



Published in final edited form as:

AIDS Care. 2013 December ; 25(12): . doi:10.1080/09540121.2013.793268.

HIV/AIDS stigma: Measurement and relationships to psycho-behavioral factors in Latino gay/bisexual men and transgender women

Y. Molina^{a,*} and J. Ramirez-Valles^b

^aPublic Health Sciences, Fred Hutchinson Cancer Research Center, Seattle, WA, USA

^bCommunity Health Sciences University of Illinois-Chicago, Chicago, IL, USA

Abstract

Despite the increased interest in HIV/AIDS stigma and its negative effects on the health and social support of people living with HIV/AIDS (PLWHA), little attention has been given to its assessment among Latino gay/bisexual men and transgender women (GBT) living with HIV/AIDS. The purpose of this paper is twofold: to develop a multidimensional assessment of HIV/AIDS stigma for Latino GBT living with HIV/AIDS, and to test whether such stigma is related to self-esteem, safe sex self-efficacy, social support, and alcohol and drug use. The sample included 170 HIV+ Latino GBT persons. The results revealed three dimensions of stigma: internalized, perceived, and enacted HIV/AIDS stigma. Enacted HIV/AIDS stigma comprised two domains: generalized and romantic and sexual. Generalized enacted HIV/AIDS stigma was related to most outcomes. Internalized HIV/AIDS stigma mediated the associations between generalized enacted HIV/AIDS stigma and self-esteem and safe sex self-efficacy. In addition, romantic and sexual enacted HIV/AIDS stigma significantly predicted drug use. Perceived HIV/AIDS stigma was not associated with any outcome. These findings expand the understanding of the multi-dimensionality of stigma and the manner in which various features impact marginalized PLWHA.

Keywords

HIV/AIDS; gay; Latino; stigma; sexual minority; racial/ethnic minority

Stigma negatively affects the health of people living with HIV/AIDS (PLWHA). It deters disclosure (Wolitski, Pals, Kidder, Courtenay-Quirk, & Holtgrave, 2009) and diminishes self-esteem, social support, access to health services, and medication adherence (Rongkavilit et al., 2010; Sayles et al., 2008; Illa et al., 2008; Dlamini et al., 2009). It increases sexual risk (Illa et al., 2008) and substance use (Swendeman, Comulada, Lee, & Rotheram-Borus, 2002). The most significant impact of HIV/AIDS and its stigma may be found in those groups already marginalized by society: ethnic minorities, gay/bisexual men, and transgender women. The HIV epidemic intensified negative attitudes towards gay and bisexual men (Herek & Capitanio, 1999; Herek, Capitanio, & Widaman, 2002). Gay men living with HIV/AIDS further encounter prejudice from seronegative gay men (Diaz, 2006; Smit et al., 2012). Latino gay/bisexual men and transgender women (GBT) living with HIV/AIDS also face racial and homosexual stigma (Diaz, Ayala, Bein, Henne, & Marin, 2001; Ramirez-Valles, 2007). The purpose of this paper is to begin uncovering the manner in which the stigma of HIV/AIDS shapes the lives of PLWHA who are GBT and of Latin

*Corresponding author: ymolina@fhcrc.org.

American descent. We develop a measure of HIV/AIDS stigma and assess its association with self-esteem, safe sex efficacy, social support, and alcohol and drug use.

Stigma is “an enduring condition, status or attribute that is negatively valued by a society and whose possession consequently discredits and disadvantages an individual” (Herek et al., 2002; see also Goffman, 1963). Stigma includes three dimensions: enacted, perceived, and internalized (Link, Struening, Rahav, Phelan, & Nuttbrock, 1997; Fife & Wright, 2000; Ramirez-Valles, Fergus, Reisen, Poppen, & Zea, 2005). These dimensions parallel those found in other forms of stigma, such as racial and homosexual stigma, which have been investigated in Latino GBT (Bruce, Ramirez-Valles, & Campbell, 2008; Ramirez-Valles, Kuhns, Diaz, & Campbell, 2010; Ramirez-Valles, 2011). Enacted stigma may take the form of experiences such as being denied housing because of one’s HIV-positive status, while perceived stigma refers to the stigmatized individual’s awareness of society’s negative views towards his/her group. Enacted and perceived stigma may directly affect PLWHA’s well-being by limiting access to resources and indirectly via its internalization (Corrigan & Watson, 2002; Corrigan, Watson, & Barr, 2006; Meyer, 2005; Ramirez-Valles et al., 2010). Internalization is the adoption of society’s negative views into the self-concept. It may include self-blame and shame (Fife & Wright, 2000). Internalization has further been hypothesized as mediator between enacted and perceived stigma on well-being (Corrigan & Watson, 2002; Corrigan et al., 2006).

Latino GBT are disproportionately affected by HIV/AIDS (The Centers for Disease Control and Prevention [CDC], 2011). Yet the seven published measures of HIV/AIDS stigma for PLWHA (e.g., Berger’s; Parker & Aggleton, 2003) have been constrained to mostly White and heterosexual samples (Sayles et al., 2008; Berger, Ferrans, Lashley, 2001; Dowshen, Binns, & Garofalo, 2009). Studies using such measures indicate that stigma is elevated for ethnic minorities (Darrow, Montanea, & Gladwin, 2009). Existing literature on stigma among PLWHA of Latin American descent is primarily qualitative and also points at pervasive levels of stigma (Larios et al., 2009; Valencia-Garcia, Starks, Strick, & Simoni, 2008).

