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ORIGINAL PAPER

Homophobia and Racism Experienced by Latino Men Who Have Sex with Men in the United States: Correlates of Exposure and Associations with HIV Risk Behaviors

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Abstract Using cross-sectional data collected from 1081 Latino men who have sex with men (MSM) recruited with respondent-driven sampling (RDS) techniques from Los Angeles and New York, we examined the extent to which Latino MSM reported exposure to social discrimination (i.e., experienced both homophobia and racism, homophobia only, racism only, or neither homophobia nor racism). More than 40% of respondents experienced both homophobia and racism in the past 12 months. Los Angeles participants, those with lower income, and those who reported being HIV-positive were more likely to report experiencing both types of social discrimination. Adjusting for potential confounders, men exposed to both homophobia and racism were more likely than men exposed to neither form of discrimination to report unprotected receptive anal intercourse with a casual sex partner (AOR = 1.92, 95% CI, 1.18–3.24) and binge drinking (AOR = 1.42, 95% CI, 1.02–1.98). Our findings suggest the presence of a syndemic of adverse social experiences and call for more intervention research to address both homophobia and racism experienced among Latino MSM in the United States.

Keywords Homophobia · Racism · HIV risk behaviors · Latino MSM

The findings and conclusions in this report are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention.

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Introduction

Men who have sex with men (MSM) continue to be the risk group most affected by HIV in the United States (US). According to the Centers for Disease Control and Prevention [1], male-to-male sexual contact accounted for the largest proportion (57%) of estimated diagnoses of HIV infections among adults and adolescents in 2009 in the 40 states that have confidential name-based HIV infection reporting. Epidemiologic data also indicate that racial/ethnic minorities, including Latinos/Hispanics, have been disproportionately impacted by HIV. For example, in 2006, the estimated rate of new HIV infection among Hispanic men was more than double that among white men [2]. Among Latino/Hispanic men, male-to-male sexual contact is the most commonly reported mode of HIV transmission; more than 70% of the estimated numbers of HIV diagnoses

among Latino men in 2009 was due to male-to-male sexual contact [1].

Various studies of Latino MSM have examined the potential effects of homophobia and racism on a range of health-related problems. These studies show that experiences of social discrimination such as homophobia and racism are associated with poor mental health [3, 4], with Latino MSM's participation in "difficult sexual situations" that may lead to HIV risk behavior [5], and with increased substance use and unprotected receptive anal intercourse (AI) [6]. More recently, Nakamura and Zea [7] found that, among an Internet-based sample of Latino gay and bisexual men, more experiences of homophobia predicted unprotected receptive AI; however, unprotected receptive AI was associated with fewer experiences of racism, and neither experience of homophobia nor racism predicted unprotected insertive AI. The authors did not offer explanations for these associations.

Although previous studies have shown that significant associations exist between experiences of social discrimination and HIV risk behaviors, these studies overlook the possibility that there may be a substantial overlap between the men experiencing homophobia and those experiencing racism. There is an opportunity to understand the role of syndemics or the additive "effects" of experiencing both homophobia and racism among Latino MSM in the US. The term syndemics, first applied in the context of HIV/AIDS by Singer [8], focuses on interconnected health problems that additively increase adverse health outcomes [9, 10]. Unlike more traditional cognitively based theoretical approaches, research on syndemics focuses on broader, contextual social conditions such as poverty and stigmatization that perpetrate health disparities [9, 10]. Increasingly, the notion of syndemics has been used to explain health disparities among MSM. For example, Stall and colleagues [11] found that additive psychosocial health problems among adult urban MSM were associated with both higher sexual risk and HIV prevalence relative to MSM who did not experience these problems. These findings have been replicated among young MSM [9]. The notion of syndemics is relevant and can be applied here to test whether experiences of homophobia and racism are additively associated with increased odds of various HIV-risk behaviors, particularly whether a syndemic of adverse social experiences might help explain elevated risk for HIV infection among Latino MSM. Findings on such combined effects might argue for more interventions that address both homophobia and racism.

In addition, very few studies have examined the potential demographic (e.g., age, race), socio-economic (e.g., education, income), and socio-cultural (e.g., nativity, language) correlates of exposure to social discrimination to identify who is likely to experience social discrimination. Identification of such correlates would be important as it points to the subgroups of Latino MSM in the US who may be particularly vulnerable and benefit from intervention. Identification of such correlates is also important because these variables may be potential confounders of an association between social discrimination and risk behaviors and thus should be controlled for in statistical analyses.

Using cross-sectional data collected from Latino MSM recruited from Los Angeles County and New York City, we examined (1) the extent to which Latino MSM in the US report recent exposure to both homophobia and racism, (2) the demographic, socio-economic, and socio-cultural characteristics of Latino MSM who are more likely to report exposure to social discrimination, and (3) how exposure to social discrimination is associated with sexual risk behaviors (i.e., unprotected AI by partner type and positioning) and substance use (i.e., binge drinking and illegal drug use) after controlling for potential confounders.

