Relationships Between Self-Reported Unfair Treatment and Prescription Medication Use, Illicit Drug Use, and Alcohol Dependence Among Filipino Americans

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Objectives. We examined associations between self-reported unfair treatment and prescription medication use, illicit drug use, and alcohol dependence.

Methods. We used data from the Filipino American Community Epidemiological Survey, a cross-sectional investigation involving 2217 Filipino Americans interviewed in 1998–1999. Multinomial logistic and negative binomial regression analyses were used in assessing associations between unfair treatment and the substance use categories.

Results. Reports of unfair treatment were associated with prescription drug use, illicit drug use, and alcohol dependence after control for age, gender, location of residence, employment status, educational level, ethnic identity level, nativity, language spoken, marital status, and several health conditions.

Conclusions. Unfair treatment may contribute to illness and subsequent use of prescription medications. Furthermore, some individuals may use illicit drugs and alcohol to cope with the stress associated with such treatment. Addressing the antecedents of unfair treatment may be a potential intervention route. (*Am J Public Health.* 2006;96:933–940. doi:10.2105/AJPH.2005.075739)

Stressors may lead to illness and behavior change. Stressors can promote drug, alcohol, and medication use via 2 different pathways. First, they can cause illness and subsequent use of medications. Acute and chronic stressors have been associated with mortality and with conditions ranging from the common cold to depression and heart disease.[1–3] Individuals may be prescribed medications to treat their illness and reduce their stress levels. Second, individuals may use substances to cope with stressors, a theme that appears in several frameworks, including the relapse prevention model,[4] the tension reduction model,[5,6] the self-medication hypothesis,[7] and the stress–coping model of addiction.[8,9] Yet, despite decades of research, questions remain as to the types of stressors that might contribute to substance use.[10]

We focused on 1 type of stressor, unfair treatment, defined as discriminatory behavior on the part of institutions and individuals directed toward individuals with less power and the groups to which they belong. Unfair treatment is an important stressor linked to illnesses such as depression, chronic disease, and hypertension.[11–18] It may structure one's life circumstances, pose direct threats to one's safety, and erode one's sense of self.[19–22] In these ways, unfair treatment is a socially derived stressor that operates at multiple levels.[12,23,24]

Unfair treatment may be related to substance use. It has been shown to be associated with alcohol use among bus drivers[25,26] and African American adults,[27] with cigarette smoking among African American youths[28,29] and adults,[30] and with substance use among American Indian children[31] and African American parents and children.[32] These relationships may be partially explained by use of substances as a way to cope with the stressors associated with minority status, including racial discrimination and internalized oppression.[33–35]

We sought to extend previous research by examining the associations of perceptions of unfair treatment with alcohol dependence and use of prescription and illicit drugs. Because unfair treatment may lead to illness and subsequent use of medications, we hypothesized that unfair treatment would be associated with greater use of prescription medications. Furthermore, given that individuals may misuse substances to cope with stressors associated with unfair treatment, we hypothesized that unfair treatment would be associated with potential misuse of medications, use of illicit drugs, and alcohol dependence.

We used a large, community-based sample of Filipino Americans, the second largest Asian American ethnic group, to examine these hypotheses.[36,37] Historically, Filipino Americans have experienced considerable unfair treatment,[38–41] and they continue to experience such treatment today.[42–44] Recent research has shown that unfair treatment is associated with chronic health conditions[45] and with depressive symptoms[46] among this population.

METHODS

Sample

We analyzed data from the 1998–1999 Filipino American Community Epidemiological Study. A detailed description of this study can be found elsewhere.[45] To be included in the study, individuals had to be of Filipino heritage, had to be 18 years or older, and had to reside in San Francisco or Honolulu. One eligible person within a household was randomly selected and administered an in-person interview in English, Tagalog, or Ilocano. The response rate among eligible individuals was 78%, resulting in a sample of 2285. After exclusion of 68 respondents with missing data, a final sample of 2217 was available for the analyses.

Dependent Variables

We examined 4 outcomes: alcohol dependence, illicit drug use, and prescription and nonprescription use of medications. We also assessed several distinct drug subcategories.