Latino PLWHA report poorer psychosocial functioning than White PLWHA (Campsmith, Nakashima, & Davidson, 2003; Rao, Hahn, Cella, & Hernandez, 2007; Vidrine, Amick, Gritz, & Arduino, 2003). Latino GBT living with HIV/AIDS also report low safe sex efficacy, low self-esteem, substance use, and social isolation (Diaz, 2006; Poppen, Reisen, Zea, Bianchi, & Echeverry, 2004; Zea, Reisen, Poppen, & Bianchi, 2009).

In this paper, we investigate whether stigma plays a role in shaping those negative outcomes. We address two main questions. The first is about the structure of enacted, internalized, and perceived HIV/AIDS stigma. We develop a measure for such stigma in a sample of Latino GBT persons living with HIV/AIDS and assess its reliability and validity. The second question evaluates the potentially harmful effects of HIV/AIDS stigma. We examine the relationships of stigma dimensions to self-esteem, safe sex efficacy, social support, and alcohol and drug use. Then, we explore the role of internalized stigma as a mediator in the link between perceived and enacted stigma and psycho-behavioral outcomes.

Method

The sample included 170 self-identified HIV-positive GBT of Latin American descent (gay men, $n = 136$; bisexual men, $n = 15$; transgender women, $n = 19$) enrolled in 2004 in Chicago and San Francisco. Participants were recruited using respondent-driven sampling (RDS), a social network, peer referral method (Heckathorn, 1997, 2002). Data were

collected using computer-assisted self-interviewing and in respondents' preferred language, Spanish or English.

Measures

Socio-demographic variables—In addition to standard socio-demographic information, we assessed acculturation via a three-item scale (Cronbach's alpha = .83; Marin, Sabogal, Marin, Otero-Sabogal, & Perez-Stable, 1987).

HIV/AIDS stigma—This measure was developed from qualitative data collected from 75 Latino gay/bisexual men and 5 transgender women (Ramirez-Valles, 2011) and existing research (Fife & Wright, 2000; Diaz & Ayala, 2001; Diaz, 2006). Qualitative data indicated similar themes around HIV/AIDS stigma (e.g., shame concerning serostatus, blame) across subgroups. Three dimensions were assessed: enacted (15 items), perceived (15 items), and internalized stigma (8 items). Responses were rated in a Likert-type scale (i.e., 1 = Strongly Disagree to 4 = Strongly Agree). Summary counts were calculated to indicate greater stigma with higher scores. Note that perceived stigma, unlike attitudes towards PLWHA (see next), captures respondents' anticipated stigma.

Attitudes towards PLWHA—This measure includes 6 Likert-type items developed from research with Latino GBT (Diaz, 2006; Ramirez-Valles, 2011). Items rate participants' views on PLWHA (e.g., "People who have HIV/AIDS should be isolated from the rest of society" (1 = Strongly Disagree, 4 = Strongly Agree), Cronbach's alpha was .77. Scores were calculated such that higher scores indicated greater negative attitudes toward PLWHA.

Homosexual stigma—We used a validated measure composed of three subscales: enacted (20 items; $\alpha = .91$), internalized (17 items, $\alpha = .88$), and perceived stigma (17-items; $\alpha = .94$; Ramirez-Valles, 2011). Larger scores indicated greater homosexual stigma.

Alcohol use—A frequency-quantity index (AQFI) for alcohol use in the past 6 months was created (Bruce et al., 2008; Greenwood et al., 2001). It reflects the product of the frequency of drinking occasions and typical quantity per drinking occasion.

Drug use—Participants indicated use of the following over the past 6 months: crack, marijuana, poppers/nitrates, ecstasy, GHB, Viagra, heroin, tranquilizers, cocaine, and amphetamines. We created 3 categories: 0 = no drug use, 1 = one drug use, and 2 = multi-drug use.

Self-esteem—We used the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965) with a 4-point Likert scale (1= Strongly disagree, 4= Strongly agree). The Cronbach's alpha was .82. For this study, higher scores indicated higher self-esteem.

Safe sex self-efficacy—This construct comprises 9 items assessing individuals' perceived ability to practice safer sex and has been validated with Latino GBT (1= strongly disagree, 4=strongly agree; Ramirez-Valles et al., 2010). Greater scores indicated more safe sex self-efficacy. The Cronbach's alpha was .74.

Social support—We assessed support from friends and family via a 10-item scale, using a four-point frequency scale (i.e., 1 = Never to 4 = Always). Higher scores indicated greater social support. The Cronbach's alpha for this sample was .80.

Analytical Approach

We conducted exploratory factor analyses (EFA) using Mplus software (Muthén & Muthén, 2007) to evaluate the psychometric properties of the HIV/AIDS stigma measures. Weighted least squares with adjustment for means and variance estimation for categorical variables (WLSMV) with geomin rotation was used. We assessed the number of factors through scree plots, initial eigenvalues from EFA, and parallel analysis. For individual items, we reviewed factor loadings and kept items with loadings of 0.60 or greater. We examined Cronbach's alpha and item-total correlations to address internal consistency. To assess convergent validity of HIV/AIDS stigma measures, we assessed their correlations to attitudes towards PLWHA and to homosexual stigma dimensions. We expected variations in the strength of association, thus, we used a modified version of Fisher's Z transformation to compare differences in correlation coefficients (Meng, Rosenthal, & Rubin, 1992).

