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Depressive Symptoms Among Immigrant Latino Sexual Minorities

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Abstract

Objective—To estimate the prevalence and identify correlates of depressive symptoms among immigrant Latino sexual minorities.

Methods—Respondent-driven sampling (RDS) was used to estimate the prevalence of depressive symptoms, and univariate and multivariable analyses were conducted to identify correlates of depressive symptoms.

Results—Unweighted and RDS-weighted prevalence estimates of depressive symptoms were 69.2% and 74.8%, respectively. In the multivariable analysis, low social support, sexual compulsivity, and high self-esteem were significantly associated with increased depressive symptoms.

Conclusions—A need exists for culturally congruent mental health services for immigrant Latino sexual minorities in the southern United States.

Keywords

Hispanic; Latino; MSM; gay; community-based participatory research; CBPR; respondent-driven sampling; prevalence; depression; homophobia; social support

Latinos account for 16% of the United States (US) population, and by 2050, it is estimated that Latinos will constitute 30% of the US population. The Latino population is less concentrated than in 2000 and has grown more dramatically in states that traditionally had smaller immigrant populations (ie, southern United States).[1] Immigrant Latinos in the Southeast tend to be younger and from southern rural Mexico and Central America, have lower educational attainment, and have arrived more recently compared to those who traditionally immigrated to Arizona, California, Florida, New York, and Texas.[2–5] Furthermore, many of these immigrant Latinos come to rural communities in the South that lack histories of immigration and infrastructures to identify and meet their needs.[3,5]

There has been some, albeit limited, documentation of the mental health status of specific groups of adult Latinos in the United States. The existing studies include samples of predominately Cuban men in south Florida,[6] Latinas in northeastern New York,[7] Latinos in a midsized Midwestern city,[8] and Latinos who participated in the National Latino and Asian American Study.[9] Overall prevalence of depression among Latinos in the United States has been estimated to be as high as 20% among Latino men and 50% among Latina women.[6,10–14]

Even less is known about the mental health status of Latino gay men, men who have sex with men (MSM), and male-to-female transgender individuals in the United States.[15,16] The available data on mental health among Latinos tend to be outdated, and often studies of Latino sexual minorities were conducted in major cities with an established history of Latino immigration such as Los Angeles, Miami, and New York.[16–20] These communities do not reflect current US destinations for immigrant Latinos – the rural Southeast; they also do not reflect the demographic characteristics of immigrant Latinos arriving in the South. Furthermore, the available mental health data tend to be based on convenience- and venue-based sampling given the difficulty of establishing a sampling frame for a population that may be highly motivated to remain hidden given the discrimination experienced based on Latino ethnicity; the current immigration debates and policies that affect immigrants who

are documented and undocumented alike; and social stigma associated with gay, bisexual, and transgender identities and MSM behavior.

Despite the lack of representative data, immigrant Latino gay men, MSM, and transgender individuals may be particularly at risk for mental health disparities. Discrimination-related stressors have been found to have an impact on depressive symptoms among ethnic minorities.[14,21–25] Studies also have suggested that sexual minorities (eg, gay men, MSM, and transgender individuals) are at higher risk for mental health issues, including depression, psychiatric disorders, and psychological distress than are their heterosexual peers.[26–31] Thus, the burden of poor mental health may be even higher among lesbian, gay, bisexual, and transgender (LGBT) ethnic minorities, such as Latino LGBT.

A variety of factors have been found to predict mental health status among samples of Latino immigrants in the United States. For example, a longitudinal study of acculturation reported that an orientation toward the US “mainstream” predicted increased depressive symptoms among immigrant Latinos.[32] Other factors such as educational attainment, income, time in the United States, employment status, religiosity, sexual compulsivity, social support, perceived discrimination, immigration status, and self-esteem have been associated with depressive symptoms among immigrant Latinos.[9,14,16,33–36]

Because little is known about the prevalence and potential correlates of depressive symptoms among recently arrived immigrant Latino gay men, MSM, and transgender individuals who are settling in the new destinations (including the US South), members of our community-based participatory research (CBPR) partnership sought to establish (1) prevalence estimates and (2) potential correlates of depressive symptoms among recently arrived immigrant Latino gay men, MSM, and transgender individuals who are part of the rapidly growing immigrant Latino population in the South.