Alcohol dependence. The University of Michigan Composite International Diagnostic

Interview (UM-CIDI), a modified version of the World Health Organization's Composite International Diagnostic Interview, was used to measure alcohol dependence. The UM-CIDI is a standardized survey designed to be administered by trained interviewers, and it is structured to allow for clinical diagnoses according to the criteria of the *Diagnostic and Statistical Manual of Mental Disorders* (revised third edition; DSM-III-R) and the *International Classification of Diseases, 10th Revision*.[47–50] A standard protocol was used to classify respondents as dependent or not dependent on alcohol.[51]

Illicit drug use. Questions about lifetime use of illicit drugs were adapted from the UM-CIDI. Respondents were asked whether they had ever used inhalants, marijuana, cocaine, hallucinogens, or heroin. Respondents were assigned a score of 1 for each drug used and a score of 0 otherwise.

Prescription drug use and misuse. Questions about medications also were derived from the UM-CIDI. Respondents were asked about the following 4 categories of substances: sedatives (e.g., barbiturates, "downers"), tranquilizers (e.g., benzodiazepines, "nerve pills"), stimulants (e.g., amphetamines, "uppers"), and analgesics (e.g., nonsteroidal anti-inflammatory drugs, "painkillers"). Respondents were given examples of both lay and pharmaceutical names for the substances in each category and then asked about their history of use of these substances.

Responses were coded into 1 of 3 mutually exclusive categories: prescription use, misuse, and never used. *Prescription use* meant that the drug was used as prescribed by a doctor. *Misuse* indicated that the drug was used without a physician's prescription, used for nonprescription purposes, or used more often than prescribed or that respondents believed that they were so dependent on the medication they could not stop using it. *Never used* referred to no lifetime use of the drug.

In addition, we created 4 indexes. *Total illicit drug use* was a count of the number of illicit drugs used (range: 0–5). *Total prescription drug use* was a count of the number of drugs used strictly for prescription purposes (range: 0–4). *Total prescription drug misuse* was a count of the drugs used for nonprescription purposes, as just described (range: 0–4). *Total illicit drug use and prescription drug misuse* was a sum of the illicit drugs used and the prescription drugs misused (range: 0–9).

Independent Variables

We assessed 2 distinct measures of unfair treatment. *Everyday unfair treatment* was a 9-item scale assessing frequency of routine experiences of unfair treatment within the preceding 30 days. This scale, derived from qualitative research,[52,53] was first used in the Detroit Area Study.[54,55] The scale assessed how often (1=never, 5=very often) respondents experienced the following types of unfair treatment: encountering prejudice and discrimination from others; being treated with less courtesy and less respect than others; receiving poorer service at restaurants or stores; people acting as if they are "afraid of you," as if "you are dishonest," or as if they are "better than you are"; being called names or insulted; and being threatened or harassed.

Higher scores on the scale indicated higher frequencies of everyday unfair treatment. The scale's Cronbach α coefficient was 0.88. It has been shown that scores on this scale predict self-rated health among African Americans[55,56] and chronic health conditions and depression among Filipino Americans.[45,46]

Unfair events was a count of respondents' endorsements to being "treated unfairly or badly" during the preceding 12 months because of their race or ethnicity, because they spoke a different language, or because they spoke with an accent. Scores ranged from 0 to 3, with higher scores indicating more unfair events. Scores on this measure have been shown to predict chronic health conditions among Filipino Americans.[45]

The unfair events measure differed from the everyday unfair treatment scale in 3 ways. First, the events measure explicitly focused on race/ethnicity, whereas in the everyday measure race/ethnicity issues were implied rather than explicit. Second, the events instrument examined experiences occurring during the previous 12 months rather than routine (everyday) experiences. Third, the 2 measures were scored differently, in that unfair events was a count rather than a scale. The correlation between the measures was low (0.37), suggesting that they tapped different aspects of the construct.

Control Variables

Our analyses controlled for age, gender, nativity (US vs foreign born), language (English, Tagalog/Ilocano, or both), employment status (currently vs not currently employed), place of residence (Honolulu or San Francisco), years of education, and marital status (married vs other). In addition, we included a 9-item measure of ethnic identity derived from the Multigroup Ethnic Identity Measure and adapted for Filipino Americans.[57,58] It is scored from 1 to 4, with higher scores indicating a stronger sense of affiliation with Filipino Americans (Cronbach α=0.74).

