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It Gets Better: Resolution of Internalized Homophobia over Time and Associations with Positive Health Outcomes among MSM

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Abstract

Health disparities research among gay and bisexual men has focused primarily on risk and deficits. However, a focus on resiliencies within this population may greatly benefit health promotion. We describe a pattern of resilience (internalized homophobia (IHP) resolution) over the life-course and its associations with current health outcomes. 1,541 gay and bisexual men from the Multi-Center AIDS Cohort study, an ongoing prospective study of the natural and treated histories of HIV, completed a survey about life-course events thought to be related to health. The majority of men resolved IHP over time independent of demographics. Men who resolved IHP had significantly higher odds of positive health outcomes compared to those who did not. These results provide evidence of resilience among participants that is associated with positive health outcomes. Understanding resiliencies and incorporating them into interventions may help to promote health and well-being among gay and bisexual men.

Keywords

Gay men's health; Resilience; Internalized Homophobia; MSM Health Promotion; Syndemics

Introduction

Culturally-defined disadvantage and deficit have been dominant themes underlying research documenting health disparities among gay and bisexual men (1-3). The design of public health interventions have paralleled this deficit-based approach in an attempt to raise levels of health among gay and bisexual men by eliminating or diminishing problematic behaviors or contexts. For example, many studies have identified substance use as a key predictor of

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HIV sexual risk behavior in samples of gay and bisexual men (4-7). Prevention interventions that follow from this evidence base logically attempt to reduce levels of substance use in an effort to positively impact sexual risk taking behaviors. This approach follows the traditional epidemiological process of first identifying risk factors for a negative health outcome and then attempting to diminish said outcome by eliminating or reducing those risk factors. While this approach has led to impressive strides in public health generally, and HIV prevention specifically(8), it ignores an important part of the picture. An overwhelming focus on deficits among gay and bisexual men predisposes prevention efforts to ignore the strong body of evidence for resilience that also exists in this population (9-12); evidence that may be just as useful, if not more useful, in designing interventions to address health disparities. In keeping with the previous example, if more information was known about how at-risk individuals avoid substance abuse, or how individuals are able to prevent substance abuse from impacting sexual risk behaviors, we may be able to incorporate these protective mechanisms into interventions designed to prevent negative health outcomes.

Resilience is defined as the ability to overcome the negative consequences that result from exposure to risk or avoidance of the negative outcomes despite such risk exposure (13). Thus, resilience is not simply healthy development, but healthy development in the face of adversity. Trajectories of healthy development result from the presence of protective factors or protective processes that exist despite adverse conditions (14-16). While the goal of measuring and understanding resilience has been a goal of positive psychology for the past four decades(17), this line of research is only now being applied to the investigation of resilience among gay and bisexual men. As it is now becoming increasingly well-known, gay and bisexual men face great adversity – particularly during adolescent development - due to their sexual minority status, they may be a population well suited to the application of resilience theory. For example, in a meta-analysis of childhood victimization, Friedman, et al, found that sexual minority youth were on average 3.8, 1.2, and 1.7, times more likely to experience sexual abuse, parental physical abuse, or assault at school, respectively(18). Further, using results from a national probability sample, Herek, et all, found that one in five sexual minorities experienced a person or property crime based on their sexual orientation(19). In spite of pervasive exposure to adversity, there is evidence that great strengths exist among this population. For example, the presence of supportive social relationships has repeatedly been shown to lower sexual risk taking among MSM (20-22). Similarly, positive community norms pertaining to condom use have been found to increase individual level condom use (23, 24).

Even where there has been a lack of deliberate inquiry into resilience theory, substantial data exist to show that large numbers of gay and bisexual men are able to quit smoking (10), to avoid stimulant drug use, or if they use, to resolve stimulant drug use careers (25), to practice safer sex and remain HIV negative well into later life (26, 27), or if HIV positive, to adhere to difficult medical regimens for long periods of time (28). These findings, among many others not predictable under a deficit framework, may lend evidence which can be used in building effective interventions to improve health among gay and bisexual men. Strategies that gay and bisexual men have already devised to avoid or resolve health problems might conceivably be taught as part of interventions to support greater resiliency to poor health outcomes within broader gay and bisexual male populations. Thus, research that identifies resiliencies exhibited by gay and bisexual men may provide important clues to aid the design of interventions that will improve levels of health within this population.