Next, we evaluated the relationship of HIV/AIDS stigma dimensions to our five outcomes. We examined the following hypotheses: 1) enacted and perceived HIV/AIDS stigma dimensions would be positively associated with drug use and alcohol use and negatively associated with self-esteem, safe sex self-efficacy, and social support; and 2) internalized HIV/AIDS stigma would mediate the association between enacted and perceived stigma and those five outcomes. We tested mediation through several regression models following the Baron-Kenny method (1986). Relationships between the independent variables (i.e., perceived, enacted stigma) and the proposed mediator (i.e., internalized stigma) were assessed during psychometric analyses. We then proceeded to conduct a multiple regression model, wherein outcomes were first regressed by sociodemographic covariates (Step 1). In the second step, the outcomes were regressed by perceived and enacted stigma. In the last step, outcomes were regressed on enacted and perceived stigma as well as internalized stigma to assess changes in the relationship between enacted and perceived stigma and outcomes. Full mediation was indicated if relationships with enacted and perceived stigma became non-significant after including internalized stigma (Step 3). Partial mediation was indicated if relationships with enacted and perceived stigma weakened (e.g., smaller coefficient), but remained significant after including internalized stigma.

Results

Descriptive information for the sample and study variables is provided in Table 1. As there were few missing cases and they appeared to be due to random item skipping, we used case deletions to accommodate them (e.g., Schafer & Graham, 2002).

Factor analysis indicated a 1-factor solution for both the 8 internalized HIV/AIDS stigma and 15 perceived HIV/AIDS stigma items. For enacted HIV/AIDS stigma (15 items), we removed two items with factor loadings less than 0.60. When we reran the EFA without these two items, two dimensions emerged. One factor, which we termed "romantic and sexual enacted HIV/AIDS stigma," included two items that capture one-on-one interactions with actual or potential sexual and romantic partners. The second factor, generalized enacted HIV/AIDS stigma, comprised items related to various social situations including disclosure and social rejection. Factor loadings, means and standard deviations are presented in Table 2.

Adequate internal consistency was found for internalized ($\alpha = .88$), perceived ($\alpha = .96$), generalized enacted ($\alpha = .90$), and romantic and sexual enacted stigma ($\alpha = .91$). All items had item-total correlations equal to .42 or higher. Table 3 depicts relationships among all three scales and with attitudes towards PLWHA and homosexual stigma. Equivalent dimensions of homosexual and HIV stigmata were strongly associated with one another (e.g., internalized homosexual and internalized HIV/AIDS stigma).

None of the HIV/AIDS stigma dimensions differed by sexual/gender identity (*Wilks' lambda* = 0.95, $F(8,328) = 1.16$, $p = .32$), age ($r_s = -.05$ to $-.13$), employment status (*Wilks' lambda* = .92, $F(12, 428.90) = 1.10$, $p = .36$), or years since HIV diagnosis ($r_s = -.03$ – $.02$). Education was positively associated with perceived HIV/AIDS stigma ($r = .16$, $p = .03$). San Francisco's respondents reported higher romantic and sexual enacted stigma ($M = 2.47$, $SD = .99$) than those in Chicago ($M = 2.06$, $SD = .99$; $F(1, 168) = 6.79$, $p = .01$). US-born individuals differ from those born in Latin America only in their higher levels of internalized HIV/AIDS stigma ($M = 2.31$, $SD = 0.82$; $M = 2.04$, $SD = .71$; $F(1, 168) = 4.41$, $p = .04$). Neither age when first arrived in the US ($r_s = -0.01$ – 0.05) nor acculturation were correlated to HIV/AIDS stigma ($r_s = .005$ – $.10$).

Generalized enacted and internalized HIV/AIDS stigma dimensions were significantly correlated with self-esteem, safe sex self-efficacy, and social support (see Table 4). All HIV/AIDS stigma dimensions were associated with drug use, except for perceived stigma, and none were associated with alcohol use. We did not conduct further analyses concerning perceived HIV/AIDS stigma nor alcohol use.

We next examined whether internalized HIV/AIDS stigma mediated the association between enacted HIV/AIDS stigma and self-esteem, safe sex self-efficacy, social support, and drug use through multivariate linear and ordinal regressions. In all models, we controlled for socio-demographic variables (Step 1). As shown in Table 5, internalized HIV/AIDS stigma fully mediated the association between generalized enacted HIV/AIDS stigma and self-esteem and safe sex self-efficacy.

Yet, internalized HIV/AIDS stigma was not associated with social support ($B = -.17$), indicating that it did not mediate the association between generalized enacted stigma and social support. For drug use, there was no evidence that internalized HIV/AIDS stigma mediated the relationships of either generalized enacted HIV/AIDS stigma or romantic and sexual enacted HIV/AIDS stigma. Romantic and sexual enacted HIV/AIDS stigma remained significant ($B = .43$, $p < .01$), even after inclusion of internalized HIV/AIDS stigma, whereas generalized enacted HIV/AIDS stigma did not.

Discussion

Our purpose in this paper was two-fold: to develop a valid and reliable assessment of HIV/AIDS stigma for Latino GBT people living with HIV/AIDS and to examine if enacted and perceived stigmata are associated to self-esteem, social support, safe sex self-efficacy, and alcohol and drug use primarily through internalized stigma. The results provide support for four dimensions of HIV/AIDS stigma: generalized enacted, romantic and sexual enacted, perceived, and internalized. Generalized enacted HIV/AIDS stigma was negatively associated with self-esteem, social support, and safe sex self-efficacy. Romantic and sexual enacted stigma was associated with drug use. Internalized stigma fully mediated the association between generalized enacted stigma and self-esteem and safe sex self-efficacy.

Generalized enacted HIV/AIDS stigma covers a variety of issues under a single factor: fear of disclosure, social rejection, and dislocation. Regarding the structure of enacted stigma, a unique finding is stigma in the context of romantic and sexual relationships. We believe this is one of the values of circumscribing stigma assessment to particular subgroups. The dimension is made of two items reflecting rejection of sexual encounters and refusal to dating. While this might be expected given the sexual transmission of HIV, it emphasizes the relevance of HIV, actual fear of transmission, sexual and romantic relationships in gay male populations, and the concern about potential stigma by association (Diaz, 2006; Poppen et al., 2004). Internalized HIV/AIDS stigma addresses concepts such as shame,

blame, and worthlessness, which are consistent with previous work (Earnshaw & Chaudoir, 2009; Fife & Wright, 2000).

The four HIV/AIDS stigma dimensions showed adequate reliability and convergent validity. Parallel dimensions of different stigmata were particularly correlated with one another. For example, the association between perceived homosexual stigma and perceived HIV/AIDS stigma was stronger than the one between the latter and internalized homosexual stigma. These findings suggest similar responses to different forms of stigma (e.g., homosexual versus HIV/AIDS).

The impact of HIV/AIDS stigma on self-esteem and safe sex self-efficacy appears to be attributed to internalization, consistent with previous studies on stigma in Latino GBT (Ramirez-Valles et al., 2010). Experiences of stigma, such as rejection, may lead to internalization that damages the self-concept. It may also weaken safe sex self-efficacy as individuals may be concerned about being rejected by sexual partners who do not want to practice safe sex. The case of social support is different. When internalized and enacted generalized HIV/AIDS stigmata were included in the model, only the latter was associated with social support. Thus, PLWHA's decline of social support may be due to social rejection and displacement, not to their self-concept.

The results also suggest that HIV/AIDS stigma may be linked to drug use, but not to alcohol use. Drug use was uniquely associated with romantic and sexual enacted HIV/AIDS stigma. This is consistent with previous research on Latino GBT, which has found that being HIV-positive is associated with multidrug use via enacted homosexual stigma and that alcohol use is not related to HIV status (Bruce et al., 2008; Ramirez-Valles et al., 2010; Ramirez-Valles, 2011). Enacted stigma, such as rejection in the context of romantic and sexual relationships, may lead PLWHA to the use of drugs as a coping mechanism (Marks, Bingman, & Duval, 1998; McKirnan, Ostrow, & Hope, 1996; Wills, McNamara, Vaccaro, & Hirky, 1996).

Perceived HIV/AIDS stigma, conversely, was not linked to any outcome, analogous to studies in a U.S.-based sample of HIV-negative and HIV-positive Latino GBT ($n = 643$), in which perceived racial and homosexual stigma were not found to be associated with health outcomes (Bruce et al., 2008; Ramirez-Valles et al., 2010). While a valid dimension of stigma, this dimension may actually reflect a critical awareness of societal attitudes rather than a sense of devaluation (Crocker & Mayor, 1989).

The HIV/AIDS stigma variable we present here is contextualized within the experience of a particular ethnic and sexual and gender identity group. The fact that none of the aspects of HIV/AIDS stigma were related to any indicator of acculturation suggests that our variable captures central commonalities among Latino GBT people. Still, it might be possible that this finding is due to limited variability in acculturation within the sample.

Our findings have to be evaluated in light of several caveats. The sample is not representative of Latino GBT people living with HIV/AIDS. Also, we combined transgender women with gay/bisexual men. Given the small number ($n=19$) of transgender people, we suspect it did not affect the findings. Qualitative data from this subgroup indicate that they are in a span of gender transitions and that they have comparable HIV/AIDS stigma experiences to their male counterparts (Ramirez-Valles, 2011). The logical next step is to focus exclusively on transgender people.

The HIV/AIDS stigma measures developed here provide useful tools for research on PLWHA. Theoretically, the findings support the link between stigma and negative psycho-

behavioral outcomes. They also provide insight into the multidimensionality of stigma and the manner in which various dimensions shape the lives of PLWHA.

Acknowledgments

The authors would like to thank Blair Beadnell for statistical review as well as the critical feedback of two anonymous peer reviewers and Jessica Dirkes.

References

- Asparouhov, T.; Muthén, BO. Multilevel mixture models. Hancock, GR.; Samuelsen, KM., editors. Charlotte, NC: Information Age Publishing Inc; 2008.
- Baron RM, Kenny DA. The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*. 1986; 51:1173–1182. [PubMed: 3806354]
- Berger BE, Ferrans CE, Lashley FR. Measuring stigma in people with HIV: psychometric assessment of the HIV stigma scale. *Research in Nursing and Health*. 2001; 24:518–529. [PubMed: 11746080]
- Bruce R, Ramirez-Valles J, Campbell RT. Stigmatization, substance use, and sexual risk behavior among Latino gay and bisexual men and transgender persons. *Journal of Drug Issues*. 2008; 38:235–260.
- Bunn JY, Solomon SE, Miller C, Forehand R. Measurement of stigma in people with HIV: A reexamination of the HIV Stigma Scale. *AIDS Education and Prevention*. 2007; 19:198–208. [PubMed: 17563274]
- Campsmith ML, Nakashima AK, Davidson AJ. Self-reported health-related quality of life in persons with HIV infection: results from a multi-site interview project. *Health and Quality of Life Outcomes*. 1:12. [PubMed: 12773200]
- Centers for Disease Control and Prevention. HIV among Gay, Bisexual, and Other Men Who Have Sex with Men. 2011. Retrieved from <http://www.cdc.gov/hiv/topics/msm/index.htm>
- Corrigan PW, Watson AC, Barr L. The self-stigma of mental illness: Implications for self-esteem and self-efficacy. *Journal of Social and Clinical Psychology*. 2006; 8:875–884.
- Corrigan PW, Watson AC. The paradox of self-stigma and mental illness. *Clinical Psychology*. 2002; 9:35–53.
- Courtenay-Quirk C, Wolitski RJ, Parsons JT, Gómez CA. Seropositive Urban Men's Study Team. Is HIV/AIDS stigma dividing the gay community? Perceptions of HIV-positive men who have sex with men. *AIDS Education and Prevention*. 2006; 18:56–67. [PubMed: 16539576]
- Crocker J, Major B. Social stigma and self-esteem: The self-protective properties of stigma. *Psychological Reviews*. 1989; 96:608–630.
- Darrow WW, Montanea JE, Gladwin H. AIDS-related stigma among Black and Hispanic young adults. *AIDS and Behavior*. 2009; 13:1178–1188. [PubMed: 19680800]
- Diaz, RM. In our own backyards: HIV/AIDS stigmatization in the Latino gay community. In: Teunis, N.; Herdt, G., editors. *Sexual inequalities and Social Justice*. Berkeley CA: University of California Press; 2006.
- Diaz, RM.; Ayala, G. Social discrimination and health: The case of Latino gay men and HIV risk. The Policy Institute of the National Gay and Lesbian Task Force; Washington, D.C: 2001.
- Diaz RM, Ayala G, Bein E, Henne J, Marin BV. The impact of homophobia, poverty, and racism on the mental health of gay and bisexual Latino men: Findings from 3 US cities. *American Journal of Public Health*. 2001; 91:927–932. [PubMed: 11392936]
- Dlamini PS, Wantland D, Makoae LN, Chirwa M, Kohi TW, Greeff M, et al. HIV stigma and missed medications in HIV-positive people in five African countries. *AIDS Patient Care and STDs*. 2009; 23:377–387. [PubMed: 19327098]
- Dowshen N, Binns HJ, Garofalo R. Experiences of HIV-related stigma among young men who have sex with men. *AIDS Patient Care and STDs*. 2009; 23:371–376. [PubMed: 19320600]
- Earnshaw VA, Chaudoir SR. From conceptualizing to measuring HIV stigma: a review of HIV stigma mechanism measures. *AIDS and Behavior*. 2009; 13:1160–1177. [PubMed: 19636699]