Because unfair treatment has been associated with depression[46] and chronic health conditions[45] among Filipino Americans and because these conditions predict medication use, we also controlled for previous health conditions. We included 3 types of mental health problems for which data were available from our survey: *lifetime depression, manic episodes,* and *dysthymia*. Data on all 3 measures were obtained from the UM-CIDI short form. Clinical case diagnoses, according to DSM-III-R criteria, were derived from a computerized scoring algorithm.[47,59] Respondents were assigned a score of 1 for each diagnosed disorder and were assigned a score of 0 otherwise.

Also, we used a checklist adapted from the Medical Outcomes Study[60–62] to examine current *physical health conditions.* The conditions assessed were diabetes, hypertension, arthritis, physical disability (e.g., loss of a limb, birth defect), trouble breathing because of emphysema or lung disease, cancer, neurological conditions (e.g., epilepsy, Parkinson's disease), stroke, major paralysis, heart failure, angina, other heart disease, back problems, stomach ulcers, chronic inflamed bowel, enteritis or colitis, thyroid disease, kidney failure, trouble seeing, and migraine headaches. The disorders were summed; the range within our sample was 0 to 14.

Data Analysis

We first explored the data using bivariate analyses and then conducted multivariate analyses to adjust for controls. We performed analyses of variance to assess differences in unfair treatment between individuals who used prescription medications, individuals who misused them, and individuals who had never

TABLE 1—Selected Characteristics of Participants in the 1998–1999 Filipino American Community Epidemiological Study

	Sample (n = 2217)
Female, %	50.70
Marital status, %	
Single	25.70
Widowed/separated/divorced	15.41
Married	58.89
Foreign born, %	79.56
Language spoken in household, %	
Tagalog/Ilocano	30.62
Tagalog/Ilocano and English	48.98
English	20.39
Mean age, y (SD)	41.57 (13.30)
Mean ethnic identity score (SD)	3.55 (0.47)
Mean educational level, y (SD)	11.5 (5.21)
Employed, %	74.86
Mean everyday unfair treatment score (SD)	1.38 (0.56)
Mean unfair events score (SD)	0.17 (0.60)
Mean no. of health conditions (SD)	1.03 (1.46)
Major depression, %	3.50
Dysthymia, %	2.79
Manic episodes, %	0.20

used them. In addition, we conducted post hoc analyses using Sidak multiple comparison tests for pairwise comparisons. We used logistic regression to examine the association of each measure of unfair treatment with alcohol dependence and with each of the illicit drugs, followed by multinomial logistic regression to analyze the nominal outcomes of prescription drug use and misuse. We initially used Poisson regression analyses for count measures (total illicit drug use, total prescription drug use, total prescription drug misuse, and total illicit drug use and prescription drug misuse) but switched to negative binomial regression after detecting overdispersion (i.e., violation of the assumption of Poisson regression that means and variances are equal). Weights were applied in the analyses to account for differential probabilities of selection within a household.

RESULTS

Table 1 summarizes the characteristics of the study sample. The typical respondent was 41 years old, employed, married, and foreign born; spoke both English and Tagalog/Ilocano; had a moderately high ethnic identity; and had 11 years of education. Most of the respondents were healthy, with low rates of depression, manic episodes, and dysthymia. On average, respondents reported 1 health condition and low frequencies of everyday unfair treatment and unfair events.

Table 2 displays mean levels of both measures of unfair treatment according to substance use category. There were significantly more reports of everyday unfair treatment among individuals classified as alcohol dependent than among individuals not classified as such (means of 2.11 and 1.37, respectively; $P<.001$). However, no significant differences were observed between these 2 groups in mean levels of unfair events. Reports of everyday unfair treatment and unfair events were more common among individuals who had used illicit drugs in their lifetime than among those who had never used these drugs (the exception being no difference in unfair events among inhalant users). For example, those who had used any illicit drug reported a higher level of everyday unfair treatment than those who had not used illicit drugs (means of 1.65 and 1.31, respectively; $P<.001$).

Several interesting findings emerged when individuals who used prescription drugs, misused prescription drugs, or had never used these drugs were compared on the 2 unfair treatment measures. Individuals who had misused prescription drugs generally reported more experiences of everyday unfair treatment and unfair events than individuals in the other groups, especially those who had never used prescription drugs.

