

Associations Between Racial Discrimination, Limited English Proficiency, and Health-Related Quality of Life Among 6 Asian Ethnic Groups in California

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Despite their image as a successful ethnic minority, Asian Americans experience considerable barriers to their well-being.¹ Two major barriers are racial discrimination and limited English proficiency. Both are risk factors for illness and diminished quality of life.^{2–4} We evaluated how these 2 factors were associated with health-related quality of life among 6 Asian ethnic groups.

Discrimination is experience with racial bias enacted by others, and limited English proficiency refers to an individual's skill with a specific language. Hence, discrimination represents exposure to external risk factors, and English proficiency is related to personal ability. Despite these differences, both can compromise quality of care, for example, by damaging the trust between patient and provider.^{5–8} Both may be associated with more fundamental determinants of health, such as restricted employment opportunities.^{9–11} Further, individuals who face discrimination or who have language barriers may encounter stress, which then may contribute to allostatic load and diminished well-being.^{4,12} Moreover, limited English proficiency and discrimination may be interrelated. Limitations with English or a noticeable accent may trigger discrimination.^{13,14} Lack of familiarity with English may prevent recognition of discrimination when it occurs.

We investigated health-related quality of life because discrimination and limited English proficiency may influence a variety of other risk factors, such as stress, health care access, and socioeconomic position.^{10,15,16} For a problem of this range and complexity, a focus on narrow outcomes would likely understate any associations of discrimination and limited English proficiency with well-being, so we investigated the broader issue of quality of life.¹⁷ Further, the World Health Organization defines health as “a

Objectives. We examined the association of racial discrimination and limited English proficiency with health-related quality of life among Asian Americans in California.

Methods. We studied Chinese (n=2576), Filipino (n=1426), Japanese (n=833), Korean (n=1128), South Asian (n=822), and Vietnamese (n=938) respondents to the California Health Interview Survey in 2003 and 2005. We assessed health-related quality of life with the Centers for Disease Control and Prevention's measures of self-rated health, activity limitation days, and unhealthy days.

Results. Overall, Asians who reported racial discrimination or who had limited English proficiency were more likely to have poor quality of life, after adjustment for demographic characteristics. South Asian participants who reported discrimination had an estimated 14.4 more activity limitation days annually than South Asians who did not report discrimination. Results were similar among other groups. We observed similar but less consistent associations for limited English proficiency.

Conclusions. Racial discrimination, and to a lesser extent limited English proficiency, appear to be key correlates of quality of life among Asian ethnic groups. (*Am J Public Health.* 2010;100:888–895. doi:10.2105/AJPH.2009.178012)

state of complete physical, emotional and social well-being, and not merely the absence of disease or infirmity.”^{18(p1)} We hypothesized that reports of racial discrimination and limited English proficiency would be associated with decreased quality of life among 6 Asian ethnic groups.

We included individuals identifying as single-race Chinese, Filipino, Japanese, Korean, Vietnamese, or South Asian. Although there is much interest in disaggregating Asian ethnic groups, there is surprisingly little guidance on how these groups might differ.

We expect that groups may differ in the reporting of discrimination. Scholars have suggested that darker-skinned individuals experience more discrimination.¹⁹ This implies that darker-skinned South Asians and Filipinos might report more discrimination than members of other Asian groups. Alternatively, older cohorts (e.g., Chinese, Japanese, and Filipino) may have had more time to integrate into American society

and dispel stereotypes, and hence, encounter less discrimination than newer cohorts. Yet another perspective suggests that “all Asians look alike” to non-Asians, and for this reason, levels of discrimination should be fairly similar across all groups.^{2,20}

Limited English proficiency should be highest among groups who are the most recent immigrants (e.g., Vietnamese and Koreans) and lower among earlier immigrants (e.g., Japanese and Chinese). This language barrier should be lowest among immigrants from countries where English is an official language (e.g., Filipinos and South Asians).

