

# **The Mediating Role of Self-Esteem in the Association between Internalized Sexuality Stigma, Lifetime HIV Testing, & Suicidal Thoughts among Latino Men Who Have Sex with Men (LMSM)**

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## INTRODUCTION

Individuals who identify as sexual minorities have been widely recognized to have disproportionate health outcomes and disparities when compared to heterosexuals (Lund & Burgess, 2021; Meyer & Frost, 2012; Plöderl & Tremblay, 2015). Moreover, these individuals may also have other intersecting stigmatized social identities, such as race, ethnicity, or gender (American Psychological Association, 2021), that may differentially affect mental and physical health outcomes and related disparities (English et al., 2018; Hsieh & Ruther, 2016; Ramirez & Paz Galupo, 2019). This is true for Latino Men who have Sex with Men (LMSM), among whom sexuality stigma may uniquely affect documented health inequities in this community (Díaz et al., 2001; Holloway et al., 2015; Wohl et al., 2013).

Meyer's minority stress model (1995; 2003; 2015) offers a comprehensive conceptual framework that recognizes distal and proximal stressors as unique and chronic to social minority groups, which ultimately leads to increased stress, resulting in worse mental and physical health outcomes. Internalized sexuality stigma in sexual minority individuals manifests when unfavorable and stigmatizing societal attitudes are adopted by said individual's belief system (Herek et al., 2009; Meyer, 1995). The impact of internalized sexuality stigma on worse mental health outcomes has been well established in different sexual minority communities of color (Lee et al., 2022; Li et al., 2021). Newcomb and Mustanski's meta-analysis (2010) emphasized an association between internalized sexuality stigma and anxiety and depressive symptoms, specifically. Relatedly, gay and bisexual communities often have higher reported suicide attempts (Remafedi et al., 1991), including Black and Latino sexual minority individuals (O'Donnell et al., 2011). Of concern, a recent study reported that LMSM had higher mean suicidal ideation scores than their Black and Multiracial counterparts (Hidalgo et al., 2020). While the connections between internalized sexuality stigma and suicide attempts and suicidal ideation have been well documented (Meyer, 1995; Williams et al., 2023; Williamson, 2000), less research has focused on these relationships among LMSM, specifically.

Internalized sexuality stigma, as a minority stress mechanism, may also negatively influence relevant HIV-related health behaviors (Hatzenbuehler et al., 2008), such as HIV testing (Lott et al., 2022; Miller et al., 2021). Relatedly, suicidal ideation has also been associated with a greater than 2-fold increase in the odds of reporting any HIV-related transmission risk behaviors among MSM (Carrico et al., 2010). In 2019, the Centers for Disease Control and Prevention reported that 32% of all new HIV diagnoses were among LMSM (2021). More recent data observed only 82% of HIV+ Latino MSM being aware of their status, compared to 91% of their white MSM counterparts (Centers for Disease Control and Prevention, 2024). Research among LMSM has also observed significantly more serodiscordant unprotected anal intercourse and higher seroconversion rates compared to their non-Latino counterparts (Bedoya et al., 2012), and up to a third of LMSM participants reporting moderate or high levels of barriers to HIV testing (Horridge et al., 2019). These data highlight the need to better understand internalized sexuality stigma as a potential barrier to HIV testing among LMSM.

The relationship between the internalized stigma of sexuality and self-esteem in MSM has also been well-established (Stokes & Peterson, 1998; Zervoulis et al., 2015). In the general population, mental health outcomes worsen when self-esteem is decreased (Orth et

al., 2009). Among sexual minority adults, Munn and James (2022) found the effects of more significant internalized sexuality stigma on increased suicidal ideation were significantly mediated via self-esteem and depressive symptoms in serial mediation analysis. In line with Myere's Minority Stress Model (2003) and Hatzenbuehler's mediation framework (2009), self-esteem has been well understood to act as a buffer that may lessen psychopathology and poor health outcomes. Self-esteem has also been positively linked to health-seeking behavior, while self-stigma has been understood to hinder it (Vogel et al., 2006), and said behavior reasonably encompasses getting tested for HIV. Notably, some have theorized that stigma-induced suicidal ideation among MSM may impede HIV testing by lowering self-esteem (Rodriguez-Hart et al., 2018). Further inquiry is warranted to understand the role of self-esteem, specifically among LMSM in relation to these outcomes, as noted above.