METHODS

Community-based Participatory Research (CBPR)

This study was guided by an ongoing CBPR partnership in central and northwestern North Carolina comprising representatives from public health departments, AIDS service organizations (ASOs), universities, the local Latino community (including immigrant Latino gay men), and Latino-serving community-based organizations (CBOs). Our partnership has worked together for over a decade to improve the health of vulnerable populations, including immigrant Latinos. Partners developed and continue to adhere to partnership principles that include working with mutual respect; building upon partner strengths; moving findings into action; and disseminating findings to community members, policy makers, and research and clinical audiences.[38,39] Partners are committed to CBPR because blending lived experiences with sound science may have the potential to develop deeper understandings of phenomena. Deeper understanding of phenomena can lead to the development of more culturally congruent and effective interventions designed to reduce health disparities.[40–42]

Respondent-driven Sampling (RDS)

RDS methods were used. RDS is a chain-referral method that approximates random samples of target populations and allows calculation of unbiased estimates of population parameters. It extends snowball-type samples, viewed as convenience samples, to approximate a probability sample through the use of the RDS Analysis Tool (RDSAT). RDS relies on respondents to recruit a limited number of other respondents who are in their social networks and meet study inclusion criteria.[37,43,44] RDS combines this recruitment approach

with modeling using RDSAT to weight the sample to compensate for nonrandom and controlled recruitment.

Study data collection began by recruiting 17 group members (known as RDS "seeds"[37]) who met eligibility requirements and enrolling them. Seed recruitment was facilitated by CBPR partners with existing strong ties to the Latino community. Although the characteristics of seeds in RDS are independent of those of the final sample, diversity among seeds accelerates the rate at which the sample reaches equilibrium.[37] Thus, seeds were selected to represent the diversity of sexual identity and behavior among Latino gay men, MSM, and transgender individuals, including level of "outness" about their sexual and gender identity, age, country of origin, and HIV status. Each seed also reported being from one of 7 rural counties in central North Carolina. These counties were selected *a priori* given that each had population densities < 1000 per square mile.[45] When compared to other counties in North Carolina, these counties had higher percentages of persons self-identifying as Latino and more rapid Latino community growth rates.[46]

Eligibility criteria for participation in this study included self-identifying as Latino or Hispanic, being ≥ 18 years of age, reporting MSM behavior since age ≥ 18, and providing informed consent. Two seeds reported being HIV+ and 2 reported being male-to-female transgender. After participating in the assessment, each seed was trained in the RDS recruitment protocol, which included how to recruit peers; study inclusion criteria; amount of compensation for participation and recruitment; procedure for peer recruits' contacting the study coordinator; and the ethical treatment of peer recruits. Thus, the seeds initiated the chain-referral process.

After recruits contacted study staff via a study toll-free telephone number and were found to be eligible, they were enrolled and their data were collected using the same assessment as was used with seeds. Immediately after completing the assessment, each respondent also was trained in the RDS training recruitment protocol outlined above.

Each seed and subsequent respondent received 3 recruitment coupons to give recruits (potential respondents). The coupons included low-literacy Spanish-language information on the study, including the study's toll-free telephone number. The coupons were coded to match the recruiter to the respondent, a necessary component to generate sample weights for RDS prevalence estimates in analysis; a coupon was collected by the interviewer from each respondent.

This chain-referral process continued until the sample size was obtained. We reached the *a priori* sample size (N = 190) in 9 months. Sample size was based on the ability to identify differences in the dependent variable. Each respondent was compensated $50 for participation in the assessment and received $20 (for a maximum total of $60) for each recruited peer who met eligibility criteria and participated in the assessment.

All 17 seeds who were approached, screened, and found eligible consented to participate. All respondents who contacted the study were screened, found eligible, and consented. Because of the peer recruitment approach of RDS, it is not possible to know how many of the 3 coupons each seed or subsequent respondent distributed. A total of 190 self-identified Latino gay men, MSM, and transgender individuals enrolled in the study after 3 waves of data collection.