Methods

Data were collected as part of the Brothers y Hermanos study, a large multi-site epidemiological study funded by the Centers for Disease Control and Prevention to investigate factors associated with HIV risk behavior and HIV infection among black MSM and Latino MSM. This paper represents data on Latino MSM recruited from May of 2005 through April of 2006 in Los Angeles County and New York City. Eligible participants had to identify as male, identify as Latino, be 18 years of age or older, report sex (oral sex, anal sex, or mutual masturbation) with a man in the past 12 months, and be a resident of the area in which they were recruited. Participation was open to men who were HIV-positive, HIV-negative, or of unknown serostatus.

Recruitment

Respondent-driven sampling (RDS) [12], a form of chain-referral sampling, was used to recruit participants. An initial set of target population members (called "seeds") who met study eligibility criteria was recruited by project staff. Seeds completed all aspects of the study and were then encouraged to recruit other eligible individuals from their social networks to participate. Men recruited by the seeds were then asked to recruit the next wave of participants, with the process continuing until each of the research sites enrolled at least 500 men. Each participant who agreed to become a study recruiter was given a maximum of three referral coupons to distribute to potential participants in order to prevent any single person from dominating the recruitment process. A total of 1081 Latino

MSM (516 from New York City and 565 from Los Angeles County) were enrolled into the study.

Procedures

All potential participants had to present a valid referral coupon before enrolling. Data collection sessions were conducted in study project offices located in office buildings, community-based organizations, and community health centers. After screening for eligibility and obtaining written informed consent, participants completed an audio computer-assisted self-interview (ACASI) in English or Spanish.

Each participant was offered an opportunity to recruit others into the study. Those who agreed were given a brief training on this activity. Depending on the research site, recruiters earned an additional $15 to $20 for each eligible person (up to three) that they recruited. Regardless of whether participants agreed to be recruiters, each received $50 for participating in the study. The protocol was approved by the Institutional Review Boards at the CDC and at each of the local study sites. A detailed description of the Brothers y Hermanos study and its methodology has been reported elsewhere [13–15].

Measures

Exposure Variable of Interest

Experiences of homophobia in the past 12 months were assessed by the following five items (Cronbach's alpha = 0.83): In the past 12 months, how often have you (1) been hit or beaten up; (2) been treated rudely or unfairly; (3) been made fun of or called names; (4) had to act more manly than usual to be accepted; and (5) felt uncomfortable in a crowd of straight Latinos in your city because people thought you were homosexual or not manly enough? Experiences of racism in the past 12 months were assessed by the following five items (Cronbach's alpha = 0.77): In the past 12 months, how often have you (1) been hit or beaten up; (2) been treated rudely or unfairly; (3) felt uncomfortable in a crowd of white gay men; (4) had trouble finding a male lover or boy friend; and (5) been turned down for sex because of your race or ethnicity? Responses to the original 5-point scale ("never" "once" "2–3 times" "4–7 times" "8 or more times") were highly skewed, with the majority responding "never" for each item. Thus we dichotomized each response into "never experienced" versus "experienced any," and then following Mays and Cochran's approach [16, 17], created an overall homophobia measure indicating whether a participant reported experiencing any of the five homophobic items in the past 12 months (yes/no). A comparable overall measure was also created for racism. From these measures we further developed a 4-category social discrimination variable as described below.

Potential Correlates of Exposure to Social Discrimination

Following the conceptual framework used by Perez, Fortuna, and Alegria [17], we examined demographic and socio-economic factors (i.e., age, study site, annual income, education, legal marital status, and race) and socio-cultural factors (i.e., place of birth [for self and parent], years spent in the US, language used to read and speak, language used to think, and language spoken at home). Legal marital status was dichotomized into "single/never been married" vs. "married to a female or had been married before (divorced, widowed, or separated)." This dichotomy was used to examine whether experience in legal marriage (present or past) has any association with exposure to social discrimination. In addition, participants self-reported results of their most recent HIV tests (HIV-positive, HIV-negative, did not receive the result, and indeterminate). Those who reported that they had not received the test results, those whose test results were indeterminate, or those who had never tested for HIV were coded as "unknown HIV status." All of these variables are categorical variables. Table 1 indicates how each of these variables was classified for this paper.

Outcome Variables

For HIV risk behaviors, we assessed whether participants had engaged in unprotected insertive or receptive AI with main or casual male partners in the past 3 months. Other risk behaviors used in this analysis were two substance use variables, namely, binge drinking in the past 3 months and drug use in the past 3 months. Participants' reports on alcohol use and the frequency with which any binge drinking occurred were dichotomized into an indicator variable showing whether binge drinking occurred at least once in the past 3 months (yes/no). Participants also reported whether they had used any of the following drugs in the past 3 months (yes/no): methamphetamine, cocaine, crack, ecstasy, GHB, ketamine, or amyl nitrite (poppers).

