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Are Psychological Consequences of Stigma Enduring or Transitory? A Longitudinal Study of HIV Stigma and Distress Among Asians and Pacific Islanders Living with HIV Illness

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ABSTRACT

Cross-sectional findings have shed considerable light on the relationships between illness stigma and psychological outcomes among persons living with HIV/AIDS in the United States. However, no studies have examined the possible long-term consequences of illness stigma on mental health among Asians and Pacific Islanders living with HIV/AIDS, a group particularly vulnerable to HIV stigma due to ingrained sociocultural norms. This 2-year longitudinal study examined the relationship between five HIV-stigma factors (social rejection, negative self-worth, perceived interpersonal insecurity, financial insecurity, discretionary disclosure) and changes in psychological distress dimensions (self-esteem, hopelessness, dread, confused thinking, sadness, anxiety) among a convenience sample of 44 HIV-seropositive Asians and Pacific Islanders in New York City from 2002 to 2004. Undocumented Asians independently endorsed higher levels of perceived interpersonal insecurity and lower levels of self-esteem than documented participants at both baseline and 2-year follow-up. Results from hierarchical multiple regression analyses indicated that baseline social rejection and perceived interpersonal insecurity were significantly associated with changes in self-esteem at 2-year follow-up, controlling for baseline self-esteem and physical symptoms at follow-up. An interaction effect between baseline financial insecurity and discretionary disclosure was significantly associated with dread at 2–year follow-up. Findings highlight the importance of stigma reduction interventions that: (1) recognize multiple layers of stigma based sexual orientation, gender, and immigration status; and (2) address both individual and structural constraints that perpetuate HIV-stigma among Asians and Pacific Islanders in the United States.

INTRODUCTION

> Society's accumulated myths and fears about disability and disease are just as handicapping as are the physical limitations that flow from actual impairment. Few aspects of handicap give rise to the same level of public fear and misapprehension as contagiousness.
>
> Justice William Brennan
> *School Board of Nassau County v. Arline*, 480 U.S. 273 (1987)

THE UNITED STATES SUPREME COURT has long recognized that discrimination on the basis of an infectious condition is just as inequitable as discrimination based on race, gender, or disability. As the AIDS epidemic charters unabated into a third decade, the stigma of HIV illness remains a dominant yet illusive social and psychological phenomenon. Link and Phe-

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lan's[1] definition of stigma underscores the complexity of this construct, "When elements of labeling, stereotyping, separation, status loss, and discrimination occur together in a power situation that allows them" (p. 377). Numerous studies have reasonably established that HIV stigma profoundly affects utilization of medical[2,3] and mental health care,[4] voluntary HIV counseling and testing,[5] and level of psychological distress[6–10] among persons living with HIV/AIDS. This is particularly true for ethnic minorities in the United States as a result of pervasive cultural proscriptions against homosexuality and injection drug use.[11–13]

The sharp rise in HIV/AIDS prevalence among injecting drug users in Asia, most notably in China, Indonesia, and Vietnam,[14,15] and increased migration between these countries and major U.S. cities have resulted in a growing number of Asians living with HIV/AIDS. In 2001, New York City accounted for 15% of cumulative Asians and Pacific Islanders AIDS cases in the United States.[16] According to the Center for Disease Control (CDC) surveillance data, a total of 6791 cumulative adult AIDS cases were reported among Asians and Pacific Islanders through December 2003. Although the rate of AIDS among Asians and Pacific Islanders (4.0 per 100,000 population) was low compared to other racial/ethnic groups in the United States, the estimated number of HIV/AIDS cases has increased among Asians and Pacific Islanders between 2000 through 2003 at rates comparable to whites and Hispanics, and far faster than African Americans, American Indians, and Alaska Natives.[17]