Our study had 3 features that distinguished it from previous research. First, we obtained large, population-based, representative samples of several ethnic groups. Most previous studies of Asian Americans analyzed small convenience samples or included fewer ethnic groups. For example, the National Latino and

Asian American Study, one of the largest studies to date, disaggregated only Chinese, Filipino, and Vietnamese.²¹ Second, we included South Asians. Although there have been several studies of discrimination among South Asians in the United Kingdom,^{22–24} we are aware of no population-based studies of discrimination and health among this population in the United States. Similarly, few studies have examined limited English proficiency among South Asians.²⁵ Third, we used measures of health-related quality of life developed by the Centers for Disease Control and Prevention (CDC).^{18,26,27} Discrimination is associated with poor scores on these CDC measures among Whites, Blacks, and Hispanics.²⁸ However, these associations have not been investigated among Asian Americans.

METHODS

Data come from the California Health Interview Survey (CHIS), a random-digit-dialed, population-based telephone survey administered every other year since 2001.^{29,30} We aggregated data from 2003 and 2005 to increase the stability of our estimates for the Asian ethnic groups. Other years (2001 and 2007) were excluded because the measures of discrimination were not comparable in those years. The overall adult response rates for 2003 and 2005 were 33.5% and 26.9%, respectively. These rates were comparable to the 2003 and 2005 California Behavioral Risk Factor Surveillance System rates of 39% and 29.2%, respectively.

We analyzed responses of adult Asian respondents who were interviewed in Cantonese, English, Korean, Mandarin, Spanish, or Vietnamese. We excluded interviews conducted by proxy ($n=312$), because proxy reports of discrimination are likely to be unreliable. We also excluded other Asians ($n=293$) and individuals self-identifying with multiple races ($n=276$), because their samples were too small to be statistically reliable. Our final sample comprised 2576 Chinese, 1426 Filipino, 833 Japanese, 1128 Korean, 822 South Asian, and 938 Vietnamese respondents.

Measures

Our dependent variables were derived from the CDC's measure of health-related quality of life, which has 4 questions.^{18,26,27} The first question assessed self-rated health: "Would you

say that in general your health is [excellent/very good/good/fair/poor]?" Following previous studies, we dichotomized the response categories as excellent/very good/good or fair/poor.^{27,31}

The second question asked about activity limitation days: "During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?" Responses ranged from 0 to 30.

We derived our unhealthy days measure by combining the final 2 questions: "Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?" and "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?" Following the CDC's recommendation, we summed responses to the 2 questions, but capped the total at 30 days.^{18,26,27}

We assessed racial discrimination with 1 item: "Thinking about your race or ethnicity, how often have you felt treated badly or unfairly because of your race or ethnicity?" This question is similar to one used in previous studies.³² We dichotomized the responses into never/rarely or sometimes/often/all of the time because of some skewness with the distribution.

We assessed limited English proficiency with a question adapted from the 2000 Census: "Would you say you speak English [very well/well/not well/not at all]?" Individuals were classified as having limited proficiency if their response was not well or not at all. Individuals were classified as not having limited proficiency if they reported that they spoke English well or very well.

Covariates were age, gender, percentage of life spent in the United States, marital status, employment, and education. We selected these variables because the literature suggested that they are associated with quality of life, discrimination, and language proficiency among Asian Americans.^{8,33} As an additional control for socioeconomic resources, we included the income–poverty ratio, which can be interpreted as the ratio of income to the federal poverty level.^{34,35} For example, a person with an income–poverty ratio of 3 has an income that is 3 times the poverty level (hence a larger number

indicates greater wealth). We also included an indicator of the year of the survey to account for secular changes between 2003 and 2005.

Analyses

Our analyses began with simple descriptives and bivariate associations. For multivariate analyses, we used logistic regression for self-rated health and negative binomial regression for activity limitation days and unhealthy days (we did not use Poisson because of overdispersion).

All analyses were weighted to account for the sampling design across years and to allow estimates to be representative of the target population in California.^{36,37} We used the SVY suite of commands with Stata version 10.1 (StataCorp LP, College Station, TX).

RESULTS

On average, Vietnamese Americans reported the lowest quality of life and South Asians the highest (Table 1). More Vietnamese (43%) reported fair or poor health, followed by Koreans (26%), Chinese (22%), Filipinos (16%), Japanese (12%), and South Asians (6%). The most unhealthy days were reported by Vietnamese and Koreans (7.3 days), followed by Filipinos (5.3 days), Japanese (5.2 days), Chinese (5.0 days), and South Asians (4.6 days). The most activity limitation days were reported by Vietnamese (1.8 days), followed by Japanese (1.7 days), Filipinos and South Asians (1.5 days), Koreans (1.4 days), and Chinese (1.0 days).

