

Workplace Discrimination and Health Among Filipinos in the United States

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Previous research suggests that social factors associated with racial/ethnic minority group status may influence health and, thus, health disparities. One such factor is racial discrimination, an important correlate of health.^{1,2} Among minority groups in the United States, self-reported racial discrimination is associated with a wide range of health outcomes, including high blood pressure, depression, substance use, and other health problems.³⁻⁶ Most studies of health and discrimination have focused on global experiences of discrimination. For example, Krieger and Sidney⁷ examined how a measure of discrimination at school, in getting a job, at work, in acquiring housing, in getting medical care, on the street, or by police was associated with blood pressure. Williams et al.⁸ reported that everyday discrimination, a measure that captured general experiences of routine unfair treatment, was associated with poor mental health. Gee et al.⁹ found that the everyday discrimination scale was associated with chronic health conditions among Filipino Americans. Other studies have found associations between discrimination and numerous health problems, including coronary calcification,¹⁰ alcohol dependence,¹¹ depressive disorder,¹² and low birthweight.¹³

Given that stressors in general are known to have nonspecific effects,^{14,15} it is not surprising that a range of outcomes have been associated with discrimination.^{1,2,6,16} In fact, stress researchers have long argued that focusing on particular outcomes may underestimate the potential effect of stressors.^{2,17,18} Although these and other studies have been invaluable in advancing our understanding of discrimination, the study of discrimination in specific contexts is important and may aid the development of targeted interventions.^{1,2} One such context is the workplace.

Workplace discrimination may influence health both directly, as a stressor, and indirectly through income and advancement. The

Objectives. We examined the association between work discrimination and morbidity among Filipinos in the United States, independent of more-global measures of discrimination.

Methods. Data were collected from the Filipino American Community Epidemiological Survey. Our analysis focused on 1652 participants who were employed at the time of data collection, and we used negative binomial regression to determine the association between work discrimination and health conditions.

Results. The report of workplace discrimination specific to being Filipino was associated with an increased number of health conditions. This association persisted even after we controlled for everyday discrimination, a general assessment of discrimination; job concerns, a general assessment of unpleasant work circumstances; having immigrated for employment reasons; job category; income; education; gender; and other sociodemographic factors.

Conclusions. Racial discrimination in the workplace was positively associated with poor health among Filipino Americans after we controlled for reports of everyday discrimination and general concerns about one's job. This finding shows the importance of considering the work setting as a source of discrimination and its effect on morbidity among racial minorities. (*Am J Public Health.* 2008;98:520-526. doi:10.2105/AJPH.2007.110163)

workplace is among the most frequently noted areas in which discrimination occurs, but there are relatively few studies of workplace discrimination and health outcomes.^{1,2} Mays et al.^{19,20} reported discrimination to be associated with job stress among working African American women. Jackson et al.²¹ found that a specific type of workplace discrimination, tokenism, was associated with depression and anxiety among African Americans. Workplace discrimination has also been associated with alcohol use among a multiracial sample of public transit operators²² and with job dissatisfaction among African Americans.²³ These studies call attention to the importance of discrimination specific to the workplace aside from more-generic experiences of discrimination; however, they did not include both a measure for workplace discrimination and a measure for generic experiences of discrimination. That is, the association between workplace discrimination and health might arise from more-global experiences with discrimination. Should an association between workplace discrimination

and health persist independent of more-global experiences, this would suggest that workplace-specific policies that protect against discrimination are important not only for the preservation of workers' rights but also to promote their health. Accordingly, we examined whether workplace discrimination was associated with health, independent of a more-global measure of discrimination, in a sample of Filipino American workers.

Our study focused on Filipino American workers (this includes US citizen and non-US citizen Filipinos working in America) for several compelling reasons. Filipinos have historically emigrated to America and elsewhere, providing significant numbers of workers throughout a variety of industries.²⁴⁻³² In 2000, approximately 2.4 million Filipinos resided in the United States, making them the second largest Asian ethnic group population.³³ Moreover, discrimination may be particularly relevant for this population. Compared with Chinese and Vietnamese Americans, Filipino Americans appear to perceive the highest levels of discrimination, and these levels are

fairly similar to those of African Americans.³⁴ A survey of Filipino American workers found that 81% said racism was a significant or very significant barrier to their upward mobility.³⁵

Several high-profile cases feature the importance of work discrimination among Filipinos. English-only rules in workplaces have explicitly targeted immigrants and some have focused on Filipinos.³⁶ In *Carino v. University of Oklahoma Board of Regents* (750 F.2d 815 [10th Cir 1984]) the court found that a Filipino man was unlawfully demoted because of his Filipino accent. Regardless of their legality, these language rules serve to remind immigrants of their secondary status and may contribute to employment outcomes that foster work stress. Also, some evidence suggests Filipinos earn less than do their White and other Asian peers.³⁷ Moreover, Asian Americans may encounter a “bamboo ceiling” that impedes advancement into higher level positions.³⁸ Taken together, these observations suggest that discrimination in the workplace does occur and may influence the health of Filipino Americans.