To address these gaps, we conducted a secondary analysis to test self-esteem as a mediator of the associations between internalized sexuality stigma and two key health outcomes among Latino MSM: having had a lifetime HIV test (Model 1) and the presence of suicidal thoughts (Model 2).

## **METHODS**

### **Procedure and Participants**

This secondary analysis used existing data from the 2004 "Latino MSM Community Involvement: HIV Protective Effects" dataset (Ramirez-Valles, 2014). While the HIV prevention and sociopolitical landscapes have dramatically changed since this study was initially conducted, these secondary analyses can still provide insights into the associations between internalized sexuality stigma, self-esteem, and key health outcomes of interest among LMSM who are underrepresented in the respective HIV and mental health literature. The original study included a total of  $N=643$  gay, bisexual, and transgender participants living in either San Francisco or Chicago. The aim was to understand HIV risk factors, protective factors, and the impacts of stigmas related to HIV, sexuality, and Latino identity on health-related behaviors (Ramirez-Valles et al., 2014). Sampling followed Heckathorn's (2009) Respondent Driven Sampling (RDS) method, often used for hard-to-reach and hard-to-engage populations, such as the LMSM community. Data collection occurred in both English and Spanish using a computer-assisted self-interviewing method (Ramirez-Valles et al., 2014). The original study included both cisgender men and transgender women, and similar to a recent analysis by Lopez and colleagues (2022), we have excluded the ( $n=71$ ) transgender participants and one participant ( $n=1$ ) who did not disclose their identity in the current analysis to avoid conflating sexuality stigma with gender identity. Our final analytic is  $N=571$  LMSM.

### **Measures**

#### *Sociodemographics*

Respondents were prompted to answer various items regarding their age, level of education, employment, and income, measured as ordinal variables.

#### *Internalized Sexuality Stigma*

Internalized sexuality stigma was assessed using a 17-item measure developed by the authors of the original study to capture internalized sexuality stigma (Ramirez-Valles et al.,

2010). Participants were asked to state the level of agreement or disagreement on items such as: “Gay people are to blame for society's attitudes toward us” and “Sometimes I feel ashamed of my sexual orientation”. Response options were on a 4-point Guttman scale with no midpoint ranging from “strongly disagree” to “strongly agree”. A composite sum score was calculated, with higher scores reflecting stronger negative attitudes toward one’s sexuality. The internal reliability of the scale was very good in the current analytic sample (Cronbach’s  $\alpha=.87$ ).

### *Self-esteem*

Self-esteem was captured using the 10-item Rosenberg Self-Esteem Scale (1965). Responses were on a 4-point Likert-type scale ranging from “Strongly Agree” to “Strongly Disagree” with no midpoint. Participants were asked to reflect on statements such as “I feel that I have a number of good qualities” and “At times, I think I am no good at all.” Half of the items were reverse-coded. The scale in this analytic sample had very good internal consistency (Cronbach’s  $\alpha=.83$ ).

### *Suicidal Thoughts*

Participants were asked, “In the past 6 months, how often have you thought of taking your own life?”. The four response options were recoded for analysis as “Many times” = 4, “A few times” = 3, “Once or twice” = 2, and “Never” = 1 so that a higher value reflected a greater frequency of suicidal ideation.

### *Lifetime HIV Testing*

To determine if participants had been tested for HIV before, they were simply asked: “Have you had an HIV test?”. “No” responses were coded as 0, and “Yes” responses were coded as 1.

## **Data Analyses**

Two separate mediation analyses were conducted using model four of the PROCESS SPSS macro (Hayes, 2022) version 29.0.2.0 (20), which controlled for covariates correlated with the outcome of interest in bivariate analysis at the  $p < .10$  level. The first was used to examine the sum score of internalized sexuality stigma as the independent variable (IV) and the score of self-esteem as the mediator (M) in relation to the dependent binary outcome variable (DV) of having had an HIV test while controlling for age, income, and education. The second mediation model assessed the sum score of internalized sexuality stigma as the independent variable (IV), the score of self-esteem as the mediator (M), and the observed score of suicidal thoughts in the past six months as the dependent ordinal variable (DV), while controlling for employment and education. Because temporality cannot be fully established in cross-sectional data, we conduct two planned post-hoc analyses on the alternative hypothesis that examine alternative hypotheses in the proposed mediation process by reversing our dependent and independent variables of interest and comparing model fit statistics with our planned a priori analyses (Model 1 and Model 2).

### Ethical Approval Statement

The requirement for IRB approval was waived by UCLA, as this secondary analysis did not utilize any personally identifiable information from the dataset. All data used in this research were anonymized before access to ensure individual privacy and confidentiality.

### RESULTS

Referencing Table 1, the sample was fairly diverse in terms of age and annual income. The majority of the participants were born in countries outside of the United States, with those born in the US making up 23.1% ( $n = 132$ ) of the sample. A sizable 78.3% ( $n = 447$ ) majority of the LMSM in the sample identified themselves as “gay”, “homosexual”, or “queer”. Lastly, only 18.1% ( $n = 103$ ) of the sample stated having received a college degree or higher. Regarding the variables of interest, the samples’ mean score for internalized sexuality stigma was  $M = 34.3$  ( $SD = 9.7$ ), while the mean score for self-esteem was  $M = 32.9$  ( $SD = 4.7$ ). Most participants, 91.1% ( $n = 520$ ), reported being tested for HIV at least once in their lifetime, and the majority reported having past 6-month suicidal thoughts as “Many times” (79.3%,  $n = 453$ ) with fewer reporting “Never” (2.5%,  $n = 14$ ).

**Table 1**  
*Participant Demographic Frequencies*

	<i>n</i>	<i>%</i>
<b>Age</b>		
18 - 21	32	5.6
22 - 25	82	14.4
26 - 30	99	17.3
31 - 35	111	19.4
36 - 40	110	19.3
41 - 45	64	11.2
45 - 50	35	6.1
> 50	38	6.7
<b>Place of Birth</b>		
United States	132	23.1
Mexico	265	46.4
Central America	61	10.7
South America	65	11.4
Caribbean	45	7.9

Other	3	.5
<b>Employment</b>		
Full time	231	40.5
Part-time	133	23.3
Unemployed	191	33.5
Other	15	2.6
Missing (System)	1	.2
<b>Sexual Identification</b>		
Gay/ Homosexual/ queer	447	78.3
Bisexual	124	21.7
<b>Education</b>		
Less than high school	137	24
High school / GED	131	22.9
Technical or vocational school	51	8.9
Some college	149	26.1
College degree	86	15.1
Graduate degree	17	3.0
<b>Annual Income</b>		
Less than 10,000 USD	211	37
10,000 - 14,999 USD	90	15.8
15,000 - 19,999 USD	67	11.7
20,000 - 24,999 USD	59	10.3
25,000 - 29,999 USD	55	9.6
30,000 - 34,999 USD	34	6
35,000 - 39,999 USD	26	4.6
≥ 40,000 USD	29	5.1

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## Bivariate Associations

In bivariate analysis, internalized sexuality stigma was significantly correlated to the outcome of lifetime HIV test ( $r = -.117, p = .006$ ) and suicidal thoughts ( $r = .161, p < .001$ ). Potential covariates that were associated with our outcomes of interest at  $p < 0.01$  level for lifetime HIV testing include age ( $r = .127, p = .002$ ) and education ( $r = .126, p = .003$ ). For past 6-month suicidal ideation, significant covariates included employment ( $r = .114, p = .008$ ).