We found a wide variation in language barriers. Only 3% of South Asians, 5% of Filipinos, and 6% of Japanese reported limited English proficiency. By contrast, 52% of Vietnamese, 47% of Koreans, and 34% of Chinese reported limited English proficiency. Reports of discrimination varied less. Filipinos were the most likely to have reported discrimination (33%), followed by Japanese (28%), Chinese (28%), Koreans (25%), South Asians (23%), and Vietnamese (23%).

Japanese and South Asians differed the most in demographic characteristics. On average, Japanese participants were oldest (52 years), spent the highest percentage of their life in the United States, were the least likely to be currently employed, were more likely to be

TABLE 1—Characteristics of Asian Ethnic Groups: California Health Interview Survey, 2003–2005

	Chinese (n = 2576), mean (SE) or %	Filipino (n = 1426), mean (SE) or %	Japanese (n = 833), mean (SE) or %	Korean (n = 1128), mean (SE) or %	South Asian (n = 822), mean (SE) or %	Vietnamese (n = 938), mean (SE) or %
Activity limitation days	1.0 (0.1)	1.5 (0.1)	1.7 (0.2)	1.4 (0.1)	1.5 (0.3)	1.8 (0.2)
Unhealthy days	5.0 (0.2)	5.3 (0.3)	5.2 (0.4)	7.3 (0.4)	4.6 (0.4)	7.3 (0.5)
Fair/poor health	22.1	16.3	12.2	26.3	6.3	43.3
Reported racial discrimination	27.9	33.5	28.4	24.9	23.3	22.3
Had limited English proficiency	33.8	4.6	6.5	46.9	3.1	51.8
Women	55.3	53.0	59.1	57.1	43.8	50.6
Married	63.9	57.0	54.9	64.3	73.8	60.1
% life lived in United States						
0–20	20.2	15.1	3.6	22.2	32.6	23.2
21–40	26.1	17.5	4.8	26.1	29.0	27.4
41–60	19.6	23.8	6.8	25.5	18.8	28.6
61–80	9.5	9.6	7.1	8.3	6.6	9.5
81–100	24.5	34.0	77.8	18.0	13.1	11.3
Currently employed	62.8	71.4	52.2	58.3	69.2	54.5
Education						
<Grade 9	9.4	1.3	2.0	7.6	0.9	16.6
Grades 9–11	4.6	2.7	3.1	3.3	3.2	12.3
High school diploma	18.9	17.4	24.8	21.2	8.8	27.1
Vocational school	1.3	3.6	4.7	0.0	1.0	0.1
Some college	10.1	16.0	11.8	10.5	6.7	11.6
Associate degree	5.8	8.5	10.8	3.6	2.5	7.0
Bachelor's degree	29.1	41.6	29.7	35.7	34.1	19.6
Some graduate school	1.0	0.9	0.9	0.3	1.1	0.3
Master's degree	13.8	6.1	8.4	12.8	33.2	3.8
PhD or equivalent	6.0	2.0	3.8	5.1	8.5	1.7
Income–poverty ratio ^a	4.6 (0.1)	4.6 (0.1)	5.9 (0.2)	4.3 (0.1)	6.0 (0.2)	3.0 (0.1)
Age, y	44.5 (0.3)	42.4 (0.5)	51.8 (0.8)	42.7 (0.6)	38.0 (0.6)	42.9 (0.6)

Note. Estimates were weighted to account for the sampling design.

^aAs determined by the US Department of Health and Human Services federal poverty level for 2003 and 2005.

female (59%), and were least likely to be married (55%). South Asians were the most likely to be married (74%), had the youngest mean age, spent the lowest proportion of their life in the United States, had the lowest proportion of women (44%), had the most education, and had the highest income–poverty ratio (i.e., more economic resources). Filipinos had the highest rates of employment, and Vietnamese participants had the least education and lowest income–poverty ratio.