METHODS

We obtained data from the Filipino American Community Epidemiological Study, a household survey conducted from 1998 to 1999. Participants were randomly selected from households if they met the following eligibility criteria: Filipino heritage, age 18 years or older, and residence in either Honolulu, Hawaii, or San Francisco, Calif. Surveys were administered in English, Tagalog, or Ilocano. A total of 2285 persons completed surveys for a response rate of 78%. Because the primary interest of this study was work discrimination, our analyses excluded 619 respondents who were not working. We also excluded 14 respondents with missing data on work discrimination. Thus, our analyses focused on 1652 respondents. Data were weighted to adjust for differential probabilities of participant selection within a household and for neighborhood racial and economic characteristics. Further details of the sample can be found elsewhere.^{39,40}

Measures

Because discriminatory stressors may influence a variety of outcomes, our dependent variable was health conditions, a composite

of the following problems: asthma, high blood sugar or diabetes, hypertension, high blood pressure, arthritis, rheumatism, physical disability (e.g., loss of arm), trouble breathing (e.g., emphysema, chronic lung disease), cancer, neurological conditions (e.g., epilepsy, convulsions, Parkinson’s disease), stroke, major paralysis, heart failure or a congestive heart condition, angina or coronary artery disease, other heart disease, back problems, stomach ulcer, chronic inflamed bowel, enteritis, colitis, thyroid disease, kidney failure, trouble seeing, migraine headaches. This measure comes from the Medical Outcome Study.^{41–43} Participants were asked to respond “yes” or “no” to indicate if they currently had each condition. These conditions were summed; the range was 0 to 12 in our sample. A similar measure has been used in previous analyses of Filipino American health.⁹

The primary independent variables of interest were: Filipino-specific work discrimination, everyday discrimination, and job concerns. Filipino-specific work discrimination (shortened here to “work discrimination”) was measured by 2 items: “Since I am Filipino, I’m expected to work harder” and “Since I am Filipino, it is hard to get promotions/raises.” Participants rated their level of concern for each item during the past month on a Likert scale (1 = none at all, 4 = high). Scores for the 2 items were summed, resulting in a total score between 2 and 8.

Everyday discrimination was measured with a 9-item questionnaire adapted from the Detroit Area Study.^{44,45} Developed from qualitative research, this questionnaire was designed to measure experiences of discrimination occurring in routine interactions. On a Likert scale (1 = never, 5 = very often), respondents rated their past-month experiences with the following: perceptions of “prejudice and discrimination from others,” being treated with less “courtesy” and “less respect,” “receiving poorer service at restaurants or stores,” people acting as if they are “afraid of you,” as if “they think you are dishonest,” or as if they are “better than you are,” being “called names or insulted,” and being “threatened or harassed.” Respondents were free to attribute these experiences to racial, ethnic, or other characteristics. For this study, the scale’s Cronbach α was .87; total scores

ranged from 1 to 5. This widely used measure has been correlated with health outcomes among Asian Americans^{9,11,34,40} and African Americans.^{8,10,44,46–48}

Job concerns was measured by a subset of 10 job-oriented items from the Daily Hassles Scale.^{49–52} Participants rated their level of concern in the past month along a Likert scale (1 = none at all, 4 = high). Examples of items included problems getting along with a boss, concerns about job security, not liking fellow workers, and not liking current duties. For each participant, ratings for all items were summed to obtain a score ranging from 10 to 40 with a Cronbach α of .86 for the current sample. A similar scale was used in a study of health outcomes involving Chinese Americans.⁵³

We included the following control variables: age in years, gender (1 = female, 0 = male), marital status (1 = married, 0 = not married), region (1 = San Francisco, 0 = Honolulu), years of education, nativity (1 = US born, 0 = immigrant), percentage of life in the United States (calculated for immigrants as years since immigrating divided by age at time of survey, or 100% for those US born), primary language (1 = English, 0 = Tagalog or Ilocano). Immigrated for employment was measured with 1 item asking how important it had been to immigrate to the United States to find employment, (1 = very or a little important, 0 = not important or not applicable). Job category was derived from participants’ job title. Participants were asked the open-ended question, “What do you consider your main job?” Because there was much variation in how participants described their job titles, we categorized job titles according to the 2002 North American Industrial Classification System. We subsequently collapsed groupings into 3 primary categories: manual (agriculture, construction, manufacturing), trade (wholesale, retail), and service (healthcare and social assistance, educational services, accommodation and food services). Details on these categories are available from the authors. Per capita household income was calculated by dividing household income by the number of persons living in the respondent’s household. Four categories were derived: less than \$25 000; \$25 000 to \$49 999; \$50 000 to \$99 999; and \$100 000 and greater.