This paper will describe an example of resilience defined as movement towards greater health among gay and bisexual men in terms of the resolution of high levels of internalized homophobia over the life course. Internalized homophobia is the experience of negative feelings toward oneself as result of internalizing negative messages surrounding

homosexuality that are pervasive in mainstream society (29). Internalized homophobia can also be the result of direct personal attacks and gay related victimization (19, 30). Internalized homophobia has been shown to be associated with a set of health problems among gay and bisexual men including depression and anxiety (31), eating disorders (32), relationship problems (33), sexual compulsivity (34), substance use (35), high risk sexual behaviors(36) and syndemic production (i.e. the co-occurrence or snowballing of negative psychosocial health conditions)(37). Additionally, internalized homophobia can reasonably be considered a serious mental health problem in its own right as it directly impacts an individual's self-concept and sense of self-worth. We describe the patterns of resolution of high levels of internalized homophobia among gay and bisexual men over time and investigate the associations that this resolution has with health outcomes. We then discuss the implications of these associations for designing future health promotion models to improve health among gay and bisexual men.

Methods

Multicenter AIDS Cohort Study

Participants were enrolled in the MACS, an ongoing prospective study of the natural and treated histories of HIV infection among homosexual and bisexual men in the United States. A total of 6972 men were recruited (4954 in 1984–1985, 668 in 1987–1991, and 1350 in 2001–2003) at four centers: Baltimore/Washington DC; Chicago; Los Angeles; and Pittsburgh. The study design has been described previously (38, 39). Only methods relevant to the present substudy are presented.

MACS participants return every 6 months for detailed interviews, physical examinations, and collection of blood for laboratory testing and storage in a central repository. The interview includes questions about medical conditions, medical treatments, sexual behavior, illegal drug use, and cigarette and alcohol consumption since the previous visit. MACS questionnaires are avalable at http://www.statepi.jhsph.edu/macs/forms.html.

Substudy

During two consecutive semiannual visits from April 1, 2008 to March 31, 2009 participants were asked to complete a retrospective survey about events throughout the life-course thought to be related to adult health outcomes(40). All MACS participants who attended either of these two visits were eligible to take part in the substudy; of these, 87% opted to participate. The substudy survey took approximately 30 to 45 minutes to complete and participants were compensated for their time. The study protocol was approved by the institutional review boards of each of the participating centers, their community partners, and community advisory boards. Informed consent was obtained from all participants.

Measures

Sociodemographic Data—Sociodemographic information (Table 1) was obtained from the MACS main study database unless otherwise noted. Age was computed from birth date to the substudy visit date. Race/Ethnicity was based on self-report data collected upon entry into the study. Educational status and income were based on self-report at most recent visit. HIV serostatus was determined using an enzyme-linked immunosorbent assay with confirmatory western blot tests. Decade in which participants were first attracted to men was calculated using an individual's birthdate and self-report of age at which this attraction was first realized.

No/low stimulant use was defined as less than monthly use of crack, methamphetamine, cocaine, and ecstasy since last visit (past 6 months) (0=stimulant use, 1= no/low stimulant

use). No/Low psychological distress was based on current Centers for Epidemiological Survey Depression scale (CES-D), a 20 item scale referring to how you felt and behaved over the previous week, (41) score of 16 or less, Cronbach's alpha=.752 (42). No/low stress was measured using an adapted version of the Urban Life Stressors Scale (ULSS)(43) which asked participants to indicate level of stress (five point Likert from "no stress" to "extreme stress") over the past 12 months related to various daily tasks/conditions (e.g., Job, finances, health, crime, etc.). Participants were coded as having low/no stress if they averaged "no stress" or "a little stress" across all 12 items, Cronbach's Alpha = .964 (44) (0=stress, 1=no/low stress). No/low sexual compulsivity, measured based on an abbreviated version of the Compulsive Sexual Behavior Inventory (45), was a 10 item scale asking participants to indicate how often they felt symptoms of sexual compulsion (five point Likert from "never" to "very frequently") over the past five years (e.g., had trouble controlling sexual urges, missed opportunities for productive and enhancing activities because of your sexual activity, etc.). Participant were coded as having no/low sexual compulsion if they had an averaged "never" or "occasionally" experiencing compulsive behaviors across all 10 items, Cronbach's alpha=.942 (0=compulsivity, 1=low/no compulsivity). No intimate partner violence (IPV) was defined as no reported experiences of physical, mental or emotional abuse on 14 separate items over the past five years perpetrated by a boyfriend or other male sexual partner(46) (0=no IPV, 1=IPV). No unprotected anal intercourse (UAI) was defined as no reported unprotected anal intercourse with a non-main partner since last visit. No syndemic (3, 47, 48), defined as the co-occurrence of four or more of the above mentioned *positive* health conditions (i.e. individuals who do not have two or more of the five *negative* psychosocial health problems in an individual) (0=syndemic, 1= no syndemic).