After adjustment for covariates, reports of discrimination were significantly associated with increased odds of poor self-rated health for Chinese, Koreans, and Vietnamese but not for Japanese, Filipinos, or South Asians (Table 2). Similarly, limited English proficiency was associated with increased odds for poor

self-rated health for Chinese, Koreans, and Vietnamese but not for the other groups.

Table 3 displays the multivariate analyses for activity limitation days and unhealthy days. Reports of discrimination were associated with more activity limitation days among Chinese, Japanese, South Asians, and Vietnamese. Limited English proficiency, however, was not associated with activity limitation days for any group. Reports of discrimination were associated with more unhealthy days for all groups except Filipinos. Limited English proficiency was associated with more unhealthy days only among Japanese participants.

In Figure 1 we plotted the predicted estimates for discrimination from Tables 2 and 3. Estimates reflect the values for a typical respondent, defined as possessing the modal

characteristic for categorical variables (i.e., they reflect a respondent who was female, employed, a college graduate, married, and proficient in English) and centered at the ethnic-group mean for continuous variables. The mode for gender among South Asians was male, and the mode for education among Vietnamese was high school, but we used female and bachelor's degree across all groups to facilitate comparison.

Figure 1a shows the predicted probability of fair or poor health by discrimination and ethnicity. Chinese, Koreans, and Vietnamese who reported discrimination were also more likely to report fair or poor health than were others of their ethnic origin. For example, the probability of reporting fair or poor health was 0.11 among Vietnamese who did not report

TABLE 2—Associations Between Self-Reported Discrimination, Limited English Proficiency, and Poor Self-Rated Health, by Asian Ethnic Group: California Health Interview Survey, 2003–2005

	Chinese (n = 2576), OR (95% CI)	Filipino (n = 1426), OR (95% CI)	Japanese (n = 833), OR (95% CI)	Korean (n = 1138), OR (95% CI)	South Asian (n = 822), OR (95% CI)	Vietnamese (n = 938), OR (95% CI)
Reported racial discrimination						
No (Ref)	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.52 (1.09, 2.09)	1.14 (0.75, 1.72)	0.88 (0.38, 2.01)	1.64 (1.03, 2.61)	0.93 (0.46, 1.87)	2.21 (1.33, 3.65)
English proficiency						
Not limited (Ref)	1.00	1.00	1.00	1.00	1.00	1.00
Limited	2.46 (1.72, 3.49)	1.47 (0.63, 3.39)	1.71 (0.47, 6.06)	2.43 (1.44, 4.10)	2.12 (0.31, 14.37)	1.98 (1.23, 3.15)

Note. OR = odds ratio; CI = confidence interval. All estimates were adjusted for age, gender, employment, education, income-poverty ratio, marital status, survey year, and percentage of life spent in the United States. Estimates were weighted to account for the sampling design. Models used logistic regression.

discrimination and 0.22 among those who did experience discrimination.

These predicted estimates were particularly meaningful for the activity limitation days and unhealthy days measures. Figure 1b shows that South Asians who did not report discrimination had a predicted average of 0.7 activity limitation days per month; for those who reported discrimination the average was 1.9 days, a difference of 1.2 days. We observed similar differences for Japanese (1.2 days), Vietnamese (1 day), and Chinese (0.3 days).

We found a similar, but markedly greater, pattern of effects on unhealthy days (Figure 1c). Reports of discrimination were associated with more unhealthy days among Chinese (1.6 days), Japanese (2 days), Koreans (2.7 days), Vietnamese (3.6), and South Asians (4.4 days).

We performed additional analyses to verify our findings (data not shown) by (1) respecifying our measure of discrimination as a continuous variable, (2) running separate models for the mental and physical unhealthy days questions, and (3) modeling our unhealthy days and

activity limitation days measures as dichotomous variables (<14 unhealthy days versus ≥14 days). Our findings were substantively similar across these different modeling assumptions. We found no statistically significant interactions between discrimination and limited English proficiency, education, or poverty.