Statistical Analyses

First, we computed overall summary frequencies of participant demographics and risk behaviors in the past 3 months, then we examined these data by research site. Then we examined the frequencies of participants who reported experiencing any homophobia and any racism in the past 12 months, overall and by site, and examined whether a significant overlap existed between participants

Table 1 Participant characteristics and risk behaviors in the past 3 months (data from Brothers y Hermanos Study, conducted in Los Angeles and New York from 2005 to 2006, $N = 1081$)

Demographics	Total sample n^a (%)	Los Angeles n^c (%)	New York n^d (%)
Age			
18–29	432 (40)	123 (22)	309 (60)
30–39	339 (31)	210 (37)	129 (25)
40–49	209 (20)	158 (28)	51 (10)
50 and older	99 (9)	72 (13)	27 (5)
Site			
Los Angeles	565 (52)	–	–
New York	516 (48)	–	–
Born in US	460 (43)	153 (27)	307 (60)
Place of birth if not born in US			
North America (either Mexico or Canada)	309 (50)	271 (66)	38 (18)
Central America	109 (17)	86 (21)	23 (11)
South America	112 (18)	23 (6)	89 (43)
Caribbean	62 (10)	13 (3)	49 (24)
Other	27 (5)	18 (4)	9 (4)
Any parent born in US	212 (20)	54 (10)	158 (31)
Years in US (median split)			
20 or more years	564 (52)	273 (48)	291 (57)
Language used to read and speak			
Spanish	466 (43)	334 (59)	132 (26)
Both equally	266 (25)	114 (20)	152 (29)
English	348 (32)	116 (21)	232 (45)
Language spoken at home			
Spanish	542 (50)	354 (63)	188 (36)
Both equally	175 (16)	79 (14)	96 (19)
English	360 (34)	130 (23)	230 (45)
Language used to think			
Spanish	469 (44)	328 (58)	141 (27)
Both equally	175 (16)	88 (16)	87 (17)
English	433 (40)	148 (26)	285 (56)
Annual income			
<$5,000	317 (30)	197 (36)	120 (24)
$5,000–$9,999	232 (22)	154 (28)	78 (15)
$10,000–$19,999	218 (21)	102 (19)	116 (23)
$20,000–$29,999	128 (12)	48 (9)	80 (16)
$30,000 and higher	152 (15)	42 (8)	110 (22)
Education			
<High school graduate	243 (22)	164 (29)	79 (15)
High school graduate/GED	461 (43)	220 (39)	241 (47)
>High school	374 (35)	178 (32)	196 (38)
Legal marital status			
Single, never been married	932 (87)	457 (81)	475 (92)
Married to a female or had been married before[b]	146 (13)	105 (19)	41 (8)
Race			
Black	70 (6)	17 (3)	53 (10)
Self-reported HIV status			
Negative	495 (46)	214 (38)	281 (55)

Table 1 continued

Demographics	Total sample n^a (%)	Los Angeles n^c (%)	New York n^d (%)
Positive	376 (35)	289 (52)	87 (17)
Unknown	204 (19)	58 (10)	146 (28)
Risk behavior			
Had unprotected insertive AI with a main partner past 3 months	202 (19)	94 (17)	108 (21)
Had unprotected insertive AI with a casual partner past 3 months	195 (18)	114 (20)	81 (16)
Had unprotected receptive AI with a main partner past 3 months	210 (20)	108 (19)	102 (20)
Had unprotected receptive AI with a casual partner past 3 months	154 (14)	107 (19)	47 (9)
Had binge drinking past 3 months	436 (40)	260 (46)	176 (34)
Used drugs past 3 months	368 (34)	180 (32)	188 (36)

[a] Total does not always equal 1081 due to missing data

[b] Includes married to a female ($n = 15$), divorced ($n = 57$), widowed ($n = 8$), and separated ($n = 66$)

[c] Total does not always equal 565 due to missing data

[d] Total does not always equal 516 due to missing data

who reported exposure to homophobia and participants who reported exposure to racism. For this, we partitioned the experiences of homophobia and racism into four mutually exclusive categories, namely, (1) those who experienced neither homophobia nor racism (no experience of social discrimination), (2) those who experienced homophobia only, (3) those who experienced racism only, and (4) those who experienced both homophobia and racism. In this paper, we refer to this 4-category variable as the social discrimination variable.