No clear pattern emerged between prescription drug users and nonusers. Reports of both measures of unfair treatment were more frequent among prescription users than nonusers in the case of analgesics; differences were nonsignificant for sedatives and tranquilizers. Unexpectedly, stimulant users reported less everyday unfair treatment and fewer unfair events than those who had never used stimulants. However, the associations between discrimination and stimulant use disappeared in multivariate analyses (described subsequently). Finally, although the analysis of variance suggested group differences in reporting of unfair treatment for tranquilizers, no pairwise comparisons were significant, possibly as a result of the small sample of misusers.

Table 3 displays the results of the multivariate multinomial logistic regression analyses. In these analyses, "never used" was the reference category. Model 1 assessed the association between unfair treatment and drug use with control for age, gender, location of residence, employment status, educational level, ethnic identity, nativity, language, and marital status. Reporting of everyday unfair treatment (relative risk ratio = 1.38; 95% confidence interval [CI] = 1.05, 1.82) and unfair events (relative risk ratio = 1.24; 95% CI = 1.00, 1.54) predicted use of prescribed tranquilizers. A similar pattern emerged for use of prescribed analgesics. There was also a marginally significant association between unfair events and misuse of stimulants (relative risk ratio = 1.31; 95% CI = 1.01, 1.69).

Model 2 added controls for lifetime depression, manic episodes, dysthymia, and chronic health conditions. The results were similar to those of model 1 with the exception that the associations between unfair events and prescription use of tranquilizers and misuse of stimulants were no longer significant.

We also conducted multivariate logistic regression analyses focusing on the individual illicit drugs and alcohol dependence (table available on request). Everyday unfair treatment was associated with use of inhalants (odds ratio [OR] = 1.90; 95% CI = 1.25, 2.88), marijuana (OR = 1.31; 95% CI = 1.03, 1.67), heroin (OR = 2.69; 95% CI = 1.55, 4.65), and alcohol dependence (OR = 2.22; 95% CI = 1.36, 3.62). However, everyday unfair treatment was not significantly associated with use of cocaine or hallucinogens. Unfair events were not associated with use of any of the illicit drugs or with alcohol dependence.

Because we were interested in the general relationship between unfair treatment and substance use and because of our concerns about the low prevalence rates in several drug categories, we summed the drug categories to create the indexes described earlier (total illicit drug use, total prescription drug use, total prescription drug misuse, total illicit drug use and prescription drug misuse). In the

TABLE 2—Unadjusted Mean Scores on Measures of Unfair Treatment, by Type of Substance Used: Filipino American Community Epidemiological Study, 1998–1999

	Ever Used		Misused		Never Used		Dependent		Not Dependent	
	No.	Mean (SD)	No.	Mean (SD)	No.	Mean (SD)	No.	Mean (SD)	No.	Mean (SD)
Alcohol							26		2221	
Everyday unfair treatment[a]								2.11 (1.02)		1.37 (0.55)†
Unfair events								0.17 (0.60)		0.35 (0.69)
Illicit drugs										
Inhalants	38				2242					
Everyday unfair treatment		2.07 (0.77)				1.37 (0.55)				
Unfair events		0.24 (0.71)				0.17 (0.60)				
Marijuana	466				1815					
Everyday unfair treatment		1.64 (0.69)				1.32 (0.50)				
Unfair events		0.26 (0.69)				0.15 (0.58)				
Cocaine	134				2112					
Everyday unfair treatment		1.75 (0.75)				1.36 (0.54)				
Unfair events		0.38 (0.86)				0.16 (0.58)				
Hallucinogens	83				2198					
Everyday unfair treatment		1.93 (0.80)				1.36 (0.54)				
Unfair events		0.39 (0.82)				0.16 (0.59)				
Heroin	12				2269					
Everyday unfair treatment		2.37 (0.91)				1.38 (0.55)				
Unfair events		0.50 (0.90)				0.17 (0.60)				
Any illicit drugs	478				1800					
Everyday unfair treatment		1.65 (0.03)				1.31 (0.01)				
Unfair events		0.26 (0.03)				0.15 (0.01)				
Prescription drugs										
Sedatives	243		80		1959					
Everyday unfair treatment[b,c]		1.34 (0.57)		1.60 (0.61)		1.38 (0.56)				
Unfair events		0.20 (0.66)		0.29 (0.73)		0.16 (0.59)				
Tranquilizers	241		48		1993					
Everyday unfair treatment		1.45 (0.63)		1.57 (0.60)		1.37 (0.55)				
Unfair events		0.25 (0.74)		0.25 (0.76)		0.16 (0.58)				
Stimulants	103		112		2066					
Everyday unfair treatment[b,c,d]		1.22 (0.46)		1.74 (0.73)		1.37 (0.55)				
Unfair events[b,c,d]		0.12 (0.47)		0.39 (0.81)		0.16 (0.59)				
Analgesics	648		222		1411					
Everyday unfair treatment[d]		1.48 (0.58)		1.41 (0.56)		1.33 (0.55)				
Unfair events[d]		0.26 (0.74)		0.18 (0.62)		0.13 (0.52)				
Any medication	655		353		1273					
Everyday unfair treatment[c,d]		1.45 (0.58)		1.50 (0.62)		1.32 (0.53)				
Unfair events[b,d]		0.26 (0.75)		0.23 (0.67)		0.11 (0.48)				

[a]Significant difference between alcohol dependent and not dependent (Sidak multiple comparisons test).
[b]Significant difference between ever used and misused (Sidak multiple comparisons test).
[c]Significant difference between misused and never used (Sidak multiple comparisons test).
[d]Significant difference between ever used and never used (Sidak multiple comparisons test).

first model (Table 4), negative binomial regression was used to examine the association between total illicit drug use and the 2 measures of unfair treatment. Everyday unfair treatment was associated with increasing counts of illicit drug use after age, gender, marital status, location of residence, employment status, educational level, ethnic identity, nativity, and language had been taken into account (b=0.18, $P \leq .05$). However, unfair events were not associated with illicit drug use (b=0.07, $P > .05$).

The second model showed that everyday unfair treatment was associated with increased reports of prescription drug use (b=0.14, $P \leq .05$). Unfair events were also associated with prescription drug use (b=0.15, $P \leq .001$). In the prescription drug use analysis, we took a

TABLE 3—Use of Prescription Drugs and Measures of Unfair Treatment: Filipino American Community Epidemiological Study, 1998–1999

	Model 1[a]		Model 2[b]	
	Prescription Drug Use vs Nonuse, Relative RR (95% CI)	Prescription Drug Misuse vs Nonuse, Relative RR (95% CI)	Prescription Drug Use vs Nonuse, Relative RR (95% CI)	Prescription Drug Misuse vs Nonuse, Relative RR (95% CI)
Sedatives				
Everyday unfair treatment	0.93 (0.65, 1.32)	1.01 (0.69, 1.47)	0.88 (0.62, 1.26)	0.94 (0.63, 1.39)
Unfair events	1.20 (0.94, 1.52)	1.13 (0.83, 1.54)	1.18 (0.93, 1.49)	1.09 (0.78, 1.52)
Tranquilizers				
Everyday unfair treatment	1.38 (1.05, 1.82)	0.83 (0.48, 1.42)	1.33 (1.01, 1.75)	0.80 (0.44, 1.43)
Unfair events	1.24 (1.00, 1.54)	0.94 (0.61, 1.46)	1.22 (0.98, 1.52)	0.94 (0.60, 1.49)
Stimulants				
Everyday unfair treatment	0.72 (0.39, 1.36)	1.13 (0.80, 1.60)	0.71 (0.38, 1.35)	1.02 (0.73, 1.45)
Unfair events	0.84 (0.54, 1.30)	1.31 (1.01, 1.69)	0.84 (0.54, 1.29)	1.25 (0.97, 1.61)
Analgesics				
Everyday unfair treatment	1.32 (1.06, 1.64)	0.95 (0.69, 1.32)	1.30 (1.04, 1.62)	0.93 (0.67, 1.38)
Unfair events	1.36 (1.11, 1.65)	1.12 (0.86, 1.45)	1.35 (1.11, 1.64)	1.10 (0.85, 1.44)

Note. RR = risk ratio; CI = confidence interval. Values were derived from multinomial logistic regression analyses. Everyday unfair treatment and unfair events were modeled separately.
[a]This model controlled for age, gender, location of residence, employment status, educational level, ethnic identity, nativity, language, and marital status.
[b]This model controlled for the factors controlled in model 1 along with lifetime depression, manic episodes, dysthymia, and chronic health conditions.