Measures

Our CBPR partnership developed the assessment iteratively based on formative studies and thorough literature review. Partners brainstormed constructs; compiled and developed items;

and reviewed, revised, and approved the final version. Validated Spanish-language scales were used when available. The assessment was interviewer administered using a paper-pencil format to overcome poor literacy and vision status. Also, formative data[4,47,48] and feedback from partnership members suggested that respondents were more likely to engage with a well-trained interviewer who could establish rapport and trust as opposed to the use of audio computer assisted self-interview (ACASI), which is a common approach in quantitative behavioral research. An interviewer-administered approach was thought to be culturally congruent given that some Latinos value *personalismo*, a cultural feature that tends to stress the importance of interpersonal relationships.[49] We have found that our interviewer-administered approach reduces missing data.

The assessment was completed in convenient and private locations including offices of CBPR partners, public libraries, and respondent homes. Interviewers had experience in the collection of sensitive data from sexual minorities and were further trained by the first author; they practiced and developed their interviewing skills with CBPR partnership members.

The assessment took 45–90 minutes to complete, depending on the skip patterns of the respondent. Most items had predefined response options with binary, categorical, or Likert-scale response options. The assessment measured demographic characteristics, depressive symptomology, and psychosocial variables; higher scores of depressive symptomology and psychosocial variables indicated greater adherence to or amount of the construct measured.

Demographic characteristics included age in years, country of origin, length of time living in North Carolina, gender, sexual identity, educational attainment, employment status and type of employment, annual income, and current living situation.

Depressive symptoms were measured by the Center of Epidemiological Studies Depression (CES-D) Scale, a widely used 20-item scale. As recommended, we defined clinically significant depressive symptoms as a score of 16 or higher.[50]

Acculturation was measured using the Short Acculturation Scale for Hispanics.[51] The scale was developed to analyze 3 factors: language use, media, and ethnic social relations or socialization. Scale ranges from 1 (not at all acculturated) to 5 (fully acculturated).

Religiosity was measured using the Santa Clara Strength of Religious Faith Questionnaire,[52] a 10-item scale used to measure strength of religious faith regardless of religious affiliation.

Current living situation was also assessed; respondents were asked: “Where are you currently living or staying most of the time?” Response options included “Your own house or apartment”; “Family member’s house or apartment”; “At someone else’s house or apartment”; “In a rooming, boarding, halfway house, shelter, or hotel”; “On the street, vacant lot, abandoned building, park, etc.”; “Other (please specify).”

The Index of Sojourner Social Support (ISSS) Scale assessed social support. The ISSS Scale takes into consideration 4 core functions: emotional, instrumental, informational, and appraisal support.[53] This scale has been found to be valid and reliable among immigrant Latino MSM.[54]

Sexual compulsivity was measured with an existing scale[55] that also has been found valid and reliable among immigrant Latinos.[56] The scale consists of 10 Likert-scale items. Internalized homo-negativity was measured using a 26-item scale.[57] Items assessed the knowledge, attitudes, beliefs, and behaviors relevant to MSM; sample items include “I avoid

thinking about my homosexuality," and "Society still punishes people for being gay." Response options ranged from Strongly disagree (1) to Strongly agree (7).

Perceived unfairness was based on an item used in the Whitehall II study[58] and adapted for use in this study. Respondents indicated to what extent they agreed with the statement "Since coming to the United States, I often have the feeling that I am being treated unfairly because of my ethnicity." Response options were "Strongly disagree," "Disagree," "Agree," "Strongly agree," and "Don't know."

To measure perceived victimization, an instrument that measures self-reported experiences of racial discrimination was adapted and used.[59] Respondents indicated to what extent they agreed with the statement "Since coming to the US, have you ever experienced discrimination or been the victim of violence due to your race?" Response options were: "No," "Yes," and "Don't know."

To assess discrimination-related symptoms, respondents were asked "Have your experiences with racial discrimination or violence increased your levels of stress or anxiety?" Response options were: "No," "Yes," and "Don't know."