DISCUSSION

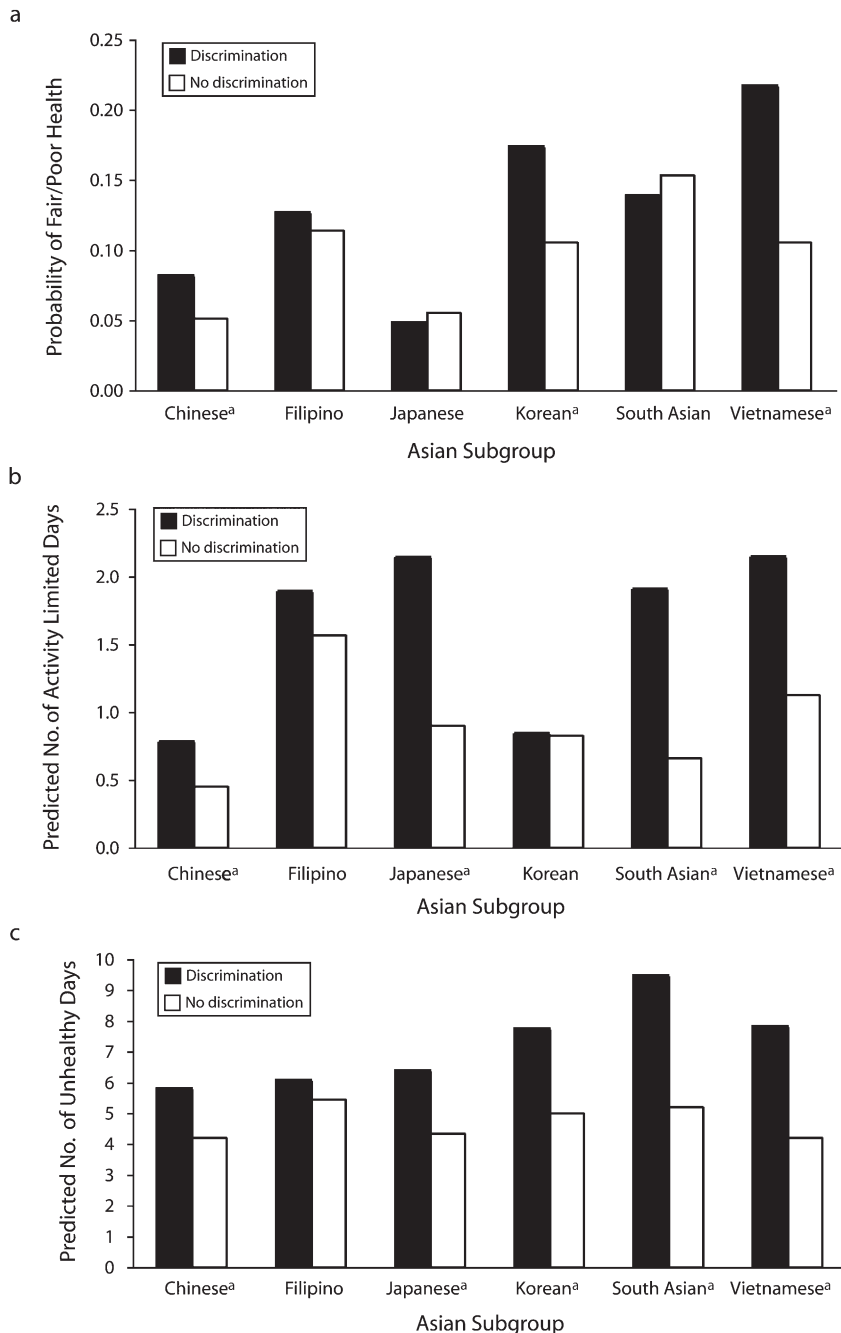
Our analysis of Asian Americans in California yielded 2 major findings: (1) a substantial

TABLE 3—Associations Between Self-Reported Discrimination, Limited English Proficiency, and Activity Limitation and Unhealthy Days, by Asian Ethnic Group: California Health Interview Survey, 2003–2005