Analysis

We first conducted exploratory analyses to direct variable specification. Then we examined bivariate associations by 2 methods. First, work discrimination scores were dichotomized at the median into high and low groups for comparison across sociodemographic and all other variables of interest. Second, correlations between continuous measures were examined with Pearson product-moment correlations. Multivariate analyses were then conducted using negative

binomial regression, with health conditions as the dependent variable. All continuous predictors were centered at their means to facilitate interpretation of the intercept.⁵⁴

RESULTS

Table 1 shows descriptive statistics for the sample. Mean age was just under 41 years. The majority of the sample were men, married, and resided in Honolulu. About 17% of the sample was US born, and on average,

respondents spent 47% of their lives in the United States. The average respondent had just under 12 years of education, and 68% belonged to a household earning less than \$25 000 annually. The majority (74%) worked in service, followed by manual (15%) and trade (12%) jobs. Eighty-one percent used a Filipino dialect (Tagalog or Ilocano) as their primary daily language. Among immigrants, 78% stated that employment was the primary reason for immigrating to the United States. Mean levels of job concerns, everyday discrimination, and work discrimination were 14.3, 1.4, and 3.1, respectively. Finally, respondents reported .83 health conditions on average.

Table 1 also shows all study measures stratified by work discrimination, divided at its median into “low” and “high.” Consistent with expectations, high work discrimination was associated with having more health conditions, higher everyday discrimination, and more job concerns. Respondents reporting high work discrimination were also more likely to be older and married, to reside in San Francisco, to have spent less of their lives in the United States, and to use a Filipino dialect as their daily language. By contrast, no differences in gender, nativity, education, job category, income, or immigration for employment by level of work discrimination were observed.

Table 2 shows bivariate correlations between continuous measures. Work discrimination was significantly associated with more health conditions ($r=.13$; $P\leq .01$). Statistically significant associations for health conditions were also found for age ($r=.22$; $P\leq .01$), education ($r=.07$; $P\leq .01$), job concerns ($r=.16$; $P\leq .01$), and everyday discrimination ($r=.13$; $P\leq .01$), indicating a need to examine multivariable models through regression analyses. Everyday discrimination and work discrimination were moderately correlated ($r=.31$; $P\leq .01$). Further, work discrimination was positively associated with age ($r=.06$; $P\leq .01$) and job concerns ($r=.36$; $P\leq .01$) and negatively associated with percentage of life in the United States ($r=-.11$; $P\leq .01$).

Tables 1 and 2 provide initial evidence of an association between reports of work discrimination and increased health conditions. However, the data also reveal associations between these measures and other potentially

TABLE 1—Sample Descriptive Statistics, by Race/Ethnicity: Filipino American Community Epidemiological Survey, 1998–1999

	Filipino-Specific Work Discrimination		Entire Sample (n = 1652), Mean (SE) or %
	Low (n = 968), Mean (SE) or %	High (n = 684), Mean (SE) or %	
Age, y	40.17 (.45)	42.06 (.49)**	40.90 (.34)
Women	49.4	46.6	48.3
Married	56.1	66.7***	60.3
Live in San Francisco	41.3	53.0***	46.2
US born	18.4	14.8	16.9
Percentage of life in United States	47.95 (.01)	44.27 (.01)*	46.58 (.01)
Education, y	11.99 (.16)	11.95 (.22)	11.92 (.13)
Job category			
Manual	17.1	14.1	14.7
Trade	10.9	10.9	11.5
Service	72.0	75.0	73.8
Per capita household income, \$			
<25 000	66.2	70.0	67.8
25 000–49 999	16.2	15.4	15.9
50 000–99 999	7.9	6.6	7.3
≥100 000	9.1	7.4	8.4
Missing	0.5	0.6	0.5
Daily language			
Filipino	79.2	83.9*	81.1
English	20.8	16.1	18.9
Immigrated for employment ^a	77.2	78.1	77.6
Job concerns ^b	12.79 (.15)	16.42 (.25)***	14.26 (.14)
Everyday discrimination ^c	1.27 (.02)	1.57 (.03)***	1.39 (.02)
Filipino-specific work discrimination ^d	...	...	3.06 (.04)
Health conditions ^e	.69 (.04)	1.05 (.05)***	.83 (.03)

Note. Filipino-specific work discrimination was measured by 2 survey items on a Likert scale (1 = none at all 4 = high). Scores for the 2 items were summed, resulting in a total score between 2 and 8. Total scores were dichotomized at the median into high and low groups.

^aThis included the percentage of immigrants only (n = 810 in low group; n = 561 in high group; n = 1371 for entire sample) and excludes US-born persons.

^b10 = low, 40 = high.

^c1 = low, 5 = high.

^d2 = low, 8 = high.

^eFor a full description of the health conditions variable, see “Methods” section.

* $P\leq .05$; ** $P\leq .01$; *** $P\leq .001$

TABLE 2—Correlations Among Continuous Measures for Entire Sample (N = 1652) : Filipino American Community Epidemiological Survey, 1998–1999

	Age	Percentage of Life in United States	Education	Job Concerns	Everyday Discrimination	Filipino-Specific Work Discrimination	Health Conditions
Age	...	-.25**	-.08*	-.14**	-.13**	.06**	.22**
Percentage of life in United States	12**	.11**	.15**	-.11**	-.03
Education		19**	.16**	-.04	.07**
Job concerns			45**	.36**	.16**
Everyday discrimination				31**	.13**
Filipino-specific work discrimination					13**
Health conditions							...

Note. For more details on how variables were measured, see "Methods" section.

* $P \leq .05$. ** $P \leq .01$

important covariates. Hence, our next analyses turned to multivariable models.