## Model 1: Lifetime HIV Testing

In the first model, self-esteem did not mediate the relationship between internalized sexuality stigma and having had a lifetime HIV test in the past, counter to the original hypothesis (Table 2). Referencing Figure 1 and Table 2, internalized sexuality stigma was negatively associated with self-esteem ( $a$  path,  $B = -.162, p < .000$ ). However, self-esteem was positively associated with having had an HIV test ( $b$  path,  $B = .055, p = .118$ ), yet that relationship was not significant. The direct effect of internalized sexuality stigma on having a lifetime HIV test was not significant ( $c'$  path,  $B = -.025, p = .134$ ). A bootstrap confidence interval for the indirect effect ( $a*b$  path,  $B = -.009$ ) was calculated based on a number of bootstrap samples of 5000 ( $-.021$  to  $.002$ ), which indicates non-significance due to crossing zero.

Planned post-hoc analysis of this cross-sectional secondary analysis on the alternative hypothesis observed a comparable value in the proportion of variance  $R^2 = .122$  but a worse overall model fit for the outcome of internalized stigma  $F(5, 556) = 15.465, p < .000$ .

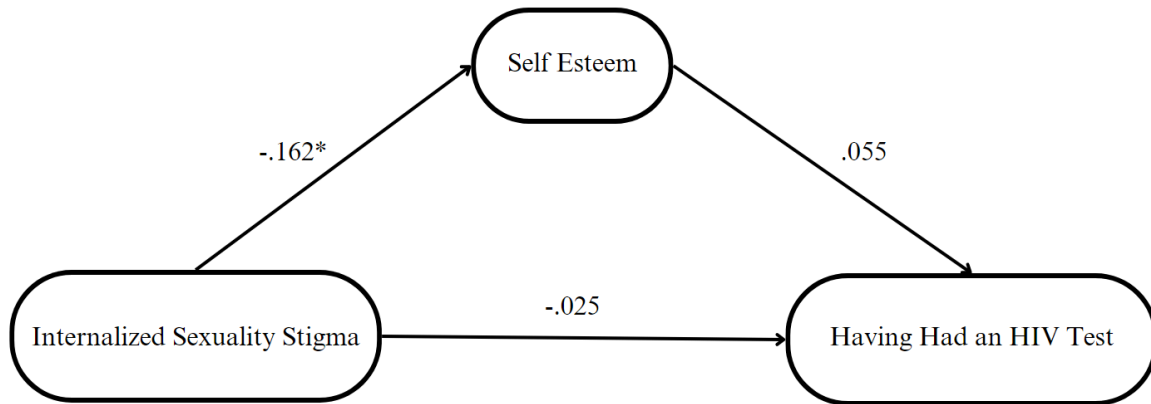
**Table 2**  
*Model 1 Mediation Analysis for HIV Test Outcome*

	Self-Esteem						HIV Test							
	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>LL CI</i>	<i>ULCI</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>LL CI</i>	<i>ULCI</i>		
ISS	<i>a</i>	-.162	.019	-8.539	.000	-.200	-.125	<i>c'</i>	-.025	.017	-1.500	.134	-.058	.008
Self-Esteem	–	–	–	–	–	–	<i>b</i>	.055	.035	1.564	.118	-.014	.124	
	$R^2 = .144$						McFadden $R^2 = .093$ , Cox & Snell $R^2 = .050$ , & Nagelkerke $R^2 = .118$							
	$F(4,557) = 23.349, p < .000$						$\chi^2(5, N = 562) = 28.705, p = .000$							

Note: ISS refers to Internalized Sexuality Stigma.

**Figure 1.0**

*Regression Coefficients for the Relationship Between Internalized Sexuality Stigma and Having Had an HIV Test as Mediated by Self Esteem*