TABLE 4—Measures of Unfair Treatment and Categories of Drug Use: Filipino American Community Epidemiological Study, 1998–1999

	b (SE)
Total illicit drug use	
Everyday unfair treatment	0.18** (0.07)
Unfair events	0.07 (0.68)
Total prescription drug use	
Everyday unfair treatment	0.14* (0.07)
Unfair events	0.15*** (0.04)
Total prescription drug misuse	
Everyday unfair treatment	0.01 (0.10)
Unfair events	0.08 (0.73)
Total illicit drug or prescription drug misuse	
Everyday unfair treatment	0.16* (0.07)
Unfair events	0.07 (0.06)

Note. Values were derived from multivariate tests of associations between measures of unfair treatment and types of drugs used via negative binomial regression. All analyses controlled for age, gender, location of residence, employment status, educational level, ethnic identity, nativity, language, and marital status. Prescription drug use also controlled for lifetime depression, manic episodes, dysthymia, and chronic health conditions. Everyday unfair treatment and unfair events were modeled separately. Dependent variables were counts of the number of drugs used. For illicit drug use, scores ranged from 0 to 5. For prescription drug use and prescription drug misuse, scores ranged from 0 to 4. For any use of illicit drugs or prescription drug misuse, scores ranged from 0 to 9.
*$P \leq .05$; **$P \leq .01$; ***$P \leq .001$.

more conservative approach by controlling for lifetime depression, manic episodes, dysthymia, and chronic health conditions in addition to the covariates described earlier.

The third model indicated that total prescription drug misuse was not associated with everyday unfair treatment or unfair events. Finally, the fourth model showed that total illicit drug and prescription misuse was significantly associated with increased reports of everyday unfair treatment (b=0.16, $P \leq .05$) but not significantly associated with reports of unfair events (b=0.07, $P > .05$).

Supplemental analyses revealed no consistent moderating effects according to age, gender, or health status, but there were signs of moderation according to nativity and ethnic identity. Specifically, US-born status was associated with more reports of illicit drug use than foreign-born status, as well as increased reports of everyday unfair treatment and unfair events (table available on request). However, the association between everyday unfair treatment and illicit drug use was reduced among individuals born in the United States. Likewise, ethnic identity appeared to diminish the association between everyday unfair treatment and total prescription drug use. Reports of unfair events were similarly moderated by nativity and ethnic identity.

DISCUSSION

Our data suggest that reports of unfair treatment are associated with substance use, echoing similar findings in the literature.[25,28,29,31,63] These studies suggest that substance use may serve as a way of coping with psychosocial stressors and that unfair treatment may be a particularly relevant stressor for minority populations.[33,34] Consistent with the stress perspective, research has also shown that unfair treatment is associated with a variety of health outcomes[13,18,20] and that coping resources may buffer the effects of unfair treatment.[16,45,46,64]

First, consider alcohol use. Some studies have reported associations between perceptions of unfair treatment and alcohol use among African Americans[27,32] and bus drivers.[26,63] We built on earlier work by showing that unfair treatment is associated with alcohol dependence among Filipino Americans. A 1-unit increase in reports of everyday unfair treatment was associated with 2-fold greater odds of being classified as alcohol dependent, although caution must be exercised in interpreting this result because of the small numbers of individuals classified as such.

Next, consider prescription medications. To our knowledge, the present study is the first to report that unfair treatment may be associated with use of prescription medications, although a recent study suggests that unfair treatment may be associated with delays in filling prescriptions.[65] Two different measures of unfair treatment, one focusing on everyday experiences and another focusing on past year events, were associated with prescription drug use. If unfair treatment increases the risk of illness, then the

association between unfair treatment and prescription medication use is self-evident. In the analyses involving prescription medications, we controlled for depression and chronic health conditions, 2 outcomes previously shown to be associated with unfair treatment among Asian Americans,[62] as well as dysthymia, manic episodes, and other sociodemographic characteristics.[16,45,46] Obviously, these conditions represent only a select sample of the universe of potential health conditions one could include in such analyses; the association between unfair treatment and health probably would have been eliminated had we controlled for all possible health outcomes.