	Chinese (n = 2576), b (SE)	Filipino (n = 1426), b (SE)	Japanese (n = 833), b (SE)	Korean (n = 1138), b (SE)	South Asian (n = 822), b (SE)	Vietnamese (n = 938), b (SE)
Activity limitation days						
Reported racial discrimination						
No (Ref)	1.00	1.00	1.00	1.00	1.00	1.00
Yes	0.54** (0.18)	0.19 (0.19)	0.73* (0.36)	0.01 (0.26)	1.03* (0.42)	0.77** (0.24)
Limited English proficiency						
No (Ref)	1.00	1.00	1.00	1.00	1.00	1.00
Yes	0.03 (0.28)	0.46 (0.49)	0.35 (0.59)	0.18 (0.28)	1.20 (0.77)	0.42 (0.28)
Unhealthy days						
Reported racial discrimination						
No (Ref)	1.00	1.00	1.00	1.00	1.00	1.00
Yes	0.32*** (0.08)	0.11 (0.1)	0.38* (0.16)	0.38** (0.12)	0.60** (0.2)	0.61*** (0.14)
Limited English proficiency						
No (Ref)	1.00	1.00	1.00	1.00	1.00	1.00
Yes	0.14 (0.11)	-0.44 (0.24)	0.73* (0.34)	0.21 (0.15)	0.56 (0.31)	0.30 (0.17)

Note. Models use negative binomial regression. All estimates were adjusted for age, gender, employment, education, income-poverty ratio, marital status, survey year, and percentage of life spent in the United States. Estimates were weighted to account for the sampling design.

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



Note. Estimates reflect the mode for categorical variables and the mean for continuous variables.

^aStatistically significant difference between discrimination and no discrimination, adjusted for covariates.

FIGURE 1—Association between racial discrimination and health-related quality of life, by Asian subgroup for (a) probability of fair or poor health, (b) predicted number of activity limited days, and (c) predicted number of unhealthy days: California Health Interview Survey, 2003–2005.

number of Asian Americans reported encountering racial discrimination and possessing limited English proficiency, and (2) both discrimination and limited English proficiency were related to decreased quality of life, although discrimination was a more consistent correlate of quality of life than was English proficiency.

Although Filipinos were the most likely (1 in 3 respondents) and Vietnamese were the least likely (1 in 4 respondents) to report discrimination, these between-group differences were not large. More than a quarter of Asian Americans in California said they were at least sometimes treated badly because of their race or ethnicity. Single-item measures, however, can underestimate the full range of discrimination.^{33,38} More comprehensive scales may increase the range in reporting of discrimination by capturing multiple dimensions (e.g., subtle versus blatant discrimination) or types of circumstances (e.g., when shopping). Further, multiple items may prompt the reporting of specific experiences of discrimination (e.g., discrimination at school) that might be missed by single, global questions. Hence, it is possible that our estimates of discrimination would have been higher had we used full questionnaires.^{39–41} Nonetheless, it is striking that racial discrimination was so commonly reported in a state where Asians are a substantial proportion of the population and at a time when some have described Asians as “honorary Whites.”^{42,43}

By contrast to the findings on discrimination, our data revealed considerable variation in English proficiency across groups. Only 1 in 32 South Asians, but 1 in 2 Vietnamese, reported having limited English proficiency. This variation does not appear to be due to time in the United States, as South Asians are more likely to be recent immigrants than are the Vietnamese. Some of this variation might be due to economic differences, but a more important reason may be sociohistorical context. English is commonly spoken throughout South Asia as a consequence of British colonialism, but English is not so widely disseminated in Vietnam because it does not have the same historical legacy.

These 2 measures provide a key lesson. The issue of heterogeneity among Asian Americans is critically important, but Asian Americans are not necessarily heterogeneous in all

characteristics. Perhaps heterogeneity is most relevant for measures that are strongly related to cultural and historical context, such as language. Discrimination, however, is not inherently related to Asian culture. A recurrent theme in Asian American scholarship is that many perpetrators of racial bias do not distinguish between Asian ethnic groups.^{44,45} A notable example came from the murder of Vincent Chin, a Chinese American, who was called a “Jap” by his assailants.⁴⁶ Hence the small between-group variation in reporting of racial discrimination may indicate that discrimination is a shared experience across many Asian American ethnic groups.

Consistent with the literature, both discrimination and limited English proficiency were associated with decreased health-related quality of life.^{4,47–50} These associations remained when we adjusted discrimination and limited English proficiency for one another and for other demographic characteristics.