*Note: \* Denotes  $p < .000$  and results are expressed in a log-odds metric*

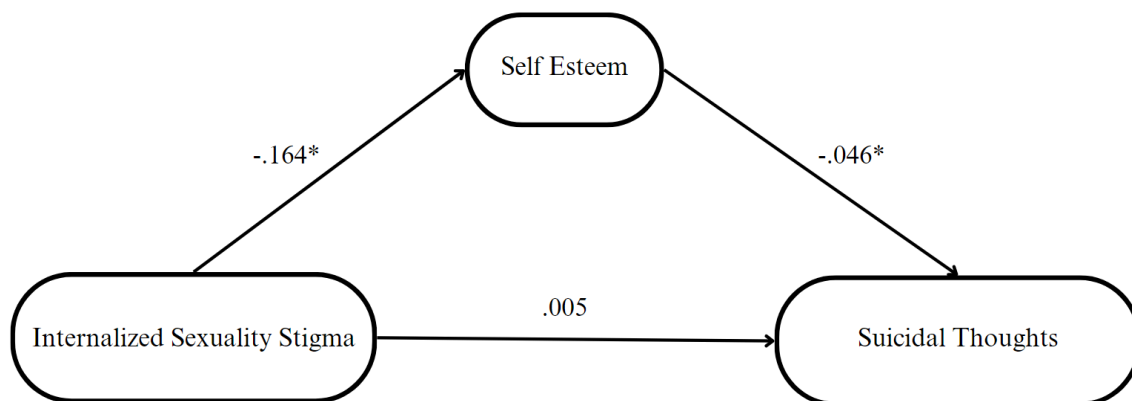
### **Model 2: Past 6-month Suicidal Thoughts**

In the second model, self-esteem significantly mediated the relationship between internalized sexuality stigma and past 6-month suicidal thoughts, as hypothesized. Per Figure 2 and Table 3, internalized sexuality stigma was negatively associated with self-esteem ( $a$  path,  $B = -.164$ ,  $p < .000$ ), and self-esteem was significantly negatively associated with suicidal thoughts ( $b$  path,  $B = -.046$ ,  $p < .000$ ). A bootstrap confidence interval for the indirect effect ( $a*b$  path,  $B = .008$ ) was calculated based on a number of bootstrap samples of 5000 and it did not cross zero (.005 to .011) which indicates significance. In the mediated model, the direct effect was non-significant ( $c'$  path,  $B = .005$ ,  $p = .103$ ), suggesting self-esteem fully mediates the relationship between internalized sexuality stigma and suicidal thoughts in this sample.

Planned posthoc analysis of this cross-sectional secondary analysis on the alternative hypothesis observed a lower proportion of variance in the outcome of internalized stigma  $R^2 = .129$  and worse overall model fit  $F(4,535) = 19.849$ ,  $p < .000$ .

**Figure 2.0**

Standardized Regression Coefficients for the Relationship Between Internalized Sexuality Stigma and Suicidal Thoughts as Mediated by Self Esteem



Note: \* Denotes  $p < .000$

**Table 3**

Model 2 Mediation Analysis for Suicidal Thoughts Outcome

		Self-Esteem						Suicidal Thoughts							
		<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>LL</i> <i>CI</i>	<i>ULCI</i>			<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>LL</i> <i>CI</i>	<i>ULCI</i>
ISS	<i>a</i>	-.164	.019	-8.720	.000	-.201	-.127	<i>c</i>		.005	.003	1.631	.103	-.001	.010
Self-Esteem		–	–	–	–	–	–	<i>b</i>		-.046	.006	-7.415	.000	-.058	-.034
		$R^2 = .162$						$R^2 = .140$							
		$F(3,536) = 34.440, p < .000$						$F(4,535) = 21.749, p < .000$							

Note: ISS refers to Internalized Sexuality Stigma.

## DISCUSSION

These results highlight the role of internalized sexuality stigma as a minority stress-related determinant of mental health and its relation to self-esteem among LMSM (1995; 2003; 2015) and suggest interventions focusing on mitigating internalized stigma and increasing self-esteem may serve as a key pathway for future mental health interventions in this population. Counter to our first hypothesis, self-esteem did not mediate the relationship between internalized sexuality stigma and lifetime HIV testing. The literature continues to grow, and the exact mechanisms that facilitate stigmatization inhibiting HIV testing remain ambiguous in relation to self-esteem. A better-suited analysis would examine these associations in relation to more recent HIV testing behaviors (e.g., past 6 months) that might

observe greater variability and be better positioned to assess the hypothesized mediation process. Still, self-esteem is evidently an important target for future intervention to support better HIV testing behaviors among LMSM.