AIDS stigmatization has been recognized as one of the major impediments to timely diagnosis of HIV,[18,19] utilization of medical care,[2,20] serostatus disclosure,[21–24] and medical treatment adherence[25] among Asians and Pacific Islanders living with HIV/AIDS. AIDS-related stigma among Asians and Pacific Islanders is a "persistent predicament"[1] that is perpetuated by self-attribution and blame for acquiring HIV, and a perceived inclusion in marginalized groups such as substance abusers, sexually promiscuous patrons of commercial sex workers, and homosexuals.[25] In a precursor to the present study examining 54 HIV-seropositive Asians and Pacific Islanders living in the United States, various dimensions of stigma related to negative self-worth and compromised quality of interpersonal relationships were associated with heightened level of psychological distress.[26]

Despite findings that suggest negative public heath and psychological consequences of HIV-related stigma, collective efforts to develop interventions to minimize the effects of AIDS-related stigma are limited to strategies that challenge social conditions that perpetuate stigma[27–29] and interventions targeting service providers.[30] Although cross-sectional findings have shed considerable light on the relationships between stigma and psychological distress, interventions are often hindered by an inadequate understanding of the possible causal relationships between stigma and psychological outcomes among persons living with HIV/AIDS. Several important studies have documented the long-term influence of stigma on depressive symptoms and self esteem among current and former psychiatric patients.[1,31,32] However, no studies to date have examined the possible long-term consequences of stigma on mental health among persons living with HIV.

The goal of this longitudinal study was to understand whether multiple dimensions HIV-related stigma would effect a change in psychological distress over a 2-year period. Our sample includes 44 HIV-seropositive Asians and Pacific Islanders receiving services from community AIDS service organizations in New York City from 2002 to 2004. Given the dynamic nature of distress, understanding whether HIV-related stigma correlates with changes in levels of psychological distress substantiates the value of interventions that minimize illness stigma in efforts to reduce psychological distress.[33]

It is important to note that the term "Asian and Pacific Islander" signifies persons of Asian and/or Pacific Islander heritage living in the United States, representing a heterogeneous group of people, encompassing over 29 ethnic Asian groups and 20 Pacific Islander cultures in the United States, who speak more than 100 language and dialects.[34] Although the aggregate term "Asian and Pacific Islander" is referenced in this study, the authors acknowledge

significant differences and similarities in cultural traditions and values, language, dialects, migration history, and acculturation among Asians and Pacific Islanders. Moreover, one's sexual orientation and respective social networks intensifies or mitigates the effects of HIV stigma[35,36] especially for Asian and Pacific Islanders.[37] As such the implications of findings from this study are limited to specific groups represented in the sample and cannot be indiscriminately applied to all Asian and Pacific Islanders.

MATERIALS AND METHODS

Procedure

Individual 2- to 3-hour semistructured interviews were conducted with a nonrandom convenience sample of 44 HIV-seropositive Asians and Pacific Islanders referred by two AIDS service organizations. Eligible clients were identified and contacted by case workers and contacted regarding participation in the study. A written informed consent form approved by a university- and research-based institutional review board was reviewed and signed by all participants prior to each interview. Upon completion of the baseline interview in 2002, they were reimbursed for their involvement in the study, and asked for consent to be contacted for future studies. A follow-up study was funded 2-years later, during which the research team contacted these participants from the baseline study ($n = 50$) regarding participation in the current study.

Trained bilingual, bachelor-degree–level interviewers, and the principal researcher conducted the interviews in English, Cantonese, or Mandarin. Although we recognized the tremendous diversity of racial and ethnic groups among Asians and Pacific Islanders, it was beyond the scope of this study to translate the instrument battery into multiple Asian and Pacific Islander languages. Interview instruments were therefore translated into Chinese because they were the largest Asian group, representing nearly half of all Asians in New York City.[38] The interview battery was translated into written Chinese by: (1) discussing the content equivalence and sensitivity of the instruments to Chinese with bilingual colleagues; (2) translating the instruments into Chinese by one translator; (3) back-translating instruments into English by another independent translator where conceptual rather than literal meaning was the goal; (4) holding a meeting with the translator, back-translator, and the principal researcher, who was trilingual (English, Cantonese, and Mandarin) to examine and resolve differences that emerged from the back-translation.[39]