Several studies have found that self-reported discrimination is related to poor self-rated health and quality of life.^{2,24,51} However, the CDC unhealthy days measure puts some of these associations in a new perspective. For instance, we estimated that over 1 year, the typical Chinese respondent who reported discrimination would have 19 more unhealthy days than a counterpart who did not report discrimination. More strikingly, among respondents who reported discrimination, we projected that Japanese would have an additional 24 unhealthy days; Koreans, 33 days; Vietnamese, 42 days; and South Asians, 51 days, compared with members of these ethnic groups who did not report discrimination.

One finding was unexpected. Discrimination was not associated with any of the quality-of-life measures for Filipino Americans. This finding contrasts with several other studies that reported that discrimination is associated with increased illness among this population.^{52–55} The reason for our null finding is unclear, but it might be related to our measures, which have not been validated for Filipinos. There might have been unobserved factors that resulted in our variables not operating similarly among Filipinos and other Asians. It is also possible that the null findings resulted from chance alone.

In California, much attention has focused on language access, and several policies have been instituted to require providers to improve

their services to clients with limited English proficiency. These policies include the California Language Assistance Program (Senate Bill 853), effective in 2009, which requires insurers to provide interpreters and translated materials to patients with limited English proficiency.⁵⁶ Our analyses support those continued efforts. Indeed, Chinese, Koreans, and Vietnamese with limited English proficiency had more than twice the odds of reporting poor health as did others of the same ethnic origin who did not have limited English proficiency. Further, Japanese with limited English proficiency had a predicted 47 more unhealthy days over the year than Japanese without language barriers. However, limited English proficiency was a less consistent correlate of quality of life than was discrimination. Some of this inconsistent effect may have arisen because the CHIS was not available in Japanese, Tagalog, or South Asian languages (e.g., Urdu, Hindi). CHIS does not provide questionnaires in these languages because, according to the US Census, few California residents with these ethnic origins have limited English proficiency. Hence estimates of limited English proficiency in CHIS are not likely to be dramatically different from population estimates.

Limitations and Strengths

Our data were cross sectional, and we were unable to evaluate causal associations. Several prospective studies have found that reports of discrimination predict subsequent illness.^{57–60} Nonetheless, our findings need to be verified with longitudinal data. Our data were derived from self-report, which may introduce response biases (e.g., faulty recall), and CHIS has a low response rate. This rate is comparable to the response rates of other telephone surveys, such as the California Behavioral Risk Factor Surveillance System. The major problem arising from a low response rate is potential sampling bias. That is, nonresponders may differ in key ways from responders. CHIS respondents, however, match the demographic characteristics of California reported by the census. Our health measures were also comparable to other surveys. For example, our analysis of data from the 2005 California Behavioral Risk Factor Surveillance System found that Asians in California reported a mean 4.9 unhealthy days, which is similar to our estimates.⁶¹ These external data temper

concerns over response bias, but the caveats nonetheless remain.

It is unclear how generalizable our results are outside of California. It is possible that levels of limited English proficiency are higher in California because of the large population of immigrants. Hence our study should be replicated elsewhere.

Our study also had several strengths. We analyzed a probability sample of adults across the entire state of California, which was not restricted to specific populations (e.g., college students). Our large sample allowed us to disaggregate our analyses to examine 6 Asian ethnic groups. A key addition was inclusion of South Asians, because most previous studies of this population were conducted in the United Kingdom.^{22–24} Finally, our use of the standard CDC measures allowed for comparisons with other studies.¹⁸

Conclusions

We found that reports of discrimination and limited English proficiency were associated with decreased health-related quality of life among Asian Americans in California. The widest gaps we observed in unhealthy days were between South Asians who reported discrimination and those who did not. Future studies should disaggregate South Asian subgroups and investigate other ethnic populations.

Research has shown that limited English proficiency is strongly related to health care access and utilization.^{8,62,63} Although still preliminary, our findings suggest that although limited English proficiency may not be a strong risk factor for decreased quality of life itself, it may still be a barrier to health communication and access to services. We hope that our study will be used as a baseline by local organizations to conduct their own studies of health, language proficiency, and racial discrimination. ■

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Contributors

G. C. Gee conceptualized the study and led the writing. N. Ponce led the analysis and assisted with the writing.

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Human Participant Protection

This research used data from secondary sources available in the public domain and was declared exempt from University of California, Los Angeles institutional review board review per protocol #08-329.

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