For our second hypothesis, self-esteem fully mediated the relationship between internalized sexuality stigma and suicidal thoughts. Conceptually, these results are also consistent with Meyer's minority stress model (1995; 2003; 2015), and Hatzenbuehler's mediation framework (2009). Previous works by Munn and James (2022) corroborate the results among sexual minority adults. It is reasonable to expect that LMSM may also follow trends established among more general sexual minority adult populations where depressive symptoms play a key part in the relationship between internalized stigma, self-esteem, and suicidal ideation (Munn & James, 2022). However, data on depressive symptoms from this sample was not collected in the original study.

As LMSM are at heightened risk for adverse mental health conditions (Wilson & Yoshikawa, 2007), addressing internalized sexuality stigma is important to ameliorate health disparities. Moreover, given a substantial proportion of participants in this sample were born outside the US, it's worth mentioning that mental health and access to care are often impeded by factors unique to sexual minority immigrant communities such as concerns of immigration status alongside poorly translated health campaigns in prevention (Wilson & Yoshikawa, 2007). Oster and colleagues demonstrated that recent testing among LMSM is strongly associated with having seen a healthcare provider and disclosing sexual behavior to them (2013).

Still, other psychosocial and cultural aspects of the lived experiences of LMSM are important to obtain a more comprehensive understanding of sexual risk within the community (Jarama et al., 2005). Ramirez-Valles & Brown have previously established the connection between community involvement of LMSM and self-esteem (2003), which may provide an avenue to strengthen self-esteem via community involvement as its proxy. Interestingly, MSM who have strong supportive relationships are significantly less likely to engage in high-risk sexual behavior or test seropositive (Lauby et al., 2012). The same was observed among LMSM, particularly as social support was directly associated with greater odds of testing in the US South (Painter et al., 2019). Latent profile analysis of an LMSM sample revealed a significantly higher testing rate profile to be linked with lower machismo and desire to be perceived as heterosexual by others, as avoidance of HIV testing may help project a heterosexual identity and act in alignment with their machismo ideals (Dillon et al., 2019). This attests to previous work with the LMSM community, suggesting that addressing testing disparities requires culturally congruent outreach targeting unemployed and Spanish-only speaking populations while actively incorporating the positive aspects of machismo and masculinity (Horridge et al., 2019).

## Limitations

Limitations of this secondary analysis included being restricted to the available data not designed to answer these specific research questions. Caution is needed when interpreting our findings, as this secondary analysis of cross-sectional data cannot infer causality. To help address this limitation, post hoc alternative mediation analyses were run where self-esteem mediated the path between both lifetime HIV testing and past 6-month suicidal ideation on internalized sexuality stigma. Results increase confidence that we had assessed the correct mediation paths despite not having longitudinal data, as the alternative models performed worse overall. Additionally, similar to the recently published study by López and colleagues (2022), analyses conducted in this paper were not done using the RDS weights of the dataset, which may limit its generalizability as well. Lastly, though this dataset continues to be of

interest to researchers in recent years, trends within the MSM community may have changed with the shifting of the sociopolitical and HIV prevention landscapes since collection in 2004. Still, these analyses support future hypothesis-generating research by shedding light on the role of self-esteem as a modifiable variable to reduce the harmful effects of internalized sexuality stigma on key health outcomes among MSM. These critical insights may also be of benefit to researchers designing interventions within MSM populations, which remain of high medical and sociocultural relevance in the present.

## **CONCLUSION**

These findings facilitate a better understanding of internalized sexuality stigma as a minority stress-related determinant and barrier to mental health amongst MSM through self-esteem. The quantifiable impact of internalized stigma and self-esteem on the suicidal ideation of MSM warrants further comprehensive examination. Findings suggest that stigma reduction interventions targeting internalized sexuality stigma among MSM should also integrate mechanisms that strengthen and sustain MSM's self-esteem and likely warrant the integration of suicide prevention, assessment, and response components at the community level to better support the mental health needs of this community.

### **Data Availability Statement**

The data that support the findings of this study are openly available in the Inter-university Consortium for Political and Social Research at <https://doi.org/10.3886/ICPSR34385.v2>, reference number [ICPSR 34385].

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