conceptual framework for understanding the stress process and the impact of discrimination as a stressor for Mexican-origin adults. Although general stress theory has been utilized to examine the psychological and health functioning of racial/ethnic minority groups, the mainstream models of the stress process have been criticized for not including stressors experienced by minority cultural groups (Cervantes & Castro, 1985; Slavin, Rainer, McCreary, & Gowda, 1991). In particular,

Slavin et al. (1991) have expanded the stress model of Lazarus and Folkman (1984) to integrate cultural factors salient to the stress process for ethnic minorities. These researchers contend that membership in a visible minority group, experiences of discrimination, lower SES, and unique cultural customs all contribute to affect the nature and frequency of stressful life events that individuals experience, the appraisal process, and the perceptions about the available options and resources for successful coping. A major contention of the model is that ethnic minorities experience unique stressors due to their disadvantaged social position and membership in several social categories—that is, lower SES, ethnic minority, and gender—and therefore may encounter more stressful life events than nonminorities (Allison, 1998; Meyer, 2003). In turn, the multiple stressors experienced among members of oppressed groups may enhance vulnerability to stress, such that individuals live in a state of heightened vigilance or high levels of stress that affect health.

There is some evidence to support the notion that Mexican-origin adults experience more stress in their lives than nonminorities due to exposure to more stressful life events and chronic stressors, which can adversely impact their mental and physical health. For example, Golding and Burnam (1990) reported greater exposure to stress, measured as financial, employment, and household strain, among Mexican Americans than non-Hispanic Whites, which predicted higher mean depression levels. A recent major survey (American Psychological Association [APA], 2006) found Latinos are more likely than non-Latino Whites to report concerns with the level of stress in their lives, yet they are among the least likely to do anything about it. Latinos were more likely than other ethnic groups to report multiple symptoms of stress. Money, work related to lower income occupations, and family members' health are bigger sources of stress for Latinos than for non-Latino Whites. Two thirds of Latinos in the survey fell into lower income households, and they were more likely to report stress than those with higher incomes. Both men and women reported low wages and housing, family, and health expenses as major stressors as well as unsafe work conditions for men and problems with supervisors for women. In addition, racial/ethnic discrimination was reported as a source of stress more for Latinos than non-Latino Whites, especially contributing to workplace stress. Latinos concerned about stress were more likely to be diagnosed with anxiety, depression, and obesity, and less likely to report good physical health, than those with no concerns about stress. Similarly, perceived stress has been associated with high numbers of chronic health problems among Mexican immigrants and Mexican Americans (Farley, Galves,

Dickinson, & Perez, 2005). Latinos in general, especially those of Mexican origin, are less likely to have employer-provided health coverage due to their concentration in service sector jobs (Spalter-Roth et al., 2005). Thus, it can be argued that Mexican-origin adults experience higher levels of general stress due to being members of a disadvantaged group. They experience multiple sources of stress over which they may have little control, and this enhanced vulnerability to stressors contributes to mental and physical health conditions.

Important aspects of minority status stress for Mexican-origin adults that can further explain poor health outcomes involve experiences of discrimination and unique cultural stressors such as immigration, legal status, acculturation, and language differences (Cervantes & Castro, 1985; Miranda, 2000). In general, research on discrimination and stress among Mexican-origin adults has been embedded within the concept of acculturative stress, defined as strains due to the immigrant experience and the acculturation process. In fact, acculturative stress is the most common stressor studied among the Mexican-origin population and has been associated with poorer mental health (Dimas, Snowden, Lopez-Kinney, & Vega, 1999; Hovey, 2000; Hovey & Magana, 2000) and general health (Finch & Vega, 2003). While discrimination may be intertwined with acculturative stress, we argue that discrimination needs to be examined as a conceptually distinct and important stressor impacting health. Research indicates that acculturative stress among Mexican-origin adults and adolescents decreases with years in the United States, whereas discrimination remains a stressor across generations (Finch, Kolody, & Vega, 2000; Gil, Vega, & Dimas, 1994). Williams et al. (1994) argue that racism has a significant impact because it can transform social status, affecting the degree of risk factors one is exposed to and directly affecting health through its effects on psychological and physiological reactions. Thus, racial/ethnic discrimination may be salient for Mexican-origin adults because it influences their social positions and the conditions they experience on a daily basis and may be experienced directly as a frequent, chronic stressor in their lives.

Discrimination and Health

There is growing evidence that exposure to discriminatory experiences is an ongoing aspect of life for Latinos in general, and the Mexican-origin population in particular, within the United States (Araujo & Borrell, 2006). The National Survey of Latinos (2002) reported that perceived discrimination was a major problem that kept them from succeeding in general (82%)

and was a problem in the workplace (78%) and at schools (75%). In the survey, one in three Latinos reported that they or someone close to them had suffered discrimination in the past 5 years because of their racial or ethnic background, particularly due to their physical appearance and/or the language they speak. In addition, Latinos reported more subtle forms of discrimination (i.e., treated with disrespect, insulted, or called names) than non-Latino Whites. A few studies have shown that darker skinned Latinos experience more racial discrimination than lighter skinned Latinos (Araujo & Borrell, 2006). There is considerable evidence that perceived discrimination is widespread in the workplace for Latinos; such discrimination affects hiring, wages, and class mobility (DeFrietas, 1991; Gutierres, Delia, & Green, 1994; Telles & Murguia, 1990; Yen, Ragland, Greiner, & Fisher, 1999). Thus, perceived discrimination appears to be a common stressful life event and chronic stressor for Latinos.

A few studies have examined the influence of perceived discrimination on mental and physical health among Mexican-origin adults. One study found perceived discrimination to have an independent effect on physical health after taking into account SES, national heritage, acculturative stress, and social support among Mexican-origin adults (Finch, Hummer, Kolody, & Vega, 2001). Dimas et al. (1999) reported that perceived discrimination predicted psychiatric disorders above and beyond the effects of acculturation and acculturative stress. In several studies of Mexican American adults, and Mexican and Latino immigrants, perceived discrimination has been directly and indirectly related to depressive symptoms or depression (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 1999; Finch et al., 2000; Salgado de Snyder, 1987; Steffen & Bowden, 2006) as well as psychological distress (Amaro, Russo, & Johnson, 1987; Moradi & Risco, 2006) and lower levels of psychological well being (Ryff, Keyes, & Hughes, 2003). However, the notion that perceived discrimination is an additional stressor that affects health above and beyond general stress has not been examined among the Mexican-origin population. The current study provides a test of this aspect of the minority status stress model by examining whether perceived discrimination is related to depression and physical health while considering the effects of general stress among Mexican-origin adults.

Gender Differences in Discrimination and Health

The possibility that there are gender differences in the effects of perceived discrimination on health has received little attention. There is some evidence that men and women differ in their reports of experiencing discrimination;

however, the few studies that have examined gender have not found significant gender differences in the effects of perceived discrimination on mental and physical health (Borrell, Kiefe, Williams, Diez-Roux, & Gordon-Larsen, 2006; Kessler et al., 1999; Turner & Avison, 2003). One exception is a study of Mexican Americans by Finch et al. (2000), which found that the influence of perceived discrimination on depression was greater for women than men. In addition, research indicates that men and women differ in the types of stress experienced and in exposure to and appraisal of stressful events (APA, 2006; Davis, Matthews, & Twamley, 1999; Matud, 2004). For example, women have been found to have more chronic stress and minor daily stressors than men. Some studies have found that women report more tension, distress, and fear during stress while men report elevated blood pressure (Matthews, Gump, & Owens, 2001; Morris-Prather et al., 1996). To our knowledge, this is the first study to investigate gender differences in the effects of perceived discrimination on physical health or in the effects of perceived stress on mental and physical health among Mexican-origin adults.

Research Questions

We examined the following research questions: Does perceived discrimination predict depression, general health, and health symptoms, and do these effects remain even when perceived stress is taken into account? Second, does perceived stress predict depression, general health, and health symptoms even after taking perceived discrimination into account? Third, are there gender differences in the effects of perceived discrimination and perceived stress on depression, general health, and health symptoms?

Method

Procedure and Participants

Parents and adolescents who had participated in a previous study (Study 1), examining marital conflict and adolescent health-related functioning among Mexican Americans and European Americans (Flores, Tschann, Marin, & Pantoja, 2004; Tschann et al., 2002), were recontacted to participate in the current study (Study 2). For Study 1, potential participants were randomly selected from the membership lists of a large health maintenance organization (HMO) in Northern California, using a computer program. Eligible families were intact (parents still living together), parents were the biological parents or had adopted the adolescent before the age of 1 year,

all three family members were of Mexican-origin or were U.S.-born European American, the adolescent was between 12 and 15 years of age and had no severe learning disability, and all three family members agreed to participate. Seventy three percent of eligible families participated in the research. Of these, 153 (50%) were of Mexican origin.

Four years after their initial participation in Study 1, families were recontacted to participate in Study 2, a follow-up study examining family functioning and violence among adolescents (Tschann et al., in press). For Study 2, parents were sent letters introducing the new research, then were telephoned and asked to participate in the study. A total of 215 Mexican-origin parents, including 96 fathers and 119 mothers, participated in Study 2, representing 64% (fathers) and 78% (mothers) of the participants in the original research. Of these, 91 couples were married to each other. Both Study 1 and Study 2 protocols were approved by the Institutional Review Board of the university and the HMO.

The current report is based on a 1-hour telephone interview with the Mexican-origin parents, conducted during Study 2. Participants were interviewed by bilingual, bicultural interviewers in the language of their choice; 83% chose to be interviewed in Spanish. Demographic characteristics for the sample are shown in Table 1.

Measures

Translation. Bilingual, bicultural translators translated all measures into Spanish, other translators translated them back into English, and items were decentered as needed. Decentering is a process in which both languages are considered equally important, and the original-language version of an item may be altered to obtain conceptual equivalence for both languages (Marin & Marin, 1991). In the final step, five bilingual members of the research team reviewed the entire interview in both languages together and resolved discrepancies by consensus.

Perceived discrimination. We developed a 14-item Discrimination Stress Scale (see Appendixes A and B) to measure discrimination in everyday life due to minority status by adapting items from existing scales that assessed perceived discrimination in everyday life (Dimas et al., 1999; Finch et al., 2001; Williams et al., 1997). Only items that appeared to be applicable to people of Mexican or other Latino origin were retained. Sample items are

Table 1
Demographic Characteristics of Participants

Variable	Males (n = 96) M (SD) or %	Females (n = 119) M (SD) or %	t or χ^2
Age	47.82 (7.06)	44.63 (5.94)	3.59***
Born in Mexico	88%	82%	1.14
Age when moved to U.S.	19.82 (10.39)	17.78 (11.31)	1.36
Education (years)	8.43 (4.73)	8.29 (4.63)	0.22
Employed	100%	80%	21.79***
Occupational level[a]	3.52 (1.88)	3.55 (2.14)	–0.91
Married	93%	92%	0.20
Socioeconomic status	–0.63 (0.67)	–0.65 (0.68)	0.27
Acculturation	2.03 (1.00)	1.92 (1.04)	0.79
Perceived discrimination	1.77 (.56)	1.60 (0.51)	2.44*
Perceived stress	0.86 (0.39)	1.12 (0.54)	–3.87***
Depression	30.17 (7.50)	34.65 (12.73)	–3.05**
General health	3.03 (1.05)	2.92 (1.02)	0.81
Health symptoms	5.04 (8.98)	7.99 (13.97)	–1.66

a. Based on the Hollingshead (1975) scale, ranging from 1 (*lowest*) to 9 (*highest*).
*$p < .05$. **$p < .01$. ***$p < .001$. All tests are two-tailed.

"How often are you discriminated against because of your race or ethnicity?" "How often do others lack respect for you because of your race or ethnicity?" and "How often do you find it difficult to find work you want because of your race or ethnicity?" Response options range from 1 (*never*) to 4 (*very often*). The original version of the scale contained 17 items. Exploratory factor analysis revealed that 14 of the 17 items loaded on the first unrotated factor (eigenvalue = 7.2; 43% of the variance). The mean value of items was calculated to obtain the scale score (α = .92). Most (88%) participants reported at least one experience of discrimination.

Perceived stress. The Perceived Stress Scale (Cohen, Kamarack, & Mermelstein, 1983) was used to measure general stress. This widely used 10-item scale measures how unpredictable, uncontrollable, and overloaded participants find their lives. The scale assesses the frequency of perceived stress over the past month, with responses ranging from 0 (*never*) to 3 (*very often*); for example, "How often have you felt nervous and stressed?" and "How often have you found that you could not cope with all the things that

you had to do?" The scale score was calculated by obtaining the mean value of items (α for our sample = .77).

Depression. The 20-item Center for Epidemiological Studies Depression Scale was used to assess frequency of depressive symptoms during the past week. Responses can range from 1 (*less than 1 day*) to 4 (*5-7 days*). This measure is widely used in studies examining depression among Latinos, including Mexican Americans. The scale score was calculated by totaling items (α for our sample = .89).

General health. General health was measured using a single item: "In general, would you say your health is . . ." with response options ranging from *poor* (1) to *excellent* (5) (Idler & Benjamini, 1997). Similar global self-rated health items are commonly used as indicators of physical health (Williams et al., 2003).

Health symptoms. A list of seven common health symptoms was adapted from the Health Review (Jenkins, Kreger, Rose, & Hurst, 1980), a self-report measure of physical symptoms. Participants were asked how many episodes of symptoms they had experienced during the past 3 months; for example, "During the last 3 months, how many stomachaches did you have?" The score is the sum of all episodes for each symptom of fever, nausea, sore throat, stomachache, diarrhea, constipation, and headache. Self-report measures of health symptoms are often used to assess physical health status (Williams et al., 2003).

Acculturation. The five-item Language subscale of the Marin Acculturation Scale (Marin, Sabogal, Marin, Sabogal, & Perez-Stable, 1987) was used to assess acculturation. Scores can range from 1 (*Spanish only*) to 5 (*English only*). Mean scores were calculated, so a score of 3 represents equal use of each language (α in our sample = .90).

Demographic variables. In the initial study, participants reported their age, years of education, and current occupational status, coded as *lowest* (1) to *highest* (9) (Hollingshead, 1975). Couples' education and occupational status were standardized and combined to create a family-level index of SES (α = .92). Thus, for the current report, each participant had a family-level SES score.

Table 2
Correlations and Descriptive Statistics for Study Variables (n = 185-215)

Variable	1	2	3	4	5	6	7	8	9
1. Age	—								
2. Gender	–.24**	—							
3. Socioeconomic status	–.05	–.02	—						
4. Acculturation	–.11	–.05	.61**	—					
5. Perceived discrimination	–.02	–.17*	–.03	.01	—				
6. Perceived stress	–.07	.26**	–.21**	–.16*	.15*	—			
7. Depression	–.03	.20**	–.20**	–.19**	.23**	.70**	—		
8. General health	–.20**	–.06	.36**	.35**	.24**	–.36**	–.37**	—	
9. Health symptoms	–.09	.12	.05	.24**	–.25**	.20**	.30**	–.14	—
M	46.06	1.55	–0.64	1.97	1.67	1.01	32.65	2.97	6.70
SD	6.65	0.50	0.67	1.02	0.53	0.49	10.92	1.03	12.12

*$p < .05$. **$p < .01$. All tests are two-tailed.

Results

Descriptive Statistics

Descriptive statistics for demographic characteristics and study variables, presented separately for men and women, are shown in Table 1. Men were significantly older than women, $t(213) = 3.59$, $p < .001$, and more often employed, $\chi^2 = 21.79$, $p < .0001$. Men reported greater discrimination, $t(213) = 2.44$, $p < .02$, and women reported greater stress, $t(213) = -3.87$, $p < .0001$, and depression, $t(213) = -3.05$, $p < .003$.

Table 2 shows the correlations between study variables. Age, gender, SES, and acculturation were all significantly related to at least one health outcome. In addition, perceived discrimination and perceived stress were significantly related to depression, general health, and health symptoms.

Statistical Models

To examine whether perceived discrimination was related to depression, general health, and health symptoms, we fit a series of linear regression equations, using generalized estimating equations, which allowed for clustering within couples. In each equation, we included demographic variables

Table 3
Regression Predicting Health Outcomes Showing Unstandardized Regression Coefficients and Standard Error

Step and Predictor Variable	Depression *b* (*SE*) (*n* = 214)	General Health *b* (*SE*) (*n* = 213)	Health Symptoms *b* (*SE*) (*n* = 185)
Step 1			
Age	–0.03 (0.09)	–0.03 (0.01)***	–0.11 (0.10)
Gender	3.91 (1.24)**	–0.18 (0.13)	2.86 (1.78)
Socioeconomic status	–2.58 (1.30)*	0.36 (0.12)**	0.43 (1.23)
Acculturation	–0.97 (0.81)	0.19 (0.08)*	0.56 (0.89)
Step 2			
Perceived discrimination	5.20 (1.41)***	–0.52 (0.12)***	5.69 (2.43)*
or			
Perceived stress	14.66 (1.00)***	–0.68 (0.14)***	5.36 (2.70)*
Step 3			
Perceived discrimination	2.97 (0.97)**	–0.41 (0.13)***	5.04 (2.65)
Perceived stress	14.04 (1.03)***	–0.59 (0.14)***	4.25 (2.78)
Step 4			
Perceived Discrimination × Gender	–0.21 (1.82)	0.55 (0.24)*	–3.24 (4.75)
Perceived Stress × Gender	4.31 (2.08)*	0.12 (0.27)	8.07 (4.17)

*$p < .05$. **$p < .01$. ***$p < .001$. All tests are two-tailed.

(age, gender, SES, and acculturation) as covariates in Step 1. Perceived discrimination was entered in Step 2, and perceived stress was added in Step 3. To assess whether there were gender differences in the effects of perceived discrimination on health outcomes, the interaction between gender and perceived discrimination was entered in Step 4. Parallel regression models were calculated to examine the effects of perceived stress, in which perceived stress was entered in Step 2, perceived discrimination was entered in Step 3, and the interaction term in Step 4 was between gender and perceived stress.

Perceived Discrimination and Health

As shown in Table 3, greater perceived discrimination was significantly related to elevated depression ($b = 5.20$, $p < .0001$), poorer general health ($b = –.52$, $p < .0001$), and more health symptoms ($b = 5.69$, $p < .02$), after taking age, gender, SES, and acculturation into account (Step 2). When perceived stress was included in the equation (Step 3), greater perceived

discrimination remained a significant predictor of heightened depression ($b = 2.97$, $p < .002$) and poorer general health ($b = -.41$, $p < .0001$). However, in the equation predicting health symptoms, when perceived stress was included in Step 3, the effect of perceived discrimination was reduced to marginal significance ($b = 5.04$, $p < .06$).

Perceived Stress and Health

Higher perceived stress was significantly related to increased depression ($b = 14.04$, $p < .0001$) and worse general health ($b = -.59$, $p < .0001$), even when controlling for the effects of demographic factors and perceived discrimination (Step 3, Table 3). Higher perceived stress was significantly related to greater health symptoms before perceived discrimination was entered into the equation (Step 2; $b = 5.36$, $p < .05$). However, when perceived discrimination was also included in the equation (Step 3), perceived stress was no longer a significant predictor of health symptoms ($b = 4.25$, $p > .10$).

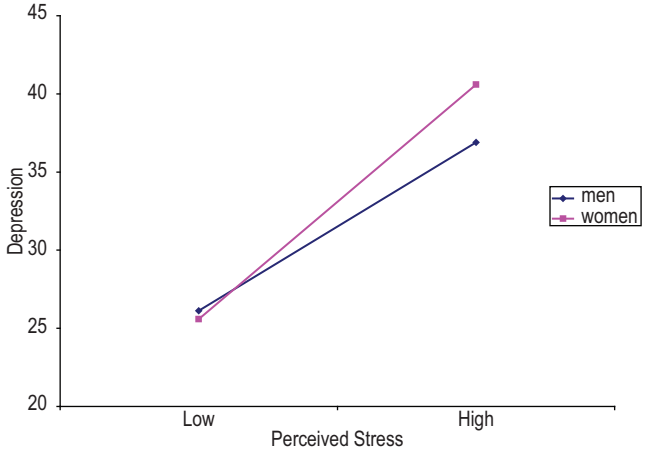
Gender Differences in Effects of Perceived Discrimination and Stress on Health

There was a significant interaction between gender and perceived discrimination for general health ($b = .55$, $p < .02$; Table 3). As shown in Figure 1, men who reported lower levels of discrimination had better general health compared to men reporting greater discrimination and women regardless of discrimination level. There was also a significant interaction between gender and perceived stress in the prediction of depression ($b = 4.31$, $p < .04$). Women who reported higher levels of stress were more depressed than women and men who had lower levels of stress, while men who reported higher levels of stress had moderate levels of depression (Figure 2).

Demographics and Health Outcomes

As shown in Table 3, the effect of each demographic variable on health outcomes was considered while taking into account the remaining demographic variables. Younger participants reported better general health than older participants ($b = -.03$, $p < .001$). Women reported greater depression compared to men ($b = 3.91$, $p < .002$). Participants of higher SES were less depressed ($b = -2.58$, $p < .05$) and reported better general health ($b = .36$, $p < .003$) compared to those of lower SES. Finally, those who were more

Figure 1
Interaction Between Perceived Discrimination and Gender for General Health

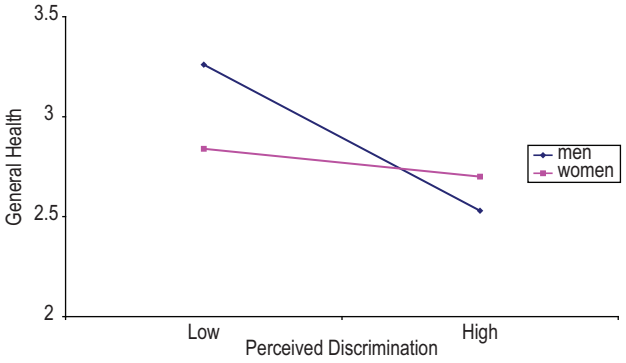


acculturated reported better general health ($b = .19$, $p < .02$) than those who were less acculturated.

Discussion

The current study provides support for the minority status stress model among Mexican-origin adults; specifically, experiencing discrimination stress as an ethnic minority, in addition to general stress, places them at increased risk for health and mental health problems. We tested one aspect of the model that has not been examined before in this population. This aspect of the model contends that perceived discrimination is a source of chronic stress above and beyond general stress. We found that perceived discrimination predicted depression, general health, and health symptoms among Mexican-origin men and women and continued to have a significant effect on depression and general health even when general stress was taken into account. Our results regarding depression are consistent with the findings of previous studies: Experiences of discrimination affected psychological

Figure 2
Interaction Between Perceived Stress and Gender for Depression



well-being in other populations after general stressors were taken into account (Dion et al., 1992; Williams et al., 1997). Further, this study provides new evidence in this population that perceived discrimination has an independent effect on general health above and beyond general stress. A central contribution of our findings supports the argument that for ethnic minorities, psychological well-being and physical health are compromised partially due to cumulative exposure to a combination of discrimination-related stress and general stress (Cervantes & Castro, 1985; Harrell, 2000; Williams et al., 1997). To contribute to the understanding of health disparities among this population, future research should focus on the impact of perceived discrimination on specific physical health conditions (e.g., hypertension) and especially on possible moderators, such as coping strategies and social support, in reducing the impact of discrimination on mental and physical health.

This study examined the experience of chronic everyday discriminatory stressors, which are considered better predictors of the onset and course of illness than brief acute life event stressors (Cohen, Kessler, & Gordon, 1995; Williams et al., 2003). Our findings provide evidence that discrimination-related chronic stress in the form of daily hassles or microstressors—such as being treated unfairly, disliked, disrespected, rejected, or stereotyped—is harmful to the mental and physical health of Mexican-origin men and

women. These findings suggest that to understand the contribution of discrimination to health conditions, it is important to assess those ongoing experiences of discrimination that may accumulate over long periods of time and lead to serious stress reactions. This issue is especially relevant to the study of discrimination and health for Mexican-origin adults, since few studies of this population have used multiple-item measures of chronic discriminatory stress (for a review, see Araujo & Borrell, 2006). In this research, we used a 14-item measure that assessed perceived discrimination as chronic unfair treatment that can be experienced on a daily basis. Future studies should use multiple-item measures to investigate chronic everyday discriminatory experiences among Mexican immigrants, Mexican Americans, and other Latinos.

This is the first study to examine the relationship between perceived stress, mental health, and general health among Mexican-origin adults. We found that perceived stress predicted depression, general health, and health symptoms for Mexican American men and women. When perceived discrimination was taken into account, perceived stress continued to have an effect on depression and general health. Similar to literature on stress and health in other populations (Cohen et al., 1995), our findings provide further evidence that perceived stress can lead to negative emotional states and poor health. In addition, the fact that perceived stress and discrimination had independent effects on depression and general health indicates that individuals with more sources of stress are more susceptible to poorer health. This finding is consistent with research by Cohen, Tyrrell, and Smith (1993), who found independent effects of stressful life events and perceived stress on different aspects of risks for colds. The results support the importance of the role of perceived stress in the lives of Mexican-origin adults and the need for health providers to address concerns about chronic stress. Future research is needed to examine the impact of perceived stress on specific mental and physical health outcomes as well as to identify which coping strategies are most effective in reducing the effects of perceived stress on psychological distress and physical health.

Little attention has been given to studying gender differences in the effects of perceived discrimination and perceived stress on health. In this study, we found that the influence of perceived discrimination on general health was greater for men than women. One possible explanation for the greater effect of discrimination as a stressor is that men may employ different coping strategies in dealing with discrimination than women, and the strategies they use may not help to alleviate physiological symptoms, resulting in poorer health. In addition, there is some evidence that women

are more likely to deny or discount the discrimination they experience (Kessler et al., 1999). Thus, there may be different processes going on for women than for men. For example, women may be more likely to seek social support in the face of discrimination. Future research is needed that examines the processes that may explain the differential effects of discrimination on men and women.

We also found that the influence of perceived stress on depression was greater for women than men. This finding is consistent with previous research reporting that women experience more stress than men and report more psychological distress as a result of stress than men (Davis et al., 1999; Matud, 2004; Morris-Prather et al., 1996). Consistent with previous research, women in our study reported greater stress than men. A major explanation for such findings has focused on gendered social roles and the "cost of caring" hypothesis. Namely, women typically feel obligated to meet the needs of the family, even if they work outside the home; therefore, they are likely to experience more stress due to concerns about problems experienced by a wide range of persons in their family and social networks (Davis et al., 1999; Turner & Avison, 2003). In turn, women may feel less control over their circumstances, leading to more depressive symptoms. Another important consideration is the possibility that the disclosure of depression is more socially sanctioned for women than men. More research is needed to examine the moderating effects of gendered social roles and coping on general perceived stress and health outcomes among Mexican-origin men and women.

It is important to consider our findings within certain limitations. First, the sample had limited variation in terms of acculturation because a majority of the study sample was born in Mexico and came to the United States as young adults. Second, participants were married and recruited from an HMO in Northern California. Therefore, results may not generalize to Mexican-origin adults who have no health insurance, are separated or divorced, or who live in other regions of the United States. Third, the research was cross-sectional, and we could not draw causal inferences regarding the results. While not a limitation, the finding that those who were more acculturated reported better general health goes against previous research that health declines with acculturation. However, Finch et al. (2001) found that self-ratings of health improved with higher level of English usage. It may be that the group in our sample was able to maintain health insurance and access more frequent health care, resulting in a higher self-rating of general health. Despite the limitations noted, these findings represent an important contribution to understanding the effects of perceived discrimination and perceived stress on health outcomes for Mexican-origin men and women.

In conclusion, these research findings suggest that mental health interventions with Mexican-origin men and women need to include assessments for the effects of discrimination stress along with other sources of chronic stress relevant to this population. Mental health providers need to ask clients about discrimination in their lives along with other well-known stressors such as immigration and acculturation experiences. Since discrimination is a major stressor in the lives of ethnic minorities in this country, it is critical that mental health and health providers receive training on discrimination as a chronic stressor, the impact it has on mental and physical health, and ways to assist clients to adapt and cope to reduce the negative impact of discrimination on their overall health.

Appendix A
Discrimination Stress Scale

These questions are about experiences that people of Mexican or other Latino origin sometimes have in this country (response options: *never*, *sometimes*, *often*, *very often*).

1. How often are you treated rudely or unfairly because of your race or ethnicity?
2. How often are you discriminated against because of your race or ethnicity?
3. How often do others lack respect for you because of your race or ethnicity?
4. How often do you have to prove your abilities to others because of your race or ethnicity?
5. How often is racism a problem in your life?
6. How often do you find it difficult to find work you want because of your race or ethnicity?
7. How often do people dislike you because of your race or ethnicity?
8. How often have you seen friends treated badly because of their race or ethnicity?
9. How often do you feel that you have more barriers to overcome than most people because of your race or ethnicity?
10. How often do you feel rejected by others due to your race or ethnicity?
11. How often is your race or ethnicity a limitation when looking for a job?
12. How often do people seem to have stereotypes about your racial or ethnic group?
13. How often do people try to stop you from succeeding because of your race or ethnicity?
14. How often do you not get as much recognition as you deserve for the work you do, just because of your race or ethnicity?

Appendix B
Discrimination Stress Scale–Spanish version

Las siguientes preguntas se tratan de experiencias que personas de origen Mexicano o de otro grupo Latinoamericano tienen algunas veces en este país (response options: *nunca*, *algunas veces*, *seguido*, *muy seguido*).

1. ¿Con qué frecuencia a Ud. le tratan ruda o injustamente debido a su raza o etnicidad?
2. ¿Con qué frecuencia le discriminan debido a su raza o etnicidad?
3. ¿Con qué frecuencia otras personas le faltan el respeto debido a su raza o etnicidad?
4. ¿Con qué frecuencia tiene que "probar" sus habilidades a otros debido a su raza o etnicidad?
5. ¿Con qué frecuencia el racismo es un problema en su vida?
6. ¿Con qué frecuencia le es difícil encontrar el trabajo que quiere debido a su raza o etnicidad?
7. ¿Con qué frecuencia usted no le cae bien a la gente debido a su raza o etnicidad?
8. ¿Con qué frecuencia ha visto que tratan mal a sus amistades debido a su raza o etnicidad?
9. ¿Con qué frecuencia siente que tiene más barreras que vencer que la mayoría de la gente debido a su raza o etnicidad?
10. ¿Con qué frecuencia se siente rechazado(a) por otros debido a su raza o etnicidad?
11. ¿Con qué frecuencia es su raza o etnicidad una limitación al buscar un buen trabajo?
12. ¿Con qué frecuencia la gente parece tener estereotipos o ideas equivocadas sobre su grupo racial o étnico?
13. ¿Con qué frecuencia la gente trata de impedirle que avance debido a su raza o etnicidad?
14. ¿Con qué frecuencia no recibe el reconocimiento que se merece por su trabajo debido a su raza o etnicidad?

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