Next, we used chi-square tests to determine whether any of the available demographic, socio-economic or socio-cultural variables were associated with the 4-category social discrimination variable. When a significant association ($p < 0.05$) was found, we conducted post-hoc pair-wise tests to identify specific group differences. We then conducted unadjusted logistic regression analyses to assess the association between the 4-category social discrimination variable (with "no experience of social discrimination" as a reference category) and each of the six outcome variables, namely (1) had unprotected insertive AI with a main partner in the past 3 months, (2) had unprotected insertive AI with a casual partner in the past 3 months, (3) had unprotected receptive AI with a main partner in the past 3 months, (4) had unprotected receptive AI with a casual partner in the past 3 months, (5) used drugs in the past 3 months, and (6) had binge drinking in the past 3 months. Finally, we conducted multiple logistic regression analyses to assess the association between the 4-category social discrimination variable and each of these 6 outcome variables, adjusting for potential confounders. We automatically adjusted for the correlates of exposure to social discrimination that were significantly associated with the 4-category social discrimination variable in the chi-square tests ($P < 0.05$). We also included additional predictors of each of the 6 outcomes that were selected through backward elimination logistic regression analyses to form the final models. All analyses were conducted with unweighted data as our goal was to describe patterns of associations and not make population estimates.

Results

Sample Description

Participants were relatively young with over 70% under age 40 years (Table 1). Slightly less than one-half of the sample was US-born and about one in five said that at least one parent had been born in the US. Among those who were not born in the US ($n = 620$), a half were born in North America (Mexico or Canada), 17% were born in Central America, 18% were born in South America, and 10% were born in Caribbean. Spanish was the primary language used to read and speak, used to speak at home, and used to think for over 40% of the sample; however, more than one-third said English was their primary language. More than one-half of the sample reported earning less than $10,000 in the past 12 months, despite nearly 80% reporting that their highest level of education was high school or above. Most of the men reported being single and never married, and very few self-identified as Black. About one-half of the sample self-reported that they were HIV-negative and more than one-third reported that they were HIV-positive.

Similar proportions of men engaged in unprotected insertive AI with a main male partner (19%) or a casual male partner (18%) in the past 3 months. Twenty percent of the sample reported unprotected receptive AI with a main male

partner in the past 3 months, while 14% reported unprotected receptive AI with a casual male partner. Two out of five men reported binge drinking and more than one-third reported using illegal drugs in the past 3 months.

Table 1 also reports these characteristics by study site, demonstrating diversity of participants across sites. Generally, participants from New York sites were more likely than participants from Los Angeles to be younger, US-born (both parent and self), have spent longer time in the US, speak English as the primary language, have higher education and income, and identify themselves as Black. On the other hand, Los Angeles participants were more likely than New York participants to have been legally married or previously married, report being HIV-positive, and report unprotected receptive AI with a casual partner and binge drinking. Among those who were not US born, Los Angeles participants were more likely to have been born in North America or Central America while New York participants were more likely to have been born in South America or Caribbean.

Experience of Homophobia and Racism in the Past 12 Months

Table 2 summarizes the extent to which participants reported experiencing homophobia and racism. About the same proportion of the sample reported at least one homophobic (60%) or racist (58%) experience in the past 12 months. Among men who had experienced homophobia in the past 12 months ($n = 646$), almost 60% ($n = 386$) reported three or more types of homophobic experiences (data not shown in Table 2). Being "made fun of or called names because people thought I was homosexual or not manly enough" was the most commonly reported homophobic experience. Among those who had experienced racism in the past 12 months ($n = 624$), about 40% ($n = 246$) reported three or more types of racist experiences (data not shown in Table 2). Being "treated rudely or unfairly because of my race or ethnicity" was the most commonly reported racist experience. Eleven percent reported being subjected to violence associated with either homophobia or racism in the past 12 months. More than one-quarter of participants reported experiencing neither homophobia nor racism in the past 12 months. Sixteen and 14 percent reported experiencing "homophobia only" and "racism only," respectively, and more than 40% reported experiencing both homophobia and racism. Table 2 also reports these numbers by study site. Generally, Los Angeles participants were more likely than New York participants to report any homophobic or any racist experiences.

Correlates of Exposure to Social Discrimination

Table 3 shows the results of chi-square tests that examined the associations between potential correlates and exposure

Table 2 Experience of social discrimination (homophobia and racism) in the past 12 months (data from Brothers y Hermanos Study, conducted in Los Angeles and New York from 2005 to 2006, $N = 1081$)

	Total sample		Los Angeles		New York	
	n	(%)	*n*	(%)	*n*	(%)
Any homophobia	646	60	386	69	260	50
Hit or beaten up	121	11	79	14	42	8
Treated rudely or unfairly	370	34	232	41	138	27
Made fun of	472	44	278	49	194	38
Had to act more manly	434	40	260	46	174	34
Felt uncomfortable in a crowd of straight Latinos	437	41	253	45	184	36
Any racism	624	58	350	62	274	53
Hit or beaten up	116	11	73	13	43	8
Treated rudely or unfairly	460	43	254	45	206	40
Felt uncomfortable in a crowd of white gay men	315	29	176	31	139	27
Had trouble finding a male partner	264	25	135	24	129	25
Had been turned down for sex	281	26	140	25	141	27
Experience of social discrimination in 4 categories						
None	283	26	114	20	169	33
Homophobia only	168	16	97	17	71	14
Racism only	146	14	61	11	85	16
Both	477	44	288	51	189	37