Dependent variables

Nonspecific psychological distress. Nonspecific distress was measured using the 25-item Demoralization Scale that measures self-esteem (8 items, Cronbach $\alpha = 0.80$), hopelessness or helplessness (4 items, Cronbach $\alpha = 0.63$), sense of dread (3 items, Cronbach $\alpha = 0.76$), confused thinking (2 items, Cronbach $\alpha = 0.62$), sadness (2 items, Cronbach $\alpha = 0.85$), and anxiety (6 items, Cronbach $\alpha = 0.76$).[40] Six subscale scores and a total demoralization score (Cronbach $\alpha = 0.90$) were computed from the sum of respective items. Higher scores reflected greater experience of psychological distress dimensions.

Residual change scores rather than simple change (pretreatment minus post-reatment) scores were used to represent change in psychological distress subtotal and total scores. The spurious reliability of simple change scores is due to their necessary dependence on prescores and the resulting failure to partial out the influence of pre on post scores.[41] Residual change scores were calculated as the difference between the actual and predicted scores at follow-up.[33] The predicted follow-up score was based on results of a regression model in which the follow-up Demoralization score was the dependent variable and the baseline demoralization score served as the independent variable.

Independent variables

HIV stigma. Perception of being stigmatized was measured using a 24-item instrument, Social Impact Scale.[7] A principal components analysis with varimax rotation resulted in a 5-component solution that account for 69% of the total variance (see Appendix A). The five components

included: (1) social rejection; (2) negative self-worth; (3) perceived interpersonal insecurity; (4) financial insecurity; and (5) discretionary disclosure. Participants were asked to rate the extent to which they agreed with experiences of being stigmatized by selecting responses scored 1 (strongly disagree) to 4 (strongly agree). Total scores ranged from 24 to 96, with a highest score indicating the strongest sense of feeling stigmatized (Cronbach $\alpha = 0.67–0.92$).

Self-reported physical symptoms. An 11-item physical symptom distress scale was adapted from the Adult AIDS Clinical Trials Group (AACTG)[42] to measure participants' physical health status (e.g., pain, gastrointestinal discomfort, high fever). These items were drawn from Chesney and colleagues' earlier work[43] at the Center for AIDS Prevention and Studies at the University of California, San Francisco. Participants indicated the frequency of experiencing symptoms in the past 2 weeks using a 4-point Likert scale ranging from 0 (never) to 3 (often). This yielded total symptom scores ranging from 0 to 33.

Sociodemographic information. Sociodemographic variables included age, ethnicity, country of birth, sexual orientation, language preference, education and employment history, housing, marital status, medical insurance coverage, immigration status, and HIV disclosure information (the number of household members who know the participant's HIV status).

Medical information. Participants self reported CD4 lymphocyte cell count, HIV/RNA viral load, date of and reason for HIV-antibody test.

Statistical methods

Prior to conducting the major analyses to determine whether baseline HIV-related stigma factors predicted changes in psychological distress over a 2-year period, independent sample *t* tests were conducted to compare mean group differences on outcome variables between documented and undocumented participants. In order to obtain an independent measure of each stigma factor, exact-weighted scores were obtained based on the principal components solution after varimax rotation. Exact weighted scores effectively isolated variance related to major aspects of stigma onto different summary scales that were constrained to be orthogonal (the five orthogonal variables summarize 69.23% of the total variance among 24 items). As such, they were included in the regression analyses without concern for multicollinearity.