Early Internalized Homophobia (Early IHP) (29): Participants were asked to retrospectively "think about the period of time when you first realized you were attracted to other men" and answer a 9 item scale indicating level of agreement with statements about sexuality (see Table 1 for specific items). Current Internalized Homophobia (Current IHP): Participants answered the same IHP items later in the survey in a section that specified "think only about the past 12 months". As the survey was designed to follow the life course temporally many other questions (approximately 100) were asked about times between the period when respondents first realized same-sex attraction (early IHP) and current life (current IHP). Thus, respondents were not asked to directly compare their experiences of IHP, but reflected on the two time points independently. In keeping with the way the scale was originally constructed and validated, and because each of the items indicated a fairly profound lack of self-acceptance, participant were labeled as having IHP if they "agreed" or "strongly agreed" with any of the 9 items (0=no IHP, 1= IHP) (Cronbach's' Alphas = .927 and .886, respectively). The IHP scale was used as previously validated (i.e. number of items, order, wording, etc.).

Internalized Homophobia Resolution, the primary outcome variable for this study - indicating individual level resolution of IHP - was created only for persons who had high early IHP (Early IHP=1; N=1,060). Those who did not experience IHP early were excluded from the resolution analyses as they had no reported IHP to resolve. Participants who had IHP currently were coded as failing to resolve (0), and those who did not currently have IHP were coded as having resolved their IHP (1).

Statistical Analysis

A total of 1,551 participants completed the substudy survey and answered the relevant behavioral questions taken from the MACS (e.g., substance use, distress, etc.). Ten men were excluded from analysis because they did not complete the IHP questions, leaving a final analytic sample of 1,541. Listwise deletion was used to handle missing data.

Because the survey was offered at two waves of MACS visits, many of the men opted to complete the survey a second time. This allowed us to examine test-retest reliability of the retrospective IHP measure. Pearson correlations were calculated for each of the 9 IHP items in the original 5 point Likert form, and Kappa statistics were computed for each of the 9 items dichotomize as described above. Only the first administration of the survey was used for the remainder of the analyses.

Chi-square tests were used to evaluate the association of demographic variables with early and current IHP. In the primary analysis, which included only individuals who had early IHP, the association of the IHP resolution variable (1= resolved IHP and 0= continued to have IHP currently) and the absence of high or problematic levels of stimulant use, distress, stress, intimate partner violence, sexual compulsivity, UAI and syndemics were tested using logistic regression adjusting for age, race/ethnicity, income and HIV status. To ensure that the impact of the IHP resolution on outcome variables did not vary by HIV status we reran the regression models with HIV status as an effect modifier by including interaction terms of HIV status × IHP resolution. These analyses, with the interaction term included, allow us to see if HIV status moderates the impact of IHP resolution on health. All statistical analyses were conducted using SPSS Version 18.

Results

Reliability analyses demonstrated that each of the 9 items in the retrospective early IHP scale were significantly correlated from one survey administration to the next in both Likert form (Pearson's correlations range = 0.60 to 0.72) and when dichotomized (Kappa range = .52 to .64). These results can be interpreted to mean that the cohort's recall of early internalized homophobia was quite reliable across the two survey administrations.

Demographic data for the study participants (N=1,541) are presented in Table 2. The majority of the men who participated in the study self-identified as white non-Hispanic (69.9%) and 46 years or older (mean=51.6 years, SD=10.2).

Less than one-third of the sample (30.9%) had no IHP during the period of time when they first realized they were attracted to men. The proportion of men who had no early IHP was significantly different by study sites, decade of first attraction to men and educational status with the percentage of men with high IHP increasing as education level increased. The proportion of men with no IHP in the previous 12 months decreased from early IHP independent of demographic characteristics. A greater proportion of men having IHP who were younger, racial/ethnic minorities, less educated and lower earners compared to those with no IHP.

Table 3 presents the associations between internalized homophobia resolution and health outcomes among the participants. Men who resolved their feelings of internalized homophobia had significantly higher odds of not being distressed, having no or low stress, not experiencing IPV and having no or low sexual compulsivity compared to those who were unable to resolve their internalized homophobia. Men who resolved feelings of internalized homophobia were approximately twice as likely to avoid experiencing syndemics compared to those who continued to have IHP. When HIV status was evaluated as an effect modifier of the association of IHP resolution and positive health outcomes, all interaction effects were non-significant.

Discussion

The data presented show that while MACS participants began their adult lives with high rates of internalized homophobia, most men resolved problematic levels of internalized

homophobia over time. These reductions in IHP are especially impressive given that the vast majority of these men came of age in an historical era in which there was little support for the resolution of internalized homophobia. These men, for the most part, were not exposed to gay/straight alliances, positive media images, the *It Gets Better Project*, or other messaging to promote pride and self-acceptance. Thus, the movement towards IHP reduction, which is movement towards health, can reasonably be seen as a display of naturally occurring resilience among gay and bisexual men.

An interesting finding from this study is the pattern of internalized homophobia related to the historical decade, or cohort, in which these men first recognized an attraction to members of the same sex. First, we found no significant differences in early IHP among the different decades. This suggests that the despite the fact that society has made impressive strides towards becoming more accepting of sexual minorities, this changing context has had no noticeable effect on the way these men perceived themselves when they first realized a same sex attraction. However, the movement towards self-acceptance was not the same for men in each cohort. In fact, men for whom the realization of same sex attraction was most recent had the highest proportion of current IHP. This may be partially the result of having had less time to develop or put in place the protective factors that promote self-acceptance. This trend may also be simply an artifact of the developmental process. Adults have a tendency to rely on internal factors in creating their self-concept whereas youth and young adults put more weight on external cues(49). This pattern has been found to be the same for predicting resilience where individual level factors tend to be the best predictors for adults and interpersonal or community level factors are the most protective for youth and young adults. It is also noteworthy that the substance use outcome variable, unlike the other syndemic conditions evaluated, was not significantly associated with IHP resolution. Although it is unclear why this was the case, it may be in part because the MACS cohort is, on average, substantially older than population estimates of ages at greatest risk for stimulant use, abuse, and dependence(50). In fact, only 6.5% of participants in this study reported greater than monthly use of stimulant drugs, a proportion substantially lower than in most investigations of MSM(51, 52).

The major finding of this study was that men who resolved high levels of internalized homophobia were much less likely to exhibit a particular set of psychosocial health problems. Although this pattern of resolution of internalized homophobia was common among gay and bisexual men in this sample, we know very little about the processes by which these men resolved internalized homophobia or the specific mechanisms by which resolution of internalized homophobia might be associated with positive health outcomes. It is possible that simply resolving IHP had a direct effect on the health behaviors and outcomes of these men. For instance, it has been shown that IHP is related to substance use and poor mental health(29, 53, 54), thus, lower levels of IHP would positively impact these health outcomes in a direct way. Additionally, IHP resolution is likely related to several other protective factors including increased self-esteem and sense of connectedness to sexual minority communities, factors that have been shown previously to be associated with improved health(55, 56). Thus, IHP resolution may be indirectly associated with positive health outcomes as mediated through other resiliency factors. It is unlikely that resolving internalized homophobia *alone* improved the health outcomes of the men who participated in this study. More likely, the strengths that these men possess – in terms of skills, assets, resources, etc. – that allowed them to overcome feelings of internalized homophobia are the same strengths that allowed them to avoid negative health outcomes. Recent qualitative work into resilience among gay and bisexual men has found that identity acceptance, identity consolidation and integration of sexual identity into one's relationships and larger world are important components of resilience(57, 58). The process by which men are able to accomplish these milestones may be very important contributors to resilience. Identifying

and capitalizing on these strengths in the form of prevention interventions may help to improve the health of the men for whom these strengths are more elusive.

Some important limitations of this study must be noted. While the MACS participants were diverse in terms of age, socioeconomic status, race/ethnicity, and geographic region, they may not be representative of all gay and bisexual men living in the US today. As such, the population from which these data were drawn cannot be characterized as representative of the larger population of gay and bisexual men. Replication of this analysis with other samples of gay and bisexual men would strengthen confidence in the findings reported here. The measurement of health outcomes for this study were of inconsistent time frames (i.e. past 5 years versus past 12 months, etc.), thus, the ability to compare the relationship between IHP resolution and each of the outcomes is slightly problematic, as is the construction of the syndemic variable. Additionally, the scale used to measure internalized homophobia categorized men as having IHP or no IHP. However, internalized feelings of shame or inadequacy are much more complex than a dichotomous variable can capture. Thus, men who were defined as having resolved problematic levels of IHP may still be experiencing IHP to a degree that is negatively impacting their lives and their health. Further qualitative work in this area is needed to better understand the impact of IHP on health.

Despite these limitations, the findings presented here suggest that men who are able to draw on resiliencies may be able to avoid the development of serious health problems. However, the process by which gay men develop and exercise resiliencies to avoid health problems is poorly understood. The ability to resolve problematic levels of internalized homophobia is but one example of resiliency among this population, and extant literature points to many other example (9-11, 59). Each example of resilience, including those not yet identified, can suggest targets for research which can, in turn, contribute to resilience-based prevention work. Health research focusing on vulnerabilities among gay and bisexual men, while essential, is limited in terms of understanding the breadth of responses that gay and bisexual men have made to combat health threats. While gay and bisexual men have important vulnerabilities to health problems, they also exhibit significant resiliencies. Further developmental research involving gay and bisexual men who manifest endogenous, or naturally occurring, patterns of resilience might improve the efficacy of our current behavioral intervention armamentarium to improve health outcomes among gay and bisexual men. Understanding the process by which resiliencies occur and finding ways to incorporate these strengths as part of intervention designs may be an important and much needed strategy to augment and improve our current efforts to support and promote health and well-being among gay and bisexual men.

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References

1. Wolitski, RJ.; Stall, R.; Valdiserri, RO. Unequal opportunity : health disparities affecting gay and bisexual men in the United States. New York: Oxford University Press; 2008.
2. Galanter, CA.; Jensen, PS. DSM-IV-TR casebook and treatment guide for child mental health. 1. Washington, DC: American Psychiatric Pub.; 2009.
3. Mustanski B, Garofalo R, Herrick A, Donenberg G. Psychosocial health problems increase risk for HIV among urban young men who have sex with men: preliminary evidence of a syndemic in need of attention. Ann Behav Med. 2007 Jul-Aug;34(1):37–45. [PubMed: 17688395]

4. Drumright LN, Strathdee SA, Little SJ, Araneta MR, Slymen DJ, Malcarne VL, et al. Unprotected anal intercourse and substance use before and after HIV diagnosis among recently HIV-infected men who have sex with men. Sexually Transmitted Diseases. 2007; 34(6):401–7. [PubMed: 17091117]

5. Colfax G, Vittinghoff E, Husnik MJ, McKirnan D, Buchbinder S, Koblin B, et al. Substance use and sexual risk: a participant- and episode-level analysis among a cohort of men who have sex with men. American Journal of Epidemiology [Research Support, U S Gov't, P H S]. 2004 May 15; 159(10):1002–12.

6. Spitzer, RL. DSM-IV-TR casebook : a learning companion to the Diagnostic and statistical manual of mental disorders, Fourth edition, text revision. 1. Washington, DC: American Psychiatric Pub.; 2002.

7. Celentano DD, Valleroy LA, Sifakis F, MacKellar DA, Hylton J, Thiede H, et al. Associations between substance use and sexual risk among very young men who have sex with men. Sexually Transmitted Diseases. 2006 Apr; 33(4):265–71. Multicenter Study Research Support, Non-U S Gov't Research Support, U S Gov't, P H S. [PubMed: 16434886]

8. Herbst JH, Sherba RT, Crepaz N, Deluca JB, Zohrabyan L, Stall RD, et al. A meta-analytic review of HIV behavioral interventions for reducing sexual risk behavior of men who have sex with men. J Acquir Immune Defic Syndr. 2005 Jun 1; 39(2):228–41. [PubMed: 15905741]

9. Wei C, Raymond HF, Wong FY, Silvestre AJ, Friedman MS, Documét P, et al. Lower HIV Prevalence Among Asian/Pacific Islander Men Who Have Sex with Men: A Critical Review for Possible Reasons. AIDS and Behavior. :1–15.

10. Greenwood GL, Paul JP, Pollack LM, Binson D, Catania JA, Chang J, et al. Tobacco use and cessation among a household-based sample of US urban men who have sex with men. Am J Public Health. 2005 Jan; 95(1):145–51. [PubMed: 15623875]

11. Varghese B, Maher JE, Peterman TA, Branson BM, Steketee RW. Reducing the risk of sexual HIV transmission: quantifying the per-act risk for HIV on the basis of choice of partner, sex act, and condom use. Sexually Transmitted Diseases. 2002; 29(1):38. [PubMed: 11773877]

12. Gonzalez JS, Penedo FJ, Antoni MH, Duran RE, McPherson-Baker S, Ironson G, et al. Social support, positive states of mind, and HIV treatment adherence in men and women living with HIV/AIDS. Health Psychology. 2004 Jul; 23(4):413–8. Research Support, U S Gov't, P H S. [PubMed: 15264978]

13. Fergus S, Zimmerman MA. Adolescent resilience: a framework for understanding healthy development in the face of risk. Annu Rev Public Health. 2005; 26:399–419. [PubMed: 15760295]

14. Masten AS. Resilience in developing systems: progress and promise as the fourth wave rises. Development and psychopathology. 2007 Summer;19(3):921–30. Research Support, N I H, Extramural Research Support, Non-U S Gov't Research Support, U S Gov't, Non-P H S Review. [PubMed: 17705908]

15. Masten AS. Regulatory processes, risk, and resilience in adolescent development. Ann N Y Acad Sci [Review]. 2004 Jun.1021:310–9.

16. Luthar SS, Sawyer JA, Brown PJ. Conceptual issues in studies of resilience: past, present, and future research. Ann N Y Acad Sci [Research Support, N I H, Extramural Research Support, Non-U S Gov't Review]. 2006 Dec.1094:105–15.

17. Masten AS, Reed MGJ. Resilience in development. Handbook of positive psychology. 2002:74–88.

18. Friedman MS, Marshal MP, Guadamuz TE, Wei C, Wong CF, Saewyc E, et al. A Meta-Analysis of Disparities in Childhood Sexual Abuse, Parental Physical Abuse, and Peer Victimization Among Sexual Minority and Sexual Nonminority Individuals. American Journal of Public Health. 2011; 101(8):1481. [PubMed: 21680921]

19. Herek GM. Hate crimes and stigma-related experiences among sexual minority adults in the United States: prevalence estimates from a national probability sample. J Interpers Violence. 2009 Jan; 24(1):54–74. [PubMed: 18391058]

20. Lauby JL, Marks G, Bingham T, Liu KL, Liau A, Stueve A, et al. Having supportive social relationships is associated with reduced risk of unrecognized HIV infection among black and

Latino men who have sex with men. AIDS and Behavior. 2012; 16(3):508–15. [PubMed: 21805191]

21. Forney JC, Miller RL. Risk and protective factors related to HIV-risk behavior: a comparison between HIV-positive and HIV-negative young men who have sex with men. AIDS Care. 2012; 24(5):544–52. [PubMed: 22292776]
22. Mimiaga MJ, Reisner SL, Cranston K, Isenberg D, Bright D, Daffin G, et al. Sexual mixing patterns and partner characteristics of black MSM in Massachusetts at increased risk for HIV infection and transmission. Journal of Urban Health. 2009; 86(4):602–23. [PubMed: 19466554]
23. Peterson J, Rothenberg R, Kraft J, Beeker C, Trotter R. Perceived condom norms and HIV risks among social and sexual networks of young African American men who have sex with men. Health Education Research. 2009; 24(1):119–27. [PubMed: 18281710]
24. Miner MH, Peterson JL, Welles SL, Jacoby SM, Rosser BRS. How do social norms impact HIV sexual risk behavior in HIV-positive men who have sex with men? Multiple mediator effects. Journal of Health Psychology. 2009; 14(6):761–70. [PubMed: 19687113]
25. Lim SH, Ostrow D, Stall R, Chmiel J, Herrick A, Shoptaw S, et al. Changes in Stimulant Drug Use Over Time in the MACS: Evidence for Resilience Against Stimulant Drug Use Among Men Who Have Sex with Men. AIDS and Behavior. :1–8.
26. Guzman R, Colfax GN, Wheeler S, Mansergh G, Marks G, Rader M, et al. Negotiated safety relationships and sexual behavior among a diverse sample of HIV-negative men who have sex with men. Journal of Acquired Immune Deficiency Syndromes: JAIDS. 2005; 38(1):82–6.
27. Truong, H.; McFarland, W.; Kellogg, T.; Dilley, J., editors. Increases in “Serosorting” May Prevent Further Expansion of the HIV Epidemic among MSM in San Francisco. 2004.
28. Hinkin CH, Hardy DJ, Mason KI, Castellon SA, Durvasula RS, Lam MN, et al. Medication adherence in HIV-infected adults: effect of patient age, cognitive status, and substance abuse. AIDS. 2004 Jan 1; 18(Suppl 1):S19–25. [PubMed: 15075494]
29. Herek G, Cogan J, Gillis J, Glunt E. Correlates of internalized homophobia in a community sample of lesbians and gay men. JOURNAL-GAY AND LESBIAN MEDICAL ASSOCIATION. 1998; 2:17–26.
30. Friedman MS, Marshal MP, Stall R, Cheong J, Wright ER. Gay-related development, early abuse and adult health outcomes among gay males. AIDS Behav. 2008 Nov; 12(6):891–902. [PubMed: 17990094]
31. American Psychiatric Association. Electronic DSM-IV-TR plus. Washington, D.C.: American Psychiatric Association; 2000.
32. Wiseman MC, Moradi B. Body image and eating disorder symptoms in sexual minority men: A test and extension of objectification theory. J Couns Psychol. Apr; 57(2):154–66. [PubMed: 21133567]
33. Frost DM, Meyer IH. Internalized Homophobia and Relationship Quality among Lesbians, Gay Men, and Bisexuals. J Couns Psychol. 2009 Jan; 56(1):97–109. [PubMed: 20047016]
34. Dew BJ, Chaney MP. The relationship among sexual compulsivity, internalized homophobia, and HIV at-risk sexual behavior in gay and bisexual male users of Internet chat rooms. Sexual Addiction & Compulsivity. 2005; 12(4):259–73.
35. Lehavot K, Simoni JM. The impact of minority stress on mental health and substance use among sexual minority women. Journal of Consulting and Clinical Psychology. 79(2):159. [PubMed: 21341888]
36. Meyer HI, Dean L. Patterns of sexual behavior and risk taking among young New York City gay men. AIDS Education and Prevention. 1995
37. Herrick A, Lim SH, Plankey M, Chimel J, Guadamuz T, Kao U, et al. Adversity and Syndemic Production among Men Participating in the MACS: A Life-Course Approach. American Journal of Public Health. In Press.
38. Kaslow RA, Ostrow DG, Detels R, Phair JP, Polk BF, Rinaldo CR Jr. The Multicenter AIDS Cohort Study: rationale, organization, and selected characteristics of the participants. Am J Epidemiol. 1987 Aug; 126(2):310–8. [PubMed: 3300281]
39. Dudley J, Jin S, Hoover D, Metz S, Thackeray R, Chmiel J. The Multicenter AIDS Cohort Study: retention after 9 1/2 years. Am J Epidemiol. 1995 Aug 1; 142(3):323–30. [PubMed: 7631636]

40. Stall R, Friedman M, Catania J. Interacting epidemics and gay men's health: a theory of syndemic production among urban gay men. Unequal Opportunity: Health Disparities Affecting Gay and Bisexual Men in the United States. 2007:251.
41. Radloff LS. The Ces-D scale. Applied psychological measurement. 1977; 1(3):385.
42. Ostrow DG, Monjan A, Joseph J, VanRaden M, Fox R, Kingsley L, et al. HIV-related symptoms and psychological functioning in a cohort of homosexual men. Am J Psychiatry. 1989 Jun; 146(6): 737–42. [PubMed: 2658626]
43. Miller RF, Allen E, Copas A, Singer M, Edwards SG. Improved survival for HIV infected patients with severe Pneumocystis jirovecii pneumonia is independent of highly active antiretroviral therapy. Thorax. 2006 Aug; 61(8):716–21. [PubMed: 16601092]
44. Jaffee KD, Liu GC, Canty-Mitchell J, Qi RA, Austin J, Swigonski N. Race, urban community stressors, and behavioral and emotional problems of children with special health care needs. Psychiatr Serv. 2005 Jan; 56(1):63–9. [PubMed: 15637194]
45. Miner MH, Coleman E, Center BA, Ross M, Rosser BR. The compulsive sexual behavior inventory: psychometric properties. Arch Sex Behav. 2007 Aug; 36(4):579–87. [PubMed: 17192832]
46. Catania JA, Osmond D, Stall RD, Pollack L, Paul JP, Blower S, et al. The continuing HIV epidemic among men who have sex with men. American Journal of Public Health. 2001 Jun; 91(6):907–14. Research Support, U S Gov't, P H S. [PubMed: 11392933]
47. CDC. Centers for Disease Control and Prevention. [2009 July] 2009. Available from: http://www.cdc.gov/syndemics/. http://www.cdc.gov/syndemics/
48. Stall R, Mills TC, Williamson J, Hart T, Greenwood G, Paul J, et al. Association of co-occurring psychosocial health problems and increased vulnerability to HIV/AIDS among urban men who have sex with men. American Journal of Public Health. 2003 Jun; 93(6):939–42. Research Support, U S Gov't, P H S. [PubMed: 12773359]
49. Fergus S, Zimmerman MA. Adolescent Resilience: A Framework for. Annu Rev Public Health. 2005; 26:399–419. [PubMed: 15760295]
50. Compton WM, Thomas YF, Stinson FS, Grant BF. Prevalence, correlates, disability, and comorbidity of DSM-IV drug abuse and dependence in the United States: results from the national epidemiologic survey on alcohol and related conditions. Arch Gen Psychiatry. 2007 May; 64(5): 566–76. Comparative Study Research Support, N I H, Intramural. [PubMed: 17485608]
51. Stall R, Paul JP, Greenwood G, Pollack LM, Bein E, Crosby GM, et al. Alcohol use, drug use and alcohol-related problems among men who have sex with men: the Urban Men's Health Study. Addiction. 2001 Nov; 96(11):1589–601. [PubMed: 11784456]
52. Stall R, Wiley J. A comparison of alcohol and drug use patterns of homosexual and heterosexual men: the San Francisco Men's Health Study. Drug Alcohol Depend. 1988 Oct; 22(1-2):63–73. [PubMed: 3266145]
53. Herek GM, Cogan JC, Gillis JR, Glunt EK. Correlates of internalized homophobia in a community sample of lesbians and gay men. JOURNAL-GAY AND LESBIAN MEDICAL ASSOCIATION. 1998; 2:17–26.
54. Luthar SS, Zigler E. Vulnerability and competence: a review of research on resilience in childhood. Am J Orthopsychiatry. 1991 Jan; 61(1):6–22. Research Support, Non-U S Gov't Research Support, U S Gov't, P H S Review. [PubMed: 2006679]
55. Rosario M, Schrimshaw EW, Hunter J. A model of sexual risk behaviors among young gay and bisexual men: longitudinal associations of mental health, substance abuse, sexual abuse, and the coming-out process. AIDS Educ Prev. 2006 Oct; 18(5):444–60. [PubMed: 17067255]
56. Ramirez-Valles J. The protective effects of community involvement for HIV risk behavior: a conceptual framework. Health Educ Res. 2002 Aug; 17(4):389–403. [PubMed: 12197585]
57. DiFulvio G. Sexual minority youth, social connection and resilience: From personal struggle to collective identity. Social Science & Medicine. 2011
58. Knoble NB, Linville D. Outness and Relationship Satisfaction in Same-Gender Couples. Journal of Marital and Family Therapy. 2010

59. Gonzalez JS, Penedo FJ, Antoni MH, Durán RE, McPherson-Baker S, Ironson G, et al. Social support, positive states of mind, and HIV treatment adherence in men and women living with HIV/AIDS. Health Psychology. 2004; 23(4):413. [PubMed: 15264978]

Table 1

Nine items from the Internalized Homophobia Scale(29) and proportion of men in the MACS (N=1541) who "agreed" or "strongly agreed" with each item in regards to two life stages.