Table 3 Correlates of social discrimination experience (data from Brothers y Hermanos Study, conducted in Los Angeles and New York from 2005 to 2006, $N = 1081$)

Correlates	Experienced neither homophobia nor racism		Experienced homophobia only		Experienced racism only		Experienced both homophobia and racism		Test statistics for overall test[a]	
	n	(%)	*n*	(%)	*n*	(%)	*n*	(%)	χ^2, df	*P*-value
Age										
18–29	102	(24)	70	(16)	68	(16)	190	(44)	9.53	0.390
30–39	99	(30)	54	(16)	44	(13)	138	(41)	df = 9	
40–49	56	(27)	33	(16)	21	(10)	98	(47)		
50 and older	26	(26)	11	(11)	12	(12)	50	(51)		
Site										
Los Angeles	114	(21)	97	(17)	61	(11)	288	(51)	37.30	<0.001
New York	169	(33)	71	(14)	85	(17)	189	(37)	df = 3	
Born in US										
Yes	113	(25)	82	(18)	58	(12)	206	(45)	4.04	0.257
No	170	(27)	86	(14)	88	(15)	270	(44)	df = 3	
Any parent born in US										
Yes	56	(26)	35	(17)	27	(13)	93	(44)	0.26	0.968
No	227	(26)	133	(15)	118	(14)	384	(45)	df = 3	
20 or more years in US										
Yes	154	(28)	80	(14)	74	(13)	253	(45)	2.09	0.553
No	129	(25)	87	(17)	72	(14)	223	(44)	df = 3	
Language used to read and speak										
Spanish	135	(29)	66	(14)	66	(14)	197	(43)	6.75	0.345
Both equally	61	(23)	39	(15)	39	(15)	124	(47)	df = 6	
English	87	(25)	63	(18)	41	(12)	156	(45)		
Language spoken at home										
Spanish	148	(28)	82	(15)	76	(14)	233	(43)	6.74	0.346
Both equally	37	(22)	31	(18)	30	(17)	75	(43)	df = 6	
English	98	(27)	54	(15)	40	(11)	167	(47)		
Language used to think										
Spanish	132	(28)	65	(14)	65	(14)	205	(44)	8.51	0.203
Both equally	40	(23)	34	(20)	30	(17)	68	(40)	df = 6	
English	111	(26)	68	(15)	51	(12)	202	(47)		
Annual income										
Less than 5 K	75	(24)	55	(17)	29	(9)	157	(50)	46.31	<0.001
$5 K–$9,999	52	(23)	39	(17)	26	(11)	113	(49)	df = 12	
$10 K–$19,999	49	(22)	33	(15)	47	(22)	89	(41)		
$20 K–$29,999	36	(28)	16	(13)	24	(19)	51	(40)		
$30 K or higher	63	(42)	21	(14)	18	(12)	49	(32)		
Education										
<High school graduate	60	(25)	50	(21)	24	(10)	108	(44)	21.98 df = 6	0.001
High school graduate/GED	102	(22)	75	(16)	63	(14)	217	(48)		
>High school	120	(32)	43	(11)	59	(16)	151	(41)		
Legal marital status										
Single	237	(26)	158	(17)	124	(13)	410	(44)	9.82	0.020
Married or had been married before	44	(31)	10	(7)	22	(15)	67	(47)	df = 3	
Race										
Black	18	(26)	9	(13)	9	(13)	34	(49)	0.70	0.872
Not black	263	(26)	158	(16)	136	(14)	440	(44)	df = 3	

Table 3 continued

Correlates	Experienced neither homophobia nor racism		Experienced homophobia only		Experienced racism only		Experienced both homophobia and racism		Test statistics for overall test[a]	
	n	(%)	*n*	(%)	*n*	(%)	*n*	(%)	χ^2, df	*P*-value
HIV status										
Negative	142	(29)	73	(15)	69	(14)	210	(42)	17.96	0.006
Positive	85	(23)	60	(16)	38	(10)	192	(51)	df = 6	
Unknown	54	(27)	34	(17)	38	(19)	74	(37)		

[a] Results of post-hoc pair-wise tests to indicate specific group differences are explained further in the narratives

to social discrimination. Significant correlates ($P < 0.05$) identified in the analyses were study site, income, education, legal marital status, and self-reported HIV status. Post-hoc pair-wise analyses revealed specific group differences as follows (not presented in the table). Los Angeles participants were more likely than New York participants to experience both homophobia and racism (51% vs. 37%, chi-squared = 23.33, df = 1, $P < 0.001$). Conversely, New York participants were more likely than Los Angeles participants to experience no social discrimination (33% vs. 21%, chi-squared = 21.66, df = 1, $P < 0.001$) or racism only (17% vs. 11%, chi-squared = 7.27, df = 1, $P < 0.01$).

Participants in the highest income category ($30,000 or higher) were more likely than those in the four lower income categories to experience no social discrimination (42% vs. 24%, chi-squared = 21.36, df = 1, $P < 0.001$), and less likely to experience both homophobia and racism (32% vs. 46%, chi-squared = 9.64, df = 1, $P < 0.01$). Participants in the highest education category (greater than high school education) were more likely than those in the two lower education categories to experience no social discrimination (32% vs. 23%, chi-squared = 10.15, df = 1, $P < 0.01$), and less likely to experience homophobia only (11% vs. 18%, chi-squared = 7.43, df = 1, $P < 0.01$).

Single men were more likely than others to experience homophobia only (17% vs. 7%, chi-squared = 9.40, df = 1, $P < 0.01$). Finally, men who were HIV-positive were more likely than men who were either HIV-negative or unknown to experience any social discrimination (77% vs. 72%, chi-squared = 3.91, df = 1, $P < 0.05$) and more likely to experience both homophobia and racism (51% vs. 41%, chi-squared = 10.41, df = 1, $P < 0.01$). Men who were either HIV-negative or of unknown status were more likely than HIV-positive men to experience racism only (15% vs. 10%, chi-squared = 5.80, df = 1, $P < 0.05$).

Associations Between Exposure to Social Discrimination and Sexual Risk Behaviors

Table 4 shows results of unadjusted and multivariate logistic regression analyses that examined the associations between the 4-category social discrimination variable and sexual risk behaviors. Unadjusted logistic regression analyses show that experiences of social discrimination were not associated with having unprotected insertive AI in the past 3 months (regardless of partner type). However, in the adjusted analysis, experiencing homophobia only was significantly ($P < 0.05$) associated with increased odds of reporting unprotected insertive AI with a main partner (twice the odds) compared with participants who reported no experience of social discrimination. For unprotected receptive AI with a main partner, experiences of social discrimination were not significantly associated with this risk behavior. For unprotected receptive AI with a casual partner, experiencing both homophobia and racism was significantly associated with increased odds of reporting this risk behavior (greater than twice the odds in the unadjusted analysis and a 92% increase in the odds in the adjusted analysis) compared with participants with no experience of social discrimination.

Associations Between Exposure to Social Discrimination and Substance Use Behaviors

Table 5 shows the association between social discrimination and substance use behaviors. For drug use in the past 3 months, experiences of social discrimination were not significantly associated with this risk behavior. For binge drinking in the past 3 months, experiencing both homophobia and racism was significantly associated with an increase in the odds of reporting this risk behavior (a 50% increase in the odds in the unadjusted analysis and a 42% increase in the odds in the adjusted analysis) compared with participants who reported no experience of social discrimination.

Table 4 Association between social discrimination and sexual risk behaviors (data from Brothers y Hermanos Study, conducted in Los Angeles and New York from 2005 to 2006, $N = 1081$)

Experience of social discrimination in the past 12 months	Had UAI-insertive with a main partner in the past 3 months		Had UAI-insertivewith a casual partner in the past 3 months		Had UAI-receptive with a main partner in the past 3 months		Had UAI-receptive with a casual partner in the past 3 months	
	Odds ratio (95% CI)	*P*-value	Odds ratio	*P*-value	Odds ratio	*P*-value	Odds ratio	*P*-value
Unadjusted analysis								
None	Ref		Ref		Ref		Ref	
Homophobia only	1.33	0.233	1.14	0.617	1.28	0.295	1.21	0.549
	(0.83–2.11)		(0.69–1.87)		(0.81–2.04)		(0.65–2.25)	
Racism only	0.72	0.238	1.05	0.868	0.56	0.055	0.86	0.667
	(0.41–1.24)		(0.61–1.78)		(0.31–1.01)		(0.42–1.74)	
Both	0.94	0.758	1.19	0.386	1.12	0.540	2.40	<0.001
	(0.65–1.38)		(0.80–1.75)		(0.78–1.63)		(1.52–3.78)	
Adjusted Analysis	[a]		[b]		[c]		[d]	
None	Ref		Ref		Ref		Ref	
Homophobia only	2.01	0.009	0.96	0.887	1.54	0.094	1.03	0.924
	(1.19–3.39)		(0.56–1.65)		(0.93–2.55)		(0.51–1.96)	
Racism only	0.81	0.469	1.00	0.988	0.57	0.065	0.81	0.580
	(0.45–1.44)		(0.58–1.75)		(0.31–1.04)		(0.38–1.73)	
Both	1.28	0.254	1.02	0.921	1.27	0.249	1.92	0.011
	(0.84–1.97)		(0.67–1.55)		(0.85–1.90)		(1.18–3.24)	

[a] Adjusted for site, income, education, marital status, HIV status, born in US, language spoken at home, and language used to think

[b] Adjusted for site, income, education, marital status, HIV status, any parent born in the US, language used to read and speak, and black race

[c] Adjusted for site, income, education, marital status, HIV status, born in US, and years in US

[d] Adjusted for site, income, education, marital status, HIV status, age, and language used to read and speak

Discussion

Our analysis builds upon previous research documenting associations between experiences of social discrimination and HIV risk behavior among Latino MSM in the US. Using a more refined measure of social discrimination that takes into account experiences of both homophobia and racism (i.e., experienced no social discrimination, homophobia only, racism only, and both homophobia and racism), we move beyond examining each type of discrimination singly [3, 5–7] to assess the potential synergistic "effects" of both types of experience on HIV risk behavior, thus testing the idea that a syndemic of adverse social experiences might help explain health disparities experienced by Latino MSM. This approach more accurately addresses broader, contextual social conditions, and life experiences of Latino MSM who have memberships in both ethnic minority and sexual minority groups.

Overall, more than 40% of Latino MSM in our sample reported experiencing both homophobia and racism in the past 12 months. We also found that men with higher socioeconomic status (SES) such as those with higher income and education, and men who were not HIV-positive, were less likely to report experiencing any social discrimination. Conversely, men with lower income and those who were HIV-positive were more likely to report experiencing both types of social discrimination. We also observed differences in exposure to social discrimination by study site. Los Angeles participants were more likely to report experiencing both types of social discrimination, while New York participants were less likely to report experiencing any social discrimination. These site differences may not only reflect socio-demographic differences in the samples obtained by the RDS method (described in Table 1), they may also reflect regional differences in the experiences of Latino MSM. Among those who were not born in the US, Los Angeles participants were mostly from North/Central America while New York participants were primarily from South America or Caribbean, implying that the participants in each site were comprised of different ethnic sub-groups of Latinos. Given diversity of Latinos in the US in terms of demographic characteristics, cultural values, and socioeconomic circumstances [18, 19] these sub-groups may have different views toward homosexuality and different experiences as racial minorities.

Table 5 Association between social discrimination and substance use behaviors

Experience of social discrimination in the past 12 months	Used drugs in the past 3 months		Had binge drinking in the past 3 months	
	Odds ratio (95% CI)	*P*-value	Odds ratio (95% CI)	*P*-value
Unadjusted				
None	Ref		Ref	
Homophobia only	0.93	0.730	1.28	0.214
	(0.61–1.41)		(0.87–1.90)	
Racism only	1.15	0.529	1.18	0.446
	(0.75–1.75)		(0.78–1.78)	
Both	1.12	0.224	1.50	0.009
	(0.89–1.66)		(1.08–2.07)	
Adjusted	[a]		[b]	
None	Ref		Ref	
Homophobia only	1.01	0.984	1.20	0.405
	(0.63–1.61)		(0.78–1.84)	
Racism only	1.14	0.583	1.15	0.536
	(0.71–1.83)		(0.74–1.79)	
Both	1.39	0.072	1.42	0.039
	(0.97–1.99)		(1.02–1.98)	

[a] Adjusted for site, income, education, marital status, HIV status, age, born in US, any parent born in US, years in US, and language used to think

[b] Adjusted for site, income, education, marital status, HIV status, born in US, any parent born in US, and language spoken at home

We found that exposure to both types of social discrimination was associated with some risk behaviors. Adjusting for potential confounders, experiencing both homophobia and racism was associated with a 92% increase in the odds of reporting unprotected receptive AI with a casual partner, compared to men with no exposure to social discrimination. Likewise, experiencing both homophobia and racism was associated with a 42% increase in the odds of reporting binge drinking. By contrast, men who experienced homophobia only or racism only had comparable odds of reporting these risk behaviors as men with no exposure. The adjusted models also suggest that income, education, and other factors that were significant correlates of exposure to social discrimination did not significantly confound the association between the experiences of social discrimination and these risk behaviors. These findings provide evidence that there appears to be a certain amount of risk directly associated with exposure to both homophobia and racism that cannot be explained by other participant characteristics. These findings also suggest that syndemics can be used to explain health disparities among Latino MSM as experiences of homophobia and racism are additively associated with increased odds of some risk behaviors.