Table 3 shows results from regression analyses with health conditions as the dependent variable. Model 1 included the control variables age, gender, marital status, region of residence, education, job category, per capita household income, daily language, nativity, percentage of life in the United States, and immigrated for employment. Older age, female gender, living in San Francisco, and employment in a trade industry job were significantly associated with having health conditions. In models 2, 3, and 4, we separately added job concerns, everyday discrimination, and work discrimination, respectively, to model 1. Model 2 shows that job concerns was significantly associated with health conditions ($b=0.04$; $P \leq .001$). Model 3 shows that everyday discrimination was associated with increased health conditions ($b=0.31$; $P \leq .001$). Model 4 indicates that work discrimination was also associated with a greater number of health conditions ($b=0.11$; $P \leq .001$). Finally, model 5 included all variables. Work discrimination remained significantly associated with increased health conditions ($b=0.06$; $P \leq .05$), after we controlled for everyday discrimination ($b=0.14$; $P \leq .05$), job concerns ($b=0.03$; $P \leq .001$), and other covariates. We also tested interactions between job discrimination and everyday discrimination, job concerns, and percentage of life in the United States, although none were statistically significant.

DISCUSSION

Workplace as a Context for Discrimination

Our findings suggest that self-report of workplace discrimination was associated with increased health conditions among Filipino Americans, after we controlled for a more general assessment of everyday discrimination, job concerns, immigration for employment reasons, job category, income, education, gender, and other sociodemographic factors.

Previous research suggests that everyday discrimination is an important correlate of health conditions among Filipino Americans.^{9,34} The everyday discrimination scale is being used in an increasing number of studies of discrimination across a variety of populations.^{8,39,40,46–48} Everyday discrimination refers to general experiences of discrimination that occur on a routine basis. Reports of discrimination occurring at work were related to everyday discrimination, but the correlations were relatively low. This suggests that it would be important to include context-specific indicators of discrimination along with more-global measures of discrimination. Although everyday discrimination continues to be an important correlate of health, other dimensions of discrimination appear relevant and should be examined in future studies.

Workplace Discrimination and Occupational Stress

Discrimination at work may be a job stressor. Israel et al.⁵⁵ propose a conceptual framework that considers direct relations between occupational stressors, including discrimination, and physiological, psychological, and behavioral health outcomes. The framework also characterizes such relationships through a stressor-stress-strain-health outcome pathway. And studies have shown that work discrimination is associated with morbidity. Din-Dzietham et al.⁵⁶ reported stress from race-based discrimination at work to be associated with hypertension among African Americans. Yen et al.²² found that workplace discrimination was associated with alcohol consumption among a multiracial sample of public transit operators in San Francisco.

Bhui et al.⁵⁷ reported that workplace discrimination was associated with mental disorders among racial/ethnic minorities in the United Kingdom. More generally, occupational stressors are believed to be important predictors of worker morbidity. However, we did not examine the full range of occupational stressors, such as job strain, that may be relevant to Filipino workers. Future research should examine whether workplace discrimination is an independent stressor or is related to broader classifications of occupational stressors.

Additionally, workplace discrimination may operate in structural ways through work practices or unspoken work policies that create, promote, and perpetuate inequality. Inequality may manifest itself in the form of unequal pay or barriers to promotion, both effectively hindering chances to improve one's socioeconomic status.⁵⁸ Additionally, inequalities in the workplace may influence job assignments so that racial/ethnic minorities are assigned to more unpleasant or hazardous job tasks.⁵⁹ Increased exposure to occupational hazards as a consequence of racial inequality translates to increased risk for work-related injury and illness for specific groups of workers.^{60–64} Further, injury or illness can threaten job security or the ability to return to work as well as future employability, which all have implications for socioeconomic well-being. Additionally, racial/ethnic minority and immigrant workers are typically overrepresented in the most dangerous and hazardous jobs.^{65–69}

TABLE 3—Results of Negative Binomial Regression Analyses of Health Conditions: Filipino American Community Epidemiological Survey, 1998–1999

	Model 1, b (SE)	Model 2, b (SE)	Model 3, b (SE)	Model 4, b (SE)	Model 5, b (SE)
Age	.03 (.003)***	.03 (.003)***	.03 (.003)***	.03 (.003)***	.03 (.003)***
Women	.22 (.08)**	.20 (.07)**	.24 (.08)***	.25 (.08)**	.23 (.08)**
Married	.11 (.09)	.08 (.09)	.13 (.09)	.09 (.09)	.09 (.09)
Live in San Francisco	.59 (.10)***	.49 (.10)***	.46 (.10)***	.53 (.10)***	.42 (.10)***
Education	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Job category					
Manual (Ref)	...	...	...	...	...
Trade	.35 (.17)*	.31 (.17)	.33 (.17)	.32 (.17)	.30 (.17)
Service	.13 (.12)	.11 (.11)	.10 (.11)	.11 (.11)	.09 (.11)
Per capita household income, \$					
<25 000 (Ref)	...	...	...	...	...
25 000–49 999	-.03 (.10)	-.04 (.09)	-.05 (.09)	-.001 (.10)	-.04 (.09)
50 000–99 999	-.10 (.15)	-.08 (.15)	-.07 (.16)	-.06 (.15)	-.05 (.15)
≥100 000	.11 (.17)	-.08 (.16)	.08 (.16)	.13 (.17)	.09 (.16)
Missing	.22 (.48)	.24 (.47)	.22 (.46)	.18 (.52)	.22 (.48)
Daily language					
Filipino (Ref)	...	...	...	...	...
English	.03 (.12)	.02 (.11)	.04 (.11)	.05 (.12)	.04 (.12)
US born	-.13 (.17)	-.13 (.17)	-.08 (.17)	-.16 (.17)	-.12 (.17)
Percentage of life in United States	.31 (.20)	.31 (.20)	.23 (.20)	.37 (.20)	.30 (.20)
Immigrated for employment	.00 (.10)	.02 (.09)	-.04 (.10)	-.01 (.10)	.02 (.09)
Job concerns		.04 (.01)***			.03 (.01)***
Everyday discrimination			.31 (.06)***		.14 (.07)*
Filipino-specific work discrimination				.11 (.02)***	.06 (.02)*
Intercept	-.84 (.16)***	-.77 (.15)***	-1.13 (.17)***	-1.13 (.17)***	-.94 (.18)***

Note. Model 1 included the control variables age, gender, marital status, region of residence, education, job category, per capita household income, daily language, nativity, percentage of life in the United States, and immigrated for employment. In models 2, 3, and 4, we separately added job concerns, everyday discrimination, and work discrimination, respectively, to model 1. Finally, model 5 included all variables. For more details on how variables were measured, see “Methods” section. * $P \leq .05$; ** $P \leq .01$; *** $P \leq .001$

The disproportionate burden of occupational injury and illness they bear should be viewed as a major factor in the broader discussion of health disparities.⁷⁰

Study Relevance and Future Directions

Research on Filipino American workers is especially timely because the Philippines was the second largest source of immigrants to the United States in the year 2000, second only to Mexico.⁷¹ Current migration patterns fit a long history of labor migration, because Filipino workers leave the Philippines to fill worker shortages worldwide.^{24–32} Moreover, our research provides a good starting point for research on other groups of Asian Americans.

A strength of our study is the focus on one Asian ethnic group, overcoming problems that arise when diverse groups of Asian Americans are aggregated.^{72,73} To our knowledge, ours is the first study of the association between workplace discrimination and health outcomes among Asian Americans and joins a small corpus of research in this area.^{2,20–22,57,74–76} It would be important for future studies to evaluate whether our findings can be generalized to other racial/ethnic groups.

Because our data are cross-sectional, we believe that a longitudinal study will provide greater insight into how workplace discrimination may influence health over time. Prospective studies would also allow tracking of

employment transitions and changes in workplace discrimination experiences across types of jobs and settings. Further, we encourage data collection that captures the multidimensionality of workplace discrimination. Our measure for work discrimination captured only 2 aspects of discrimination, “expectations to work harder” and “difficulty getting promotions or raises” because one is Filipino. This 2-item measure likely does not capture the full range of workplace discrimination experiences that one might encounter. As such, our findings potentially underestimate the association between workplace discrimination and health but may raise issues with respect to reliability as well. Future studies should develop a more comprehensive, multidimensional measure. Additionally, workplace discrimination based on self-report may be influenced by response factors (e.g., recall bias, optimism). Future research could use self-reports with other objective measures. Krieger, for example, reports on a pilot study that captured not only workers’ reports of discrimination but also measured grievances filed.⁷⁷ Future studies may also consider measuring occupational segregation and wage and promotion differentials as alternatives for measuring workplace discrimination.

In this secondary data analysis, we were restricted in measuring job category on the basis of job title. Because participants reported their job in response to an open-ended question, there was much variability in the responses and many job titles had small numbers. To avoid small and unstable categories, we grouped respondents’ job titles into 3 categories according to the 2002 North American Industrial Classification System. However, each category is heterogeneous with regard to occupational exposures, power, and prestige. Thus, it would be important for future work to assess more-specific job categories. Research that examines how discrimination varies within the workplace (e.g., by job title, job tasks, supervisory function, seniority) and whether the potential associations between work-related discrimination and health vary along these dimensions would provide important insight. Our data were obtained from a community-based sample rather than from a specific worksite or a sample of workers with a shared occupational title and did not include

more-precise occupational measures. However, analysis of data from this community-based sample allows the examination of work-related discrimination as experienced by a specific racial/ethnic group (Filipinos) no matter what industry or job they worked in.

Also, the measure for per capita household income is imperfect. Because our data were clustered at the lower income brackets, we would have preferred to distinguish that category further. However, because less than \$25 000 was the lowest category provided, we were unable to create finer categories that may have been more meaningful. That said, analyses that include or that exclude income show similar results, suggesting that imperfect measurement of income did not substantially bias our inferences regarding discrimination.

Further, we note that the timeframes for the primary variables of interest (workplace discrimination, everyday discrimination, and job concerns) refer to respondents' experiences in the past month. This timeframe may not be consistent with the onset of some health conditions or exposure to work discrimination. For example, a respondent may have been diagnosed with diabetes before experiencing work discrimination. It would be important for future studies to consider the issue of etiologic period with respect to exposure (discrimination) and outcome (health condition). Thus, our findings should be viewed as preliminary. However, despite the limitations, we believe that our findings are important because our study is (1) among the few to investigate work-related discrimination and, to our knowledge, (2) the only study of work-discrimination that controlled for more-general experiences of discrimination, and (3) the only study to examine work-discrimination among Asian Americans, an understudied population.