	Time 1 %	Time 2 %
1. I tried to stop being attracted to men in general.	35.9	5.6
2. If someone had offered me the chance to be completely heterosexual, I would have accepted the chance.	43.9	12.1
3. I wished I weren't attracted to men.	39.2	10.0
4. I felt that being gay/bisexual was a personal shortcoming for me.	42.7	9.0
5. I wanted to get professional help in order to change my sexual orientation to heterosexual.	14.5	3.4
6. I tried to become more sexually attracted to women.	38.7	5.3
7. I often felt it best to avoid personal or social involvement with other gay/bisexual men.	27.5	7.4
8. I felt alienated from myself because of being gay/bisexual.	30.8	6.1
9. I wished that I could have developed more erotic feelings about women.	40.1	8.2

Time 1 is retrospective reflection of "time you first realized you were attracted to other men. Time 2= past 12 months.

Table 2

Demographics of overall sample (n=1,551), and proportion of men with no Internalized Homophobia (IHP) early (during the period of time when they first realized they were attracted to men) and no IHP currently.

(N=1,541)	Overall Sample N (%)	No IHP (Early) %	χ^2	No IHP (Currently) %	χ^2
Age			0.62		29.92**
20 to 35	104 (6.7)	32.7		69.2	
36 to 45	209 (18.8)	30.3		66.6	
46 to 55	587 (38.1)	30.0		80.2	
56+	560 (36.3)	31.8		80.9	
Study Site			12.16*		6.52
Baltimore	394 (25.6)	27.4		81.7	
Chicago	281 (18.2)	38.4		75.8	
Los Angeles	462 (30.0)	27.9		75.3	
Pittsburgh	404 (26.2)	32.4		75.7	
Race/ethnicity			2.43		96.56**
White, Non-Hispanic	1,077 (69.9)	30.6		83.8	
Hispanic	145 (9.5)	31.0		62.1	
African American	300 (19.5)	30.7		60.3	
Other	19 (1.2)	47.4		78.9	
Educational status			17.03*		56.22**
High school or less	215 (13.9)	37.7		58.6	
Some College	354 (23.0)	35.0		74.9	
College Graduate	361 (23.4)	31.9		81.2	
Post Graduate	603 (39.3)	25.3		82.6	
Income			6.20		75.73**
Less than $20,000	381 (24.8)	33.9		62.7	
$20,000 to $39,999	310 (20.1)	31.6		74.8	
$40,000 to $59,999	260 (16.8)	31.5		81.2	
$60,000 and above	516 (33.5)	26.7		86.8	
HIV status			6.11*		3.56
Positive	736 (47.8)	30.0		75.3	
Negative	805 (52.2)	28.2		79.3	
Decade			2.66		28.76**
1940's or earlier	60 (3.9)	29.9		76.6	
1950's	311 (20.2)	28.0		79.7	
1960's	530 (34.4)	30.2		83.8	
1970's	351 (22.8)	33.1		74.6	
1980's	135 (8.8)	30.4		65.9	
1990's or later	33 (2.1)	36.4		63.6	

* p<.01,

** p<.001.

Decade = Decade in which participant first realized he was sexually attracted to men, 114 responded "Don't know/Unsure".

Table 3

Adjusted associations of internalized homophobia resolution and health outcomes among men who had early internalized homophobia.

N=1,060	N (%) without condition	OR	(95% CI)	*p*
No/Low Stimulant Use	995 (93.5)	1.20	(0.69, 2.07)	.571
No/Low Distress	783 (73.6)	2.15**	(1.57, 2.94)	<.001
No/Low Stress	728 (68.4)	1.69**	(1.23, 2.32)	.001
No Intimate Partner Violence	695 (65.3)	1.33*	(1.01, 1.79)	.047
No/Low Sexual Compulsivity	859 (80.7)	1.76**	(1.25, 2.48)	.001
No UAI	848 (80)	0.85	(0.59, 1.22)	.377
No Syndemic	728 (68.4)	2.15**	(1.58, 2.91)	<.001

Age, race, HIV status and income level included as covariates for analyses. Those who did not experience IHP early were excluded from the resolution analyses as they had no reported IHP to resolve. Men who also had IHP currently were coded as failing to resolve (1), and those who did not currently have IHP were coded as having resolved their IHP (0).

* p<.05,

** p<.01