Alternatively, one could argue that our inclusion of both physical and mental health conditions "overcontrolled" for the association between medication use and unfair treatment (and, hence, that our test was conservative), given that it has been theorized that prescription drug use and health outcomes fall along the same etiological pathway. That stated, both perspectives involve the same suggestion, namely that unfair treatment may be an important factor that contributes to diminished well-being.

In terms of specific prescription drugs, it appears that unfair treatment was associated with use of analgesics and tranquilizers, classes of drugs often used to treat anxiety, pain, and stress disorders. These results, consonant with the perspective of unfair treatment as a stressor that may cause mental illness and distress,[22,66,67] suggest that future studies might consider potential associations between unfair treatment and pain, tension, and related problems. However, an anomalous finding in the present study was the lack of an association between use of sedatives and unfair treatment. This result was unexpected given that sedatives and tranquilizers have similar effects and are used to treat similar symptoms. One explanation may be that sedatives are often prescribed for sleep disturbances, and sleep problems might have no relationship with unfair treatment.

In addition, tranquilizers are often prescribed for sleep disorders, especially when these disorders co-occur with anxiety and other symptoms (J. A. Himley, oral communication, June 2005). It might be that unfair treatment is associated with a series of symptoms that are more likely to lead clinicians to prescribe tranquilizers than sedatives. Information on specific drugs used and specific prescribing practices was not available in the present data set, so we were unable to investigate this potential explanation. A focused examination of the types of symptoms associated with unfair treatment, as well as the types of medications prescribed, awaits future study.

Finally, consider illicit drugs and misused medications. Consistent with the stress perspective is the finding that reports of everyday unfair treatment were also associated with use of inhalants, marijuana, and heroin. However, misuse of prescription drugs was not associated with unfair treatment. Bivariate analyses indicated a trend in which prescription drug misuse was associated with increased reports of unfair treatment. Given that misuse was relatively rare, it is possible that there was inadequate power to fully uncover such an association. Alternatively, this result may indicate that there is indeed no association between prescription drug misuse and perceptions of unfair treatment.

Everyday unfair treatment was more consistently associated with substance use than were unfair events. This suggests that routine experiences of unfair treatment may take a greater toll on well-being than more acute experiences.[18,52] However, it would be premature to rule out competing explanations. The unfair events measure was more explicitly racialized and included fewer items than the everyday unfair treatment measure. Thus, differences in the content of the measures as well as their psychometric properties may have accounted for the divergence in findings. Future investigations would benefit from improved instruments, and these studies should evaluate how measures of unfair treatment that focus on specific characteristics (e.g., race) compare with measures that do not focus on these characteristics.[68] That stated, it is remarkable that associations with substance use were found with both measures.

Although this study provides insights into the roles of unfair treatment and substance use, our findings should be considered in the context of several limitations. First, we were not able to establish temporal relationships between study variables because of the cross-sectional design. Thus, although theory suggests that unfair treatment may lead to substance use, it is also possible that substance use causes individuals to experience and report stigma and unfair treatment.[69] Second, we relied on self-reported data, which may have introduced response effects such as recall bias and socially desirable reporting.[70] Future work should include biomarkers of substance use and alternative measures of unfair treatment.

Third, we examined lifetime prescription and nonprescription use of medications. Although it would have been desirable to examine current drug use, we did not do so because of the low rates of current use within our sample. Fourth, it is unclear how our results might generalize to other populations. However, we overcame one limitation of previous research by focusing on a specific Asian subgroup rather than examining an aggregate of Asian Americans.[37,71,72]

Granted these caveats, our study provides novel findings on an increasingly recognized health risk factor, unfair treatment. We have presented evidence of associations between unfair treatment and substance use among Filipino Americans, even after control for a number of potential confounders. Although we examined the stress process, it is important to examine the upstream production of stressors.[18,73–76] Should the present findings be replicable, enduring, and causal, they suggest that a "war on discrimination" may aid the purported "war on drugs." More broadly, policies that unravel the interlocking systems that maintain and promote oppression may foster not only a civil and just society but a healthy one as well. ■

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Contributors

G.C. Gee originated the study and led the writing and analyses. J. Delva and D.T. Takeuchi assisted with the writing and the analysis.

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Human Participant Protection

This study was approved by the institutional review board of the University of Washington. Participants provided informed consent to take part in the study.

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