- Ensel WM, Nan L. The life stress paradigm and psychological distress. *Journal of Health and Social Behaviors*. 1991; 32:321–341.
- Fife BL, Wright ER. The dimensionality of stigma: a comparison of its impact on the self of persons with HIV/AIDS and cancer. *Journal of Health and Social Behaviors*. 2000; 41:50–67.
- Goffman, E. *Stigma*. London: Penguin; 1963.
- Greenwood GL, White EW, Page-Shafer K, Bein E, Osmond DH, Paul J, et al. Correlates of heavy substance use among young gay and bisexual men: The San Francisco young men's health study. *Drug and Alcohol Dependence*. 2001; 61:105–112. [PubMed: 11137274]
- Heckathorn DD. Respondent-driven sampling: A new approach to the study of hidden populations. *Social Problems*. 1997; 44:174–199.
- Heckathorn DD. Respondent-driven sampling II: Deriving valid population estimates from chain-referral samples of hidden populations. *Social Problems*. 2002; 49:11–34.
- Herek GM, Capitanio JP. AIDS stigma and sexual prejudice. *American Behavioral Sciences*. 1999; 42:1126–1143.
- Herek GM, Capitanio JP, Widaman KF. HIV-related stigma and knowledge in the United States: Prevalence and trends, 1991–1999. *American Journal of Public Health*. 2002; 92:371–377. [PubMed: 11867313]
- Illa L, Brickman A, Saint-Jean G, Echenique M, Metsch L, Eisdorfer C, Bustamante-Avellaneda V, Sanchez-Martinez M. Sexual risk behaviors in late middle age and older HIV seropositive adults. *AIDS and Behavior*. 2008; 12:935–942. [PubMed: 18404364]
- Kalichman SC, Nachimson D. Self-efficacy and disclosure of HIV-positive serostatus to sex partners. *Health Psychology*. 1999; 18:281–287. [PubMed: 10357509]
- Larios SE, Davis JN, Gallo LC, Heinrich J, Talavera G. Concerns about stigma, social support, and quality of life in low-income HIV-positive Hispanics. *Ethnicity & Disease*. 2009; 19:65–70. [PubMed: 19341165]
- Lei PW. Evaluating estimation methods for ordinal data in structural equation modeling. *Quality and Quantity*. 2009; 43:495–507.
- Link BG, Struening EL, Rahav M, Phelan JC, Nuttbrock L. On stigma and its consequences: Evidence from a longitudinal study of men with dual diagnoses of mental illness and substance abuse. *Journal of Health and Social Behaviors*. 1997; 38:177–190.
- Marin G, Sabogal F, Marin BV, Otero-Sabogal R, Perez-Stable EJ. Development of a short acculturation scale for Hispanics. *Hispanic Journal of Behavioral Sciences*. 1987; 9:183–205.
- Meng XI, Rosenthal R, Rubin DB. Comparing correlated correlation coefficients. *Psychological Bulletin*. 1992; 111:172–175.
- Meyer IH. Minority stress and mental health in gay men. *Journal of Health and Social Behaviors*. 2005; 36:38–56.
- Muthén, LK.; Muthén, BO. *Mplus User's Guide*. 5. Los Angeles, CA: Muthén & Muthén; 2007.
- Parker R, Aggleton P. HIV and AIDS-related stigma and discrimination: A conceptual framework and implications for action. *Social Sciences & Medicine*. 2003; 57:13–24.
- Poppen PJ, Reisen CA, Zea MC, Bianchi FT, Echeverry JJ. Predictors of unpredicted anal intercourse among HIV-positive Latino gay and bisexual men. *AIDS and Behavior*. 8:379–389. [PubMed: 15690111]
- Ramirez-Valles, J. "I Don't Fit Anywhere": How race and sexuality shape Latino gay men's health. In: Meyer, IH.; Northridge, ME., editors. *The Health of Sexual Minorities: Public health Perspectives on Lesbian, Gay, Bisexual, and Transgender Populations*. New York: Springer-Verlag; 2007.
- Ramirez-Vales, J. *Compañeros: Latino Activists in the Face of AIDS*. University of Illinois Press; Champagne, IL: 2011.
- Ramirez-Valles J, Fergus S, Reisen CA, Poppen PJ, Zea MC. Confronting stigma: Community involvement and psychological well-being among HIV-positive Latino gay men. *Hispanic Journal of Behavioral Sciences*. 2005; 27:101–119.
- Ramirez-Valles J, Heckathorn DD, Vázquez R, Diaz RM, Campbell RT. The fit between theory and data in respondent-driven sampling: Response to Heimer. *AIDS and Behavior*. 2005; 9:409–414.

- Ramirez-Valles J, Kuhns L, Diaz R, Campbell D. The moderating effects of community involvement on health: Stigmatization and sexual risk among Latino sexual minorities. *Journal of Health and Social Behaviors*. 2010; 51:30–47.
- Rao D, Hahn EA, Cella D, Hernandez L. The health related quality of life outcomes of English and Spanish speaking persons living with HIV/AIDS from the continental United States and Puerto Rico. *AIDS Patient Care and STDs*. 2009; 21:339–346. [PubMed: 17518526]
- Rongkavilit C, Wright K, Chen X, Naar-King S, Chuenyam T, Phanuphak P. HIV stigma, disclosure and psychological distress among Thai youth living with HIV. *International Journal of STDs and AIDS*. 2010; 21:126–132.
- Rosenberg, M. *Society and adolescent self-image*. Princeton, NJ: Princeton University Press; 1965.
- Sayles JN, Hays RD, Sarkisian CA, Mahajan AP, Spritzer KL, Cunningham WE. Development and psychometric assessment of a multidimensional measure of internalized HIV stigma in a sample of HIV-positive adults. *AIDS and Behavior*. 2008; 12:748–758. [PubMed: 18389363]
- Smit PJ, Brady M, Carter M, Fernandes R, Lamore L, Meulbroek M, et al. HIV-related stigma within communities of gay men: A literature review. *AIDS Care: Psychological and Socio-medical aspects of AIDS/HIV*. 2012; 24:405–412.
- Swendeman, D.; Comulada, W.; Lee, M.; Rotheram-Borus, M. The impact of stigma on the adjustment of young HIV+ persons. Poster presentation at the International Conference on AIDS; Barcelona, Spain. 2002.
- Thompson B, Daniel LG. Factor analytic evidence for the construct validity of scores: A historical overview and some guidelines. *Educational and Psychological Measurement*. 1996; 56:197–208.
- Valencia-Garcia D, Starks H, Strick L, Simoni JM. After the fall from grace: negotiation of new identities among HIV-positive women in Peru. *Culture, Health, and Sexuality*. 2008; 10:739–752.
- Vidrine DJ, Amick BC, Gritz ER, Arduino RC. Functional status and overall quality of life in a multiethnic HIV-positive population. *AIDS Patient Care and STDs*. 2003; 17:187–197. [PubMed: 12737642]
- Wolitski RJ, Pals SL, Kidder DP, Courtenay-Quirk C, Holtgrave DR. The effects of HIV stigma on health, disclosure of HIV status, and risk behavior of homeless and unstably housed persons living with HIV. *AIDS and Behavior*. 2009; 13:1222–1232. [PubMed: 18770023]
- Zea MC, Reisen CA, Poppen PJ, Bianchi FT. Unprotected anal intercourse among Latino MSM: The role of characteristics of the person and the sexual encounter. *AIDS and Behavior*. 2009; 13:700–715. [PubMed: 19030982]

Table 1

Descriptive information for study variables in Latino gay/bisexual men and transgender women (N = 170).

Characteristics	Chicago (n = 56)	San Francisco (n = 112)	Total (N = 170)
	Mean (SD)	Mean (SD)	Range
Age	40.3 (8.2)	39.6 (7.9)	39.8 (7.9) 21–59
Acculturation ^a	2.88 (0.86)	2.77 (1.01)	2.81 (0.96) 1–5
Age when arrived in U.S.	18.70 (9.50)	24.68 (9.09)	22.83 (9.58) 1–46
Years of HIV+	16.50 (6.10)	15.40 (5.60)	15.80 (5.80) 7–31
HIV attitudes ^b	1.51 (0.45)	1.53 (0.53)	1.53 (0.50) 1–4
Self-esteem ^b	2.15 (0.26)	2.14 (0.24)	2.14 (0.25) 1.60–2.90
Safe sex self-efficacy ^b	2.70 (0.45)	2.64 (0.45)	2.66 (0.45) 1–4
Social Support ^b	2.48 (0.37)	2.62 (0.34)	2.57 (0.35) 1.60–3.70
Alcohol-quantity frequency index	29.18 (88.37)	7.71 (27.50)	14.86 (56.37) 0–480
	Percents (n)		
Nationality			
US (including Puerto Rico)	25 (44%)	20 (18%)	45 (26%)
Other	32 (56%)	93 (82%)	125 (74%)
Education			
Less than high school	18 (32%)	34 (30%)	52 (31%)
High school/GED	20 (34%)	23 (20%)	43 (25%)
Technical/vocational school	0 (0%)	11 (10%)	11 (7%)
Some college	9 (16%)	24 (21%)	33 (19%)
College degree	8 (14%)	18 (16%)	26 (15%)
Graduate degree	2 (4%)	3 (3%)	5 (3%)
Employment			
Full-time	16 (28%)	15 (14%)	31 (18%)
Part-time/Unemployed/Other	41 (82%)	97 (86%)	138 (82%)
Self-identification			
Gay/homosexual/queer	47 (82%)	89 (79%)	136 (80%)

Characteristics	Chicago (n = 56)	San Francisco (n = 112)	Total (N = 170)	Range	
				Mean (SD)	
Bisexual	5 (9%)	10 (9%)	15 (9%)		
Transgender	5 (9%)	14 (12%)	19 (11%)		
AIDS diagnosis					
Yes	23 (40%)	70 (63%)	93 (55%)		
No	34 (60%)	42 (37%)	76 (45%)		
Drug Use					
No drugs	24 (42%)	51 (45%)	75 (44%)		
One drug	14 (25%)	27 (24%)	41 (24%)		
Multiple drugs	19 (33%)	35 (31%)	54 (32%)		

^a Anchors for acculturation are as follows: 1 = In Spanish only, 2 = In Spanish mostly, 3 = In Spanish and English equally, 4 = In English mostly, 5 = In English Only, or 6 = Other.

^b Anchors: 1 = Strong Disagree, 2 = Disagree, 3 = Agree, and 4 = Strong Agree.

Table 2

Factor loadings for three Exploratory Factor Analyses for HIV/AIDS stigma (n= 170).

Items	Loadings on stigma factors (SE)					M	SD
	EFA1	EFA2	EFA3	General enacted HIV/AIDS Stigma (SE)	Romantic and sexual enacted HIV/AIDS stigma (SE)		
I am embarrassed to tell others that I have HIV/AIDS.	.71 (.04)					2.34	1.04
I feel that I am at least partially to blame for having HIV/AIDS.	.69 (.04)					2.37	1.01
Having HIV/AIDS makes me feel that I am not as good as others.	.79 (.03)					1.88	0.98
I sometimes feel ashamed of having HIV/AIDS.	.90 (.02)					2.09	1.04
I feel that I have let my family down by having HIV/AIDS.	.84 (.02)					2.19	1.07
I am embarrassed by the way that HIV/AIDS makes me look.	.78 (.03)					2.12	0.99
I do not feel as capable as others because I have HIV/AIDS.	.70 (.04)					2.08	1.05
I feel that I am a burden to others because I have HIV/AIDS.	.79 (.03)					1.79	0.90
People don't want to hug/kiss/touch people with HIV/AIDS.		.79 (.03)				2.50	1.00
People believe those with HIV/AIDS should be isolated from society.		.84 (.02)				2.26	0.98
People don't want to be friends with someone with HIV/AIDS.		.83 (.02)				2.38	1.01
People don't want to date someone with HIV/AIDS.		.81 (.03)				2.62	0.99
People will end a relationship if the partner has HIV/AIDS.		.85 (.02)				8.67	1.01
People don't want to live with someone with HIV/AIDS.		.92 (.01)				2.61	0.99
People don't want their children around someone with HIV/AIDS.		.92 (.01)				2.65	1.01
People believe workers/volunteers in HIV service have HIV/AIDS.		.84 (.02)				2.52	1.00
Employers don't want an employee with HIV/AIDS.		.85 (.02)				2.56	1.00
People don't want to work with someone with HIV/AIDS.		.85 (.02)				2.55	0.97
People believe you get HIV/AIDS because you want to.		.74 (.04)				2.23	1.04
People believe those with HIV/AIDS are promiscuous/drug users.		.81 (.03)				2.65	0.98
People believe having HIV/AIDS is punishment for being gay.		.85 (.02)				2.49	1.06
People believe gays to blame for the spread of HIV/AIDS.		.89 (.02)				2.61	1.09
People believe those with HIV/AIDS are a burden to society.		.89 (.02)				2.52	1.06
Some friends have grown more distant from me after they learned I have HIV/AIDS.				0.76 (0.04)	-0.01(0.03)	2.02	1.04