Although we found significant associations between exposure to both types of social discrimination and some risk behaviors, the mechanisms through which such associations occur are yet to be identified. Bruce and colleagues [6] suggest that risky sexual behavior may function as a "maladaptive coping strategy" in response to stress induced by the experience of social discrimination. Nakamura and Zea [7] suggest that those who experience social discrimination may feel less empowered or may internalize negative messages about themselves and thus fail to protect themselves. An additional potential explanation, which might actually help explain the syndemics or additive effects of homophobia and racism we observed, may be that the two types of social discrimination might limit the choices that these men have for engaging in safer sex. For example, homophobia within the Latino community may limit the availability of partners of the same ethnicity, while racism within the larger gay community may drive these men to accept having unprotected receptive AI in order to have sex with white men who are conventionally regarded as attractive [20]. These ideas should be tested with appropriate data.

Exposure to both homophobia and racism was not associated with increased odds of all risk behaviors, however. For example, when compared with men reporting no experiences of social discrimination, participants exposed to both homophobia and racism were not more likely to report unprotected insertive AI with main or casual partners, or unprotected receptive AI with a main partner. Nakamura and Zea [7], too, found that experiences of

homophobia and racism were not associated with unprotected insertive AI (the reported measure of unprotected sex was not separated by partner type) in an Internet sample of Latino gay and bisexual men. We also found a similar null result for unprotected insertive AI with a casual partner, but with a main partner, we found an association between unprotected insertive AI and exposure to homophobia only. These differences by partner type should be explored further.

Our study has the following limitations. First, our data are cross-sectional and thus, any causal inferences should be viewed with caution. A prospective cohort design might have yielded more information about whether and how experiences of social discrimination actually influence men's engagement in HIV risk behaviors, rather than the reverse, that is, engagement of HIV risk behaviors causing men to perceive discrimination. Second, we used a network-based approach for recruiting MSM, and the composition of our final sample might have been different if other probability-based sampling methods had been used. Also, since these men were recruited from US cities, findings may not be applicable to Latinos living outside the US. Third, our categorization of the measures of racist and homophobic experiences may have led to misclassification of these exposure variables. For example, studies show the complexity with which MSM of color experience homophobia and racism. They face homophobia and racism from the general public, homophobia within the racial/ethnic group to which they belong (e.g., homophobia within Latino community), and racism from the white gay community [21]. Although not well documented, relations between Latinos and other racial minority groups may add more complexity to experiences of homophobia and racism among Latino MSM. Experiences of homophobia and racism can be further "internalized," and such internalized experiences may be even more detrimental than the experience itself [6]. The measures used in the current study do not fully capture such complexity, and this complexity may partly explain why the pattern of associations between social discrimination and risk behaviors is not "consistent"—that is, why for some risk behaviors exposure to both forms of discrimination is associated with increased odds of risk behavior while for another outcome only a single exposure (homophobia) is associated with increased odds. Fourth, we relied on participants' self-reported sexual risk and substance use behaviors. Although the use of ACASI may have reduced underreporting of their risk behaviors, the possibility of social desirability bias still exists [14].

Finally, as mentioned earlier, the mechanisms through which associations between social discrimination and some of the HIV risk behaviors occur are yet to be identified. Furthermore, our study generated more questions, such as why exposure to both homophobia and racism was associated with unprotected receptive (but not insertive) AI with a casual (but not a main) partner, and why exposure to homophobia only appears to matter when it comes to insertive AI with a main (but not a casual) partner. Perhaps qualitative, in-depth interviews may suggest some unknown or untested factors that might help explain these associations.

Despite these limitations, this study has important implications for designing HIV risk reduction behavioral interventions for Latino MSM in the US. As of today, no evidence-based behavioral interventions are available specifically for Latino MSM and more intervention research is urgently needed for this population. CDC's Prevention Research Synthesis (PRS) project [22] has identified evidence-based behavioral interventions for black MSM [23] and Asian and Pacific Islander MSM [24] that have addressed homophobia and racism via group discussion of how these experience are related to sexual and substance use risk behaviors. From our data, it is evident that homophobia and racism should both be addressed in behavioral interventions for Latino MSM as well. Additional research is needed to further determine whether and how exposure to both homophobia and racism might cause Latino MSM to engage in risk behaviors and identify factors that might alleviate the negative effects of both types of social discrimination. It may be also helpful to pay attention to cultural values shared by various groups of Latinos such as "machismo" (e.g., traditional gender role for men emphasizing male pride) and "familismo" (e.g., traditional family values such as keeping good family relations and placing family's needs over personal needs) [19] and how these factors might shape how homophobia and racism are experience by these men. Such research may further inform the development of interventions that simultaneously address homophobia and racism at the individual level (e.g., a resiliency intervention on how to cope with homophobia and racism in an adaptive manner) as well as at the community level (e.g., an intervention to reduce homophobia and racism at the societal level). Many researchers and public health officials have recognized the importance of addressing social determinants of health in dealing with the HIV epidemic [25, 26], and research addressing homophobia and racism must be part of the portfolio of such endeavors.

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