Hierarchical multiple regression analyses were performed to determine main and interaction effects of baseline HIV-related stigma factors (social rejection, negative self-worth, perceived interpersonal insecurity, financial insecurity, and discretionary disclosure) on changes in psychological distress over a 2-year period while controlling for baseline psychological distress and physical symptoms at follow-up. Given the small sample size, six sets of regressions were preformed separately for each of the demoralization subscales (self-esteem, helplessness, dread, thinking, sadness, anxiety, total demoralization). Variables were entered in three steps, with baseline demoralization subscales and time 2 physical symptom distress on step 1, HIV-related stigma factors on step 2, and interaction effects of stigma factors on step 3.

The interaction effects were created multiplying stigma component of interest with each other. Recall that exact weighted scores were used in these regressions. Thus all scores were created with a mean of 0, effectively "centering" variables for this multiplicative treatment. Centering of scores reduces multicollinearity effects between components and interaction terms included in the same regression model.[43] For the regressions, ten interaction terms were created, representing all possible pairs among the five HIV-related stigma components. Only those interaction variables that met criteria for forward, stepwise selection were retained at each step. Given the small sample size, the significance level for entry was set at $p < 0.10$.

RESULTS

Description of the sample

The ages of the 38 male participants ranged from 31 to 60 years (M = 44 years, standard de-

viation [SD] = 7.94), of the 5 female participants, 36 to 67 years (M = 45 years, SD = 12.82), and of one transgender participant, 47 years old. The ethnic composition of the sample varied as follows: 27 were Chinese (61%); 5 were Filipino (11%); 5 were Southeast Asian (the 11% included Burmese, Laotian, Malaysian, and Thai); 4 were Japanese (9%); 1 was Korean (2%); and 2 were mixed-race (5%). The majority of participants were born in Asia or the Pacific (96%), and only 8 (18%) spoke primarily English. Twenty-three (52%) participants self-identified as heterosexual, 17 (39%) as homosexual, 3 (6%) declined to respond about their sexual orientation, and 1 (2%) as bisexual. Twenty-one (48%) participants were single, never married, and 17 (39%) were married (64% of whom were not living with their spouse). There were no significant differences in age, marital status, education, length of HIV diagnosis between these 44 reinterviewed participants and 10 participants reported in our earlier papers, who were subsequently lost to follow-up.

There were 26 (59%) legally documented immigrants or U.S. citizens, and 18 undocumented (41%) who entered the United States illegally or overstayed their visas. The majority of participants were not born in the United States (n = 42, 96%) but had been living in the United States for a mean of 18 years (SD = 9.86) and completed a mean of 11 years of school in the United States and/or abroad. Half of the participants were unemployed (n = 22, 50%), and the majority lived in rental apartments (n = 32, 73%). Many received health insurance coverage from

Table 1. Means and Standard Deviations of Psychological Distress and Stigma at Baseline and Two-Year Follow-Up

	Baseline		*2-year follow-up*	
	Documented immigrants (n = *26*)	*Undocumented* (n = *18*)	*Documented immigrants* (n = *26*)	*Undocumented* (n = *18*)
Psychological distress				
Self-esteem	11.69 (5.86)	16.56 (5.89)[a]	10.88 (5.33)	16.00 (6.11)[b]
Hopelessness	6.00 (2.71)	7.44 (3.60)	5.85 (3.06)	5.94 (3.47)
Sense of dread	3.65 (2.58)	3.89 (3.31)	3.77 (2.89)	3.28 (2.80)
Confused thinking	3.12 (1.82)	3.94 (2.39)	3.35 (2.13)	2.94 (1.80)
Sadness	3.42 (2.02)	3.72 (0.44)	3.19 (2.10)	3.28 (1.78)
Anxiety	4.82 (8.96)	9.56 (4.63)	9.81 (5.88)	8.56 (5.20)
Illness stigma				
Social rejection	20.81 (6.28)	23.94 (3.61)[a]	21.65 (7.39)	23.94 (4.75)
Negative self-worth	10.38 (2.89)	11.56 (1.65)	10.46 (2.33)	11.67 (1.57)[a]
Perceived interpersonal insecurity	5.28 (1.40)	6.22 (0.80)[a]	5.31 (1.44)	6.33 (0.77)[b]
Financial insecurity	7.77 (2.07)	8.22 (1.59)	7.62 (2.35)	8.78 (1.63)
Discretionary disclosure	4.97 (1.24)	5.17 (1.29)	5.19 (1.77)	5.27 (1.60)
Self-reported physical symptoms	13.62 (7.51)	9.78 (5.41)	11.72 (7.22)	10.06 (5.50)

[a] $p < 0.05$ (2-tailed).
[b] $p < 0.01$ (2-tailed).
Note: Higher scores indicate stronger indicators of psychological distress, illness stigma, and frequency of physical symptoms.

the AIDS Drug Assistance Program (ADAP; $n = 23$, 52%) and/or Medicaid ($n = 21$, 48%).

The mean length of post-HIV/AIDS diagnosis was 8 years (SD = 4.26, range = 3 months to 18 years), and the majority of participants reported stable immune functioning with 84% reporting undetectable HIV/RNA viral load, and 91% reporting CD4 lymphocyte cell counts greater than 200 cells/mm^3.

Stigma and associations with psychological distress. Independent sample *t* tests showed that undocumented Asians endorsed lower levels of self-esteem than documented participants at both baseline, $t(42) = 2.70$, $p < 0.05$, and 2-year follow-up, $t(42) = 2.95$, $p < 0.01$ (Table 1). Analyses also showed that undocumented Asians reported higher levels of Perceived Interpersonal Insecurity related to HIV-stigma than documented participants at both baseline, $t(42) = 2.42$, $p < 0.05$, and 2-year follow-up, $t(42) = 2.76$, $p < 0.01$.

Hierarchical multiple regression analyses were conducted to determine whether baseline stigma factors were independently associated with change in psychological distress at 2-year follow-up, controlling for baseline psychological distress and self-reported physical symptoms at follow-up. As shown in Table 2, baseline self-esteem and self-reported physical symptoms were significantly associated with changes in self-esteem at follow-up, and entry of stigma-related social rejection at step 2 added significantly to the regression equation, Adjusted $R^2 = 0.260$, with a significant R^2

Table 2. Hierarchical Forward Stepwise Regression Predicting Change in Demoralization Related Self-Esteem

	R^2	*Adj* R^2	R^2 Δ	β	t
Step 1	0.233[a]	0.185[a]			
Baseline demoralization—self-esteem				−0.471	−3.41[b]
Physical symptoms at Time 2				−0.013	−0.093[b]
Step 2	0.312[a]	0.260[a]	0.089[c]		
Baseline demoralization—self-esteem				−0.587	−4.16[b]
Physical symptoms at Time 2				−0.046	−0.349[b]
Illness Stigma—social rejection (SR)				0.323	2.28[c]
Step 3	0.359[b]	0.293[b]	0.047		
Baseline demoralization—self-esteem				−0.598	−4.34[b]
Physical symptoms at Time 2				0.019	0.144
Illness Stigma—social rejection (SR)				0.330	2.38[c]
Illness Stigma—social isolation (SI)				0.227	1.70
Step 4	0.414[b]	0.337[b]	0.055		
Baseline demoralization—self-esteem				−0.614	−4.60[b]
Physical symptoms at Time 2				0.081	0.600
Illness Stigma—social rejection (SR)				0.310	2.29[c]
Illness stigma—social isolation (SI)				0.397	2.52[a]
Illness Stigma factor interactions − SR × SI				0.288	1.90

[a] $p < 0.01$.
[b] $p < 0.001$.
[c] $p < 0.05$.
Note: β, standardized regression coefficients.

Table 3. Hierarchical Forward Stepwise Regression Predicting Change in Demoralization Related Dread

	R^2	*Adj* R^2	R^2 Δ	β	t
Step 1	0.499[a]	0.475[b]			
Baseline demoralization—dread				−0.697	−5.96[a]
Physical symptoms at Time 2				0.483	4.13[a]
Step 2	0.555[a]	0.521[b]	0.055[c]		
Baseline demoralization—dread				−0.709	−6.34[a]
Physical symptoms at Time 2				0.495	4.43[a]
Illness Stigma—FI × DD[d]				0.236	2.23[c]
Step 3	0.586[a]	0.544[a]	0.032		
Baseline demoralization—dread				−0.714	−6.54[a]
Physical symptoms at Time 2				0.466	4.23[a]
Illness Stigma—FI × DD				0.294	2.71[c]
Illness Stigma—SR × DD[e]				−0.190	−1.73

[a] $p < 0.001$.
[b] $p < 0.01$.
[c] $p < 0.05$.
[d] Financial Insecurity (FI) × Discretionary Disclosure (DD) − Stigma Factor Scores.
[e] Social Rejection (SR) × Discretionary Disclosure (DD) − Stigma Factor Scores.
Note: β, standardized regression coefficients.

change = 0.089, $p < 0.05$. Entry of stigma-related social isolation at step 3 and the stigma factor interaction did not add significantly to the model. Overall the model explained 34% of the variance in residualized change scores for Self Esteem from baseline to follow-up interview, $F(5,43)=5.38$, $p < 0.001$. These results suggest that higher social rejection and social isolation related to stigma was associated with lower self-esteem over time.

Our baseline measure of dread and self-reported physical symptoms were significantly associated with changes in dread at follow-up (Table 3). After controlling for these measures, the interaction between two components of stigma, financial insecurity and discretionary disclosure, added significantly to the regression equation, Adjusted $R^2 = 0.52$, with a significant R^2 change = 0.055, $p < 0.05$. Plotting this interaction effect indicated that greater financial insecurity was predictive of changes in distress related dread among Asians and Pacific Islanders who reported higher levels of discretionary disclosure.

Overall the model explained 54% of the variance in residual change scores for dread from baseline to follow-up interview, $F(4,43)=13.82$, $p < 0.001$. Among the stigma factors, the interaction between financial insecurity and discretionary disclosure significantly predicted changes in dread ($t_{\text{FIxDD}} = 2.71$, $p < 0.05$).

DISCUSSION

Numerous cross-sectional studies have shown that HIV-related stigma is associated with a person's psychological well-being, overall quality of life, medical treatment adherence, and utilization of care, particularly among ethnic minority groups in the United States. Although HIV-related stigma has tapered to some extent in the past decade due to antiretroviral treatment access in the United States and widespread voluntary counseling and testing (VCT) in sub-Saharan Africa, the harmful effects of stigma linger. Rather than dismissing these effects as transitory, the strong relationship between stigma and psychological distress sustained over a 2-year period suggests that stigma shapes a significant portion of Asians and Pacific Islanders' lives in this study. These

findings lend further support to the argument that "stigma matters"—that being labeled as a person living with HIV results in negative outcomes related to employment, social functioning, and self-esteem.[31] Specifically, it offers preliminary, yet compelling support that early encounters with HIV-related stigma carry long-term detrimental consequences on one's psychological well-being in two specific areas of functioning. First, Asians and Pacific Islanders' perceived or actual rejection by others on account of one's HIV-status lowered their self-esteem at follow-up even after controlling for measures of baseline self-esteem and physical symptomatology at follow-up. Self-esteem is rudimentary to one's overall well being,[44] and to the degree that stigma becomes intrinsic to one's self-concept, it profoundly accentuates one's sense of incompetence and worthlessness.[45,46] Many undocumented Asians in this study already face immense self-scrutiny over working long hours to repay exorbitant smuggling fees to "snakeheads,"[25,47] and struggle to cope with withering aspirations of success in the United States. Social rejection related to stigma further lowered their self-esteem as evidenced by significantly higher levels of psychological distress compared to documented Asians and Pacific Islanders at baseline and 2-year follow-up. These findings are consistent with recent studies that examined the experiences of black African women with HIV living away from home and found that stigma within the African community, fear that their diagnosis might be revealed, and subsequent isolation led to feelings of hopelessness.[11,48–50]

Developed by Link et al.,[45] the modified labeling theory provides a theoretical framework for understanding the negative consequences of HIV-stigma for Asians and Pacific Islanders. The theory posits that many Asians and Pacific Islanders devalue themselves upon learning their HIV diagnosis and anticipate varying degrees of marginalization as they turn widely held negative perceptions of persons with HIV onto themselves. Being labeled HIV-positive recasts public conceptions of HIV and makes them personally relevant. However, it is important to note that the outcomes of stigma vary considerably on a number of dimensions including length of HIV diagnosis, concealability of illness, and the extent to which one holds oneself responsible for getting infected with HIV.[51] A newly arrived HIV-positive Chinese immigrant from Fuzhou, for example, who recently found out his serostatus and blames himself for engaging in high-risk behaviors with commercial sex workers will likely have lower self-esteem compared to a second-generation Chinese American man living with HIV for the past 15 years who believes that his HIV-positive partner shares responsibility for contracting the virus. In addition to intragroup variability in self-esteem, variability for the same individual across time and contexts should also be considered.[52]

Second, financial insecurity heightened by HIV stigma and fear of inadvertently disclosing one's serostatus contributed to Asians' and Pacific Islanders' pessimistic view of their future and sense of dread (e.g., "in the past 6 months how often have you feared that something terrible would happen to you?"). The diminished prospects of securing and maintaining gainful employment, for example, are attributed to deteriorating health and lack of sustainable employment,[53] particularly for undocumented Chinese in this study who had limited employment opportunities because of language barriers and immigration status.[20] Many of them worked at restaurants and construction companies, and they often weighed the importance of maintaining employment against the perceived risk of inadvertently revealing their status to coworkers. Many go to extraordinary lengths to ensure that suspicions about their serostatus will not reach their family members in Fuzhou, and consequently forego long-term employment opportunities available within the Chinese immigrant community to minimize risk of circulating rumors.

It is also important to consider the immediate social context and the meaning the stigmatized ascribes to it. Crocker,[54] for example, argued that the consequences of stigma are not simply "internalized, stable distortions of personality that individuals carry with them." Rather, self-esteem among stigmatized groups varies as a function of collective representations, situational cues, and individual differences.[51,52] Asians' and Pacific Islanders' fears of being shunned is largely shaped by firmly

held views of HIV within the Asian immigrant community. Collective beliefs of casual contagion and discriminatory attitudes toward homosexuals, intravenous drug users, and undocumented immigrants shape Asians' and Pacific Islanders' experiences of their illness and trigger fears of being overtly ostracized by others.[52] A closer examination of the collective representations of HIV/AIDS is needed to strategically inform stigma interventions targeting Asians and Pacific Islanders. This also underscores the importance of challenging discriminatory perceptions of Asians and Pacific Islanders living with HIV and dispelling unfounded fears of HIV transmission in efforts to reduce stigma within the Asian immigrant communities.

Interventions that address both the individual and social dimensions of HIV-stigma in its own right are therefore needed to improve the overall quality of life for Asians and Pacific Islanders living with HIV. Recent studies have argued that individual-based mental health interventions alone will not adequately mitigate stigma-based perception and behavior. They must be followed by measures to address structural and environmental constraints that Asians and Pacific Islanders face in the United States as "stigma comprises a complex web of affective, institutional, and social forces that produce distress and other consequences detrimental to the person's well-being."[56] In efforts to mitigate the effects of stigma among undocumented Asians, it is important to address individual meanings they ascribe to potentially stigmatizing events in addition to helping them contend with environmental, economic, and social realities that perpetuate HIV-related stigma and its effect on their overall quality of life—including affordable and stable housing, employment, separation from family members living abroad,[20] comprehensive medical insurance[57] and access to medical care and treatment.[46]

Finally, further studies into the different "layers" of HIV-related stigma are clearly needed if we are to understand the extent to which stigma affects psychological distress among Asians and Pacific Islanders living with HIV.[36] Perceptions of marginalization and social rejection could be perpetuated by virtue of one's serostatus, risk behaviors associated with HIV transmission, undocumented immigration status, gender, or sexual orientation. As such, an Asian and Pacific Islander who is gay, lesbian, or bisexual will likely experience HIV-related stigma differently from a heterosexual Asian and Pacific Islander because of cultural proscriptions against HIV illness and sexual orientation.[8] Disentangling the multiple layers of stigmatizing attributes is crucial in informing effective policies and interventions to mitigate the effects of HIV stigma.

This study has limitations that could affect its generalizability and interpretation. First, the findings and implications of this study cannot be generalized to the experiences of all Asians and Pacific Islanders living with HIV/AIDS in the United States. The findings are limited to a small convenience sample of HIV-seropositive Asians and Pacific Islanders receiving supportive services from community-based AIDS organizations, 61% of which were ethnic-Chinese. Second, the majority of Asians and Pacific Islanders in this sample were in medically stable conditions (84% reported undetectable HIV/RNA viral load). These self-selection biases limit the generalizability of the current findings to those who are not accessing or utilizing supportive services as well as other Asian and Pacific Islander groups with more significant immunocompromise. As such, future studies with a larger Asian and Pacific Islander sampling based on ethnicity, gender, and migration history will be important in identifying cultural distinctions and nuances that inform and mitigate HIV stigma. Notwithstanding these limitations, findings from this study clearly demonstrate that HIV-stigma is a multidimensional construct that has enduring effects on psychological distress among Asians and Pacific Islanders living with HIV.

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APPENDIX A

Factor 1: Social Rejection (9 items)[a]

My employer/co-workers have discriminated against me because of my illness.
Some people act as though I am less competent than usual.
I feel that I have been treated with less respect than usual by others.
I feel others are concerned they could "catch" my illness through contact like a handshake or eating food I make.
I feel others avoid me because of my illness.
Some family members have rejected me because of my illness.
I feel some friends have rejected me because of my illness.
I encounter embarrassing situations as a result of my illness.
Due to my illness others seem to feel awkward and tense when they are around me.

Factor 2: Negative Self-Worth (4 items)[b]

I feel I am at least partially to blame for my illness.
I feel less competent than I did before my illness.
Due to my illness, I sometimes feel useless.
Changes in my appearance have affected my social relationships.

Factor 3: Perceived Interpersonal Insecurity (2 items)[c]

I feel I need to keep my illness a secret.
I have a greater need than usual for reassurance that others care about me.

Factor 4: Financial Insecurity (3 items)[d]

I have experienced financial hardship that has affected how I feel about myself.
My job security has been affected by my illness.
I have experienced financial hardship that has affected my relationship with others.

Factor 5: Discretionary Disclosure (2 items)[e]

I do not feel I can be open with others about my illness.
I fear someone telling others about my illness without my permission.

Excluded Items

I feel others think I am to blame for my illness; I feel set apart from others who are well; I feel lonely more often than usual; Due to my illness, I have a sense of being unequal in my relationships with others.

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[a]9 items; α = .917; Eigenvalue = 5.91; Percent of the variance explained = 24.62
[b]4 items; α = .811; Eigenvalue = 3.50; Percent of the variance explained = 14.60
[c]2 items; α = .665; Eigenvalue = 2.57; Percent of the variance explained = 10.69
[d]3 items; α = .777; Eigenvalue = 2.46; Percent of the variance explained = 10.25
[e]2 items; α = .715; Eigenvalue = 2.18; Percent of the variance explained = 9.10