Items	Loadings on stigma factors (SE)			M	SD
	EFA1	EFA2	EFA3		
	Internalized HIV/AIDS stigma (SE)	Perceived HIV/AIDS stigma (SE)	General enacted HIV/AIDS Stigma (SE)	Romantic and sexual enacted HIV/AIDS stigma (SE)	
I have encountered embarrassing situations because I have HIV/AIDS.		0.73 (0.07)	0.05 (0.08)	2.04	0.96
People treat me differently when they find out I have HIV/AIDS.		0.84 (0.04)	0.02 (0.06)	2.29	1.03
My friends would rather not talk about my HIV status.		0.92 (0.07)	-0.21 (0.08)	2.25	1.01
My family would rather not know about my HIV status.		0.84 (0.09)	-0.41 (0.12)	2.21	1.12
Changes in my appearance have negatively affected my relationship with others.		0.88 (0.08)	-0.30 (0.10)	1.94	0.95
Some people act as though it is my fault that I have HIV/AIDS.		0.83 (0.05)	0.02 (0.06)	2.19	1.03
I regret having told some people that I have HIV/AIDS.		0.67 (0.07)	0.06 (0.08)	2.32	1.07
I have had to move away from friends and/or family, because I have HIV/AIDS.		0.63 (0.08)	0.09 (0.10)	1.96	1.04
People have not wanted to have sex with me because I am HIV positive.		0.07 (0.07)	0.83 (0.07)	2.35	1.04
People have not wanted to date me or get romantically involved because of my HIV status.		0.004 (0.003)	1.02 (0.03)	2.33	1.07
I have been treated with less respect because I have HIV/AIDS.		0.65 (0.07)	0.19 (0.08)	1.88	0.92
I sometimes feel useless because of my illness.		0.67 (0.08)	0.10 (0.10)	1.94	1.00

Note. For these three exploratory factor analyses, we employed WLSMV estimation and

Table 3

Correlations among HIV/AIDS stigma, attitudes towards PLWHA, and homosexual stigma (N=170).

Variable	1	2	3	4	5	6	7
1. Internalized HIV/AIDS stigma	--						
2. Perceived HIV/AIDS stigma	.39*	--					
3. General enacted HIV/AIDS stigma	.71*	.55*	--				
4. Romantic and sexual enacted HIV stigma	.37*	.54*	.55*	--			
5. Attitudes towards PLWHA	.43 ^a *	.30 ^a *	.36 ^a *	.15 ^b *	--		
6. Enacted homosexual stigma	.29 ^a *	.25 ^a *	.45 ^b *	.24 ^a *	.11	--	
7. Perceived homosexual stigma	.29 ^a *	.65 ^b *	.37 ^c *	.44 ^{a,c} *	.20 [*]	.23 [*]	--
8. Internalized homosexual stigma	.63 ^a *	.20 ^b *	.48 ^c *	.11	.45 [*]	.26 [*]	.20 [*]

Note. Correlation coefficients that do not share the same subscripts differ at $p < .05$. For example, the association of internalized homosexual stigma to internalized HIV/AIDS stigma is significantly stronger than the association between perceived homosexual stigma to internalized homosexual stigma.

* $p < .05$

Table 4

Relationships between HIV/AIDS stigma, alcohol use, drug use, self-esteem, self-efficacy, and social support (N=170).

Stigma dimension ¹	Alcohol use (AQFI)	Drug use	Self-esteem	Safe sex self-efficacy	Social support
Internalized	.02	.18*	-.41*	-.28*	-.35*
Perceived	-.03	.07	-.06	-.03	-.08
Generalized enacted	-.02	.19*	-.28*	-.21*	-.36*
Romantic and sexual enacted	-.02	.24**	-.11	-.08	-.10

Notes.

¹The following covariates were included when conducting partial correlations: age, education, place of birth, city of residence, and years of HIV diagnosis.

* *p* .05

Table 5

Multiple regression models on the relationships among enacted and internalized HIV/AIDS stigma, self-esteem, safe sex self-efficacy, social support, and drug use (N=160–170).

Stigma dimension	Outcomes											
	Self-esteem			Safe sex self-efficacy			Social support			Drug use		
	Step 2	Step 3	Step 2	Step 3	Step 2	Step 3	Step 2	Step 3	Step 2	Step 3	Step 2	Step 3
Romantic and sexual enacted	--	--	--	--	--	--	--	--	--	.51**	.43**	.40
Generalized enacted	-.34***	.02	-.24**	-.06	-.43***	-.31**	.49**	.40	.20/	.15 ²		
Internalized	--	-.43***	--	-.25*	--	-.17	--	--	--	--	--	--

Note. In all models, covariates were included first, second generalized enacted HIV/AIDS stigma (Step 2), and third internalized HIV/AIDS stigma (Step 3). For drug use, there were two ordinal regression models.

¹ Coefficient for model including romantic and sexual enacted HIV/AIDS stigma.

² Coefficient for model including generalized enacted HIV/AIDS stigma.

* $p < .05$,

** $p < .01$,

*** $p < .0001$