Measurement of perceived day-to-day discrimination was adapted from the MacArthur Foundation Midlife Development in the United States (MIDUS) survey.[60] Respondents were asked "During your time in North Carolina, in your day-to-day life, how frequently have any of the following things happened to you because of your race," followed by a 10-item list of experiences (eg, "Others acted fearful of you"; "Others acted like you were dishonest"). The response options for recording how often each experience occurred were "Never," "Sometimes," "Frequently," "Very frequently," and "Don't know."

Self-esteem was measured with the widely used 6-item Rosenberg Self-Esteem Scale.[61] RDS-specific measures for weighting prevalence estimates included personal network size, how many persons the respondent knew who fit the inclusion criteria, and how well the respondent knew his recruiter.[43]

Statistics

The analyses comprised several steps. First, sample demographics were analyzed using descriptive statistics. Second, using RDSAT version 5.6, unweighted and RDS-weighted prevalence estimates were computed, as were and 95% confidence intervals (CI) of depressive symptoms, sexual compulsivity, internalized homo-negativity, perceived unfairness, victimization, discrimination-related stress, perceived day-to-day discrimination, and self-esteem.[62] Sampling weights served as network effects to account for respondents' recruiting other respondents.

Finally, correlations between clinically significant depressive symptoms and selected characteristics were examined using logistic regression analysis. Variables significant at $p < .05$ in the univariate analyses were entered into a multivariable model to identify the independent contribution of each while adjusting for the effects of other variables in the model. In the final multivariable model, we excluded variables that were highly correlated to prevent multicollinearity. When sampling is associated with potential independent variables in a multivariable model, those variables should be included, but it is not necessary to weight observations as is necessary to calculate prevalence estimates.[63] Adjusted odds ratios (AOR) and 95% CIs were calculated for all of the independent variables. These analyses were performed using SAS version 9.2.[64]

RESULTS

Respondent Characteristics

Characteristics of respondents are provided in Table 1. Average age of respondents was 25.5 years old, and most respondents reported being from Mexico. The average number of years living in the United States was 10 years.

All of the respondents in the study reported having had sex with a male partner in the past 3 months. The majority of respondents self-identified as gay or homosexual (88.8%), and a smaller number (9.6%) as bisexual; few respondents self-identified as heterosexual.

Most respondents reported having a high school diploma or general education diploma (GED). Most respondents reported being employed year-round. The majority reported having an annual income between $20,000 and $29,999, whereas nearly a third reported making less than $20,000 annually, and 3 fourths of the sample reported sending remittances to their family in the past 12 months.

Nearly 2 thirds of the sample reported living in a family member's house or apartment (44.1%) or someone else's house or apartment (19.3%). A third of respondents reported living in their own house or apartment. Overall, acculturation was low, and 3 fourths of the sample reported having middle (48.1%) and high (24.5%) levels of religiosity.

Prevalence Estimates

Unweighted and RDS-weighted prevalence estimates for depressive symptoms and potential psychosocial correlates are presented in Table 2. The prevalence estimate of (1) clinically significant depressive symptoms (defined as a score of 16 or above on the CES-D) was 69.2% unweighted and 74.8% RDS weighted; (2) sexual compulsivity (defined as frequently or very frequently) was 61.1% unweighted and 76.7% RDS weighted; (3) moderate to high internalized homo-negativity was 88.25% unweighted and 88.5% RDS weighted; (4) perceived unfairness was 23.5 % unweighted and 26.1% RDS weighted; (5) victimization was 16.3% unweighted and 15.3% RDS weighted; (6) discrimination-related stress was 10.8% unweighted and 15.3% RDS weighted; (7) perceived day-to-day discrimination was 31.2% unweighted and 31.9% RDS weighted; and (8) high self-esteem was 76.6% unweighted and 67.9% RDS weighted.

Correlates of Depressive Symptoms

In unadjusted univariate logistic regression analysis, 9 characteristics were significantly associated with depressive symptoms (Table 3). Because acculturation media were highly correlated with language use and ethnic social relations, we excluded acculturation media and ethnic social relations in the final multivariable model to avoid multicollinearity.

In the multivariable model, respondents with higher perceived social support (OR = .80; 95% CI = .66, .98) were less likely to report high depressive symptoms. Respondents with higher perceived sexual compulsivity (OR = 4.55; 95% CI = 1.83, 11.30) and higher self-esteem (OR = 5.59; 95% CI = 2.01, 15.59) were more likely to report clinically significant depressive symptoms.