We find that reports of racial discrimination in the workplace are associated with poor health among Filipino Americans, after controlling for everyday discrimination, job concerns, and other covariates. This finding highlights the importance of including the work setting and specific measures of workplace discrimination in studies of health disparities. ■

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Contributors

A. B. de Castro originated the study, assisted with the analyses, and led the writing. G. C. Gee assisted with the theoretical aspects of the study, led the analyses, and assisted with the writing. D. T. Takeuchi was the principal investigator of the Filipino American Community Epidemiological Survey and assisted with the writing.

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Human Participant Protection

This secondary analysis was approved by the Office for the Protection of Research Subjects at the University of Illinois at Chicago.

References

- Krieger N. Embodying inequality: a review of concepts, measures, and methods for studying health consequences of discrimination. *Int J Health Serv*. 1999;29:295–352.
- Williams DR, Neighbors HW, Jackson JS. Racial/ethnic discrimination and health: findings from community studies. *Am J Public Health*. 2003;93:200–208.
- Brandolo E, Rieppi R, Kelly KP, Gerin W. Perceived racism and blood pressure: a review of the literature and conceptual and methodological critique. *Ann Behav Med*. 2003;25:55–65.
- Harris R, Tobias M, Jeffreys M, Waldegrave K, Karlens S, Nazroo J. Racism and health: the relationship between experience of racial discrimination and health in New Zealand. *Soc Sci Med*. 2006;63:1428–1441.
- Minior T, Galea S, Stuber J, Ahern J, Ompad D. Racial differences in discrimination experiences and responses among minority substance users. *Ethn Dis*. 2003;13:521–527.
- Paradies Y. A systematic review of empirical research on self-reported racism and health. *Int J Epidemiol*. 2006;35:888–901.
- Krieger N, Sidney S. Racial discrimination and blood pressure: the CARDIA study of young Black and White adults. *Am J Public Health*. 1996;86:1370–1378.
- Williams DR, Yu Y, Jackson JS, Anderson NB. Racial differences in physical and mental health: socioeconomic status, stress, and discrimination. *J Health Psychol*. 1997;2:335–351.
- Gee GC, Chen J, Spencer MS, et al. Social support as a buffer for perceived unfair treatment among Filipino Americans: differences between San Francisco and Honolulu. *Am J Public Health*. 2006;96:677–684.
- Lewis TT, Everson-Rose SA, Powell LH, et al. Chronic exposure to everyday discrimination and coronary artery calcification in African American

women: the SWAN Heart Study. *Psychosom Med*. 2006;68:362–368.

- Gee GC, Delva J, Takeuchi DT. Relationships between self-reported unfair treatment and prescription medication use, illicit drug use, and alcohol dependence among Filipino Americans. *Am J Public Health*. 2006;98:1–8.
- Kessler RC, Mickelson KD, Williams DR. The prevalence, distribution, and mental health correlates of perceived discrimination in the United States. *J Health Soc Behav*. 1999;40:208–230.
- Collins JW, David RJ, Symons R, Handler A, Wall SN, Dwyer L. Low-income African American mothers' perception of exposure to racial discrimination and infant birthweight. *Epidemiol*. 2000;11:337–339.
- Selye H. *The Stress of My Life: A Scientist's Memoirs*. New York, NY: Van Nostrand Reinhold; 1979.
- McEwen BS. Stress, adaptation, and disease: allostasis and allostatic load. *Ann N Y Acad Sci*. 1998;840:33–44.
- Mays VM, Cochran SD, Barnes NW. Race, race-based discrimination, and health outcomes among African Americans. *Annu Rev Psychol*. 2007;58:201–225.
- Pearlin LI. The sociological study of stress. *J Health Soc Behav*. 1989;30:241–256.
- Aneshensel CS. Social stress: theory and research. *Annu Rev Sociol*. 1992;18:15–38.
- Mays VM. Black women, work, stress, and perceived discrimination: the focused support group model as an intervention for stress reduction. *Cult Divers Ment Health*. 1995;1:53–65.
- Mays VM, Coleman LM, Jackson JS. Perceived race-based discrimination, employment status, and job stress in a national sample of Black women: implications for health outcomes. *J Occup Health Psychol*. 1996;1:319–329.
- Jackson PB, Thoits PA, Taylor HF. Composition of the workplace and psychological well-being: the effects of tokenism on America's Black elite. *Soc Forces*. 1995;74:543–557.
- Yen IH, Ragland DR, Greiner BA, Fisher JM. Workplace discrimination and alcohol consumption: findings from the San Francisco Muni Health and Safety Study. *Ethn Dis*. 1999;9:70–80.
- Deitch EA, Barsky A, Butz RM, Chan S, Brief AP, Bradley JC. Subtle yet significant: the existence and impact of everyday racial discrimination in the workplace. *Hum Relat*. 2003;56:1299–1324.
- Barber PG. Agency in Philippine women's labour migration and diaspora. *Womens Stud Int Forum*. 2000;23:399–411.
- Choy CC. *Empire of Care: Nursing and Migration in Filipino American History*. Durham, NC: Duke University Press; 2003.
- Constable N. *Maid to Order in Hong Kong: An Ethnography of Filipina Workers*. Ithaca, NY: Cornell University Press; 1997.
- Espiritu YL. *Home Bound: Filipino American Lives Across Cultures, Communities, and Countries*. Berkeley, Calif: University of California Press; 2003.
- Gonzalez JL. *Philippine Labour Migration*. Singapore: Institute of Southeast Asian Studies; 1998.
- Goss J, Lindquist B. Conceptualizing international labor migration: a structuration perspective. *Int Migr Rev*. 29;1995:317–351.

30. Philippine Overseas Employment Administration. Annual Report 2003: On the path to global excellence in governance. Available at: <http://www.poea.gov.ph/AR2004/AnnualReports/AR2003.pdf>. Accessed April 15, 2007.
31. Scharlin C, Villanueva LV. *Philip Vera Cruz: A Personal History of Filipino Immigrants and the Farmworkers Movement*. Seattle: University of Washington Press; 2000.
32. Tyner JA. The global context of gendered labor migration from the Philippines to the United States. *Am Behav Sci*. 1999;42:671–689.
33. Barnes JS, Bennett CE. *The Asian Population: 2000*. US Census Bureau. Census Brief 2000. C2KBR/01-16. Available at: <http://www.census.gov/prod/2002pubs/c2kbr01-16.pdf>. Accessed April 15, 2007.
34. Gee GC, Spencer MS, Chen J, Takeuchi D. A nationwide study of discrimination and chronic health conditions among Asian Americans. *Am J Public Health*. 2007;97(7):1275–82.
35. Cabezas A, Tam TM, Lowe BM, Wong A, Turner K. Empirical study of barriers to upward mobility of Asian Americans in the San Francisco Bay area. In: Nomura G, Endo R, Leong R, et al., eds. *Frontiers of Asian American Studies*. Pullman: Washington State University Press; 1989:85–97.
36. Ong L, Azores T. The migration and incorporation of Filipino nurses. In: Ong P, Bonacich E, Cheng L, eds. *The New Asian Immigration in Los Angeles and Global Restructuring*. Philadelphia, Pa: Temple University Press; 1994:164–195.
37. Mar D. Four decades of Asian American women's earnings: Japanese, Chinese, and Filipino American women's earnings 1960–1990. *Contemp Econ Policy*. 2000;18:228–237.
38. Hyun J. *Breaking the Bamboo Ceiling: Career Strategies for Asians*. New York, NY: HarperCollins; 2005.
39. Gong F, Gage S-J, Tacata LA. Helpseeking behavior among Filipino Americans: a cultural analysis of face and language. *J Community Psychol*. 2003;31:469–488.
40. Mossakowski KN. Coping with perceived discrimination: does ethnic identity protect mental health? *J Health Soc Behav*. 2003;44:318–331.
41. Alonso J, Ferrer M, Bandek B, et al. Health-related quality of life associated with chronic conditions in eight countries: results from the International Quality of Life Assessment (IQOLA) Project. *Qual Life Res*. 2004;13:283–298.
42. Stewart AL, Greenfield S, Hays RD, et al. Functional status and well-being of patients with chronic conditions: results from the Medical Outcomes Study. *JAMA*. 1989;262:907–913.
43. Ware JE. The status of health assessment. *Annu Rev Public Health*. 1994;16:327–354.
44. Schulz AJ, Gravlee CC, Williams DR, Israel BA, Mentz G, Rowe Z. Discrimination, symptoms of depression, and self-rated health among African American women in Detroit: results from a longitudinal analysis. *Am J Public Health*. 2006;96:1265–1270.
45. Williams DR, Spencer MC, Jackson JS. Race, stress, and physical health: the role of group identity. In: Contrada RJ, Ashmore RD, eds. *Self, Social Identity, and Physical Health*. New York, NY: Oxford University Press Inc; 1999:71–100.
46. Banks KH, Kohn-Wood LP, Spencer M. An examination of the African American experience of everyday discrimination and symptoms of psychological distress. *Community Ment Health J*. 2006;42:555–570.
47. Schulz A, Israel B, Williams D, Parker E, Becker A, James S. Social inequalities, stressors and self reported health status among African American and White women in the Detroit metropolitan area. *Soc Sci Med*. 2000;51:1639–1653.
48. Taylor TR, Kamarck TW, Shiffman S. Validation of the Detroit Area Study Discrimination Scale in a community sample of older African American adults: the Pittsburgh Healthy Heart Project. *Int J Behav Med*. 2004;11:88–94.
49. DeLongis A, Coyne JC, Dakof G, Folkman S, Lazarus RS. Relationship of daily hassles, uplifts, and major life events to health status. *Health Psychol*. 1982;1:119–136.
50. DeLongis A, Folkman S, Lazarus RS. The impact of daily stress on health and mood: psychological and social resources as mediators. *J Pers Soc Psychol*. 1988;54:486–495.
51. Holm JE, Holroyd KA. The daily hassles scale (revised): does it measure stress or symptoms? *Behav Assess*. 1992;14:465–482.
52. Kanner AD, Coyne JC, Schaefer C, Lazarus RS. Comparison of two modes of stress measurement: daily hassles and uplifts versus major life events. *J Behav Med*. 1981;4:1–39.
53. Mak WW, Chen SX, Wong EC, Zane NWS. A psychosocial model of stress-distress relationship among Chinese Americans. *J Soc Clin Psychol*. 2005;24:422–444.
54. Aiken LS, West SG. *Multiple Regression: Testing and Interpreting Interactions*. Thousand Oaks, Calif: Sage Publications; 1991.
55. Israel BA, Baker EA, Goldenhar LM, Heaney CA, Schurman SJ. Occupational stress, safety, and health: conceptual framework and principles for effective prevention interventions. *J Occup Health Psychol*. 1996;1:261–286.
56. Din-Dzietham R, Nembhard WN, Collins R, Davis SK. Perceived stress following race-based discrimination at work is associated with hypertension in African Americans: the Metro Atlanta Heart Disease Study, 1999–2001. *Soc Sci Med*. 2004;58:449–461.
57. Bhui K, Stansfeld S, McKenzie K, Karlsen S, Nazroo J, Weich S. Racial/ethnic discrimination and common mental disorders among workers: findings from the EMPIRIC Study of Ethnic Minority Groups in the United Kingdom. *Am J Public Health*. 2005;95:496–501.
58. Williams DR. Race, socioeconomic status, and health: the added effects of racism and discrimination. *Ann N Y Acad Sci*. 1999;896:173–188.
59. Robinson JC. Racial inequality and occupational health in the United States: the effect on White workers. *Int J Health Serv*. 1985;15:23–34.
60. Friedman-Jimenez G. Occupational disease among minority workers: a common and preventable public health problem. *AAOHNJ*. 1989;37:64–70, 84–86.
61. Loomis D, Richardson D. Race and the risk of fatal injury at work. *Am J Public Health*. 1998;88:40–44.
62. Robinson JC. Racial inequality and the probability of occupation-related injury or illness. *Milbank Mem Fund Q Health Soc*. 1984;62:567–590.
63. Robinson JC. Trends in racial inequality and exposure to work-related hazards, 1968–1986. *Milbank Q*. 1987;65(suppl 2):404–420.
64. Robinson JC. Exposure to occupational hazards among Hispanics, Blacks and non-Hispanic Whites in California. *Am J Public Health*. 1989;79:629–630.
65. American Federation of Labor-Congress of Industrial Organizations. *Immigrant Workers at Risk: The Urgent Need for Improved Workplace Safety and Health Policies and Programs*. Available at: http://www.aflcio.org/aboutus/laborday/upload/immigrant_risk.pdf. Accessed April 15, 2007.
66. LaVeist TA. Hispanic/Latino health issues. In: La Veist TA, ed. *Minority Populations and Health*. San Francisco, Calif: Jossey-Bass; 2005:260–279.
67. McCauley LA. Immigrant workers in the United States: recent trends, vulnerable populations, and challenges for occupational health. *AAOHNJ*. 2005;53:313–319.
68. Taylor AK, Murray LR. Occupational safety and health. In: Levy BS, Sidel VW, eds. *Social Injustice and Public Health*. New York, NY: Oxford University Press; 2006:337–356.
69. National Institute for Occupational Safety and Health. *NORA: Special Populations at Risk*. Available at: <http://www2a.cdc.gov/nora/noratopictemp.asp?rscharea=spr>. Accessed April 15, 2007.
70. Lipscomb HJ, Loomis D, McDonald MA, Argue RA, Wing S. A conceptual model of work and health disparities in the United States. *Int J Health Serv*. 2006;36:25–50.
71. Mosisa AT. The role of foreign-born workers in the US economy. *Mon Labor Rev*. 2002;125:3–14.
72. Ro M. Moving forward: addressing the health of Asian American and Pacific Islander women. *Am J Public Health*. 2002;92:516–519.
73. Yu SM, Huang ZJ, Singh GK. Health status and health services utilization among US Chinese, Asian Indian, Filipino, and other Asian/Pacific Islander children. *Pediatrics*. 2004;113:101–107.
74. Coombs AA, King RK. Workplace discrimination: experiences of practicing physicians. *J Natl Med Assoc*. 2005;97:467–477.
75. Krieger N, Waterman PD, Hartman C, et al. Social hazards on the job: workplace abuse, sexual harassment, and racial discrimination: a study of Black, Latino, and White low-income women and men workers in the United States. *Int J Health Serv*. 2006;36:51–85.
76. Miller GV, Travers CJ. Ethnicity and the experience of work: job stress and satisfaction of minority ethnic teachers in the UK. *Int Rev Psychiatry*. 2005;17:317–327.
77. Krieger N, Smith K, Naishadham D, Hartman C, Barbeau EM. Experiences of discrimination: validity and reliability of a self-report measure for population health research on racism and health. *Soc Sci Med*. 2005;61:1576–1596.