DISCUSSION

This study is the first study of which we are aware to develop prevalence estimates of clinically significant depressive symptoms and a variety of key psychosocial variables among immigrant Latino gay men, MSM, and transgender individuals in the southern United States. Several findings deserve highlighting. Three out of 4 respondents reported

CES-D scores of 16 or higher, and none was receiving mental health services. Three out of 4 reported sexual compulsivity, and nearly 9 out of 10 reported moderate to high internalized homo-negativity. These prevalence estimates suggest the need for culturally congruent mental health services to reduce the burdens experienced by Latino sexual minorities. Because Latino immigration to the South is a relatively recent phenomenon, mental health and public health resources, including services in general and culturally congruent services in particular, may need to be developed and/or strengthened.

Prevalence estimates of perceived unfairness, victimization, discrimination-related stress, and day-to-day discrimination were not as high as depressive symptoms, sexual compulsivity, and internalized homo-negativity. However, these lower estimates do not suggest that these issues are unimportant. In fact, among immigrant Latino gay men, MSM, and transgender individuals, one in 4 reported being treated unfairly, and one in 6 reported victimization since coming to the United States; nearly one in 3 reported perceived day-to-day discrimination. The implications are profound including overall decreased physical and mental health.[25,65] Furthermore, these estimates may be low; for example, more recently arrived and first-generation immigrant Latinos have lower levels of perceived discrimination overall than do those who have been in the United States for a longer period of time and second-generation Latinos. This may be due in part with the level of acculturation and their being less likely to engage outside their ethnic enclaves. Furthermore, they may be more satisfied to have work in the United States (as opposed to the economic and political struggles they faced in their countries of origin); thus, they do not recognize the discrimination they are experiencing. Also, Latino gay men, MSM, and transgender individuals may have experienced greater discrimination in their countries of origin; they may evaluate what they experience in the United States as not as bad as what they experienced previously. Thus, the prevalence estimate of day-to-day discrimination may be much higher than reported.

We also identified correlates of clinically significant depressive symptoms. Social support was associated with depressive symptoms; thus, programs and interventions that provide opportunities for Latino gay men, MSM, and transgender individuals to convene, share experiences, and build supportive and healthy relationships may reduce depressive symptoms. Building social support may be an assets-based and culturally congruent approach given the informal support some immigrants provide one another in terms of finding a place to live and work and buying a car, as examples. Furthermore, the high sexual compulsivity identified and its association with clinically significant depressive symptoms suggest that mental and public health professionals must work together to better understand the predictors of sexual compulsivity and design strategies to meet needs, given the links between sexual compulsivity and reduced sexual health.[66]

We also found high self-esteem to be correlated with clinically significant depressive symptoms. High self-esteem is not necessarily “healthy” self-esteem.[67] Clinically significant depressive symptoms among immigrant Latino sexual minorities with high self-esteem may indicate that their positive self-views are vulnerable, and they may have less developed coping skills to deal with the challenges they face in the United States as an immigrant, Latino, and/or gay man/MSM or transgender woman. Future studies are needed to better understand the psychological mechanisms that link self-esteem and depressive symptoms among immigrant Latino gay men and MSM

Finally, these findings suggest the need for community-level change. However, few programs have been developed or proposed to transform community through some type of socio-political or cultural intervention.[68–70] An example of this type of intervention may include social marketing campaigns to reduce negative notions held about immigrants;

Latinos; or same-sex identity, attraction, desire, and behavior. These interventions may not target Latino sexual minorities but may be designed to change broader community member perceptions and attitudes.

Limitations

First, the observed associations are based on cross-sectional data. Cohort studies are warranted to evaluate the significance and stability of these findings over time. Second, although a culturally congruent format that harnessed *personalismo* was used to maximize accuracy, these results remain based on self-report with its potential limitations. Furthermore, future studies with larger sample sizes could explore the differences in depressive symptoms and correlates among subgroups of immigrant Latino sexual minorities, including comparisons by self-identified sexual orientation (eg, gay and bisexual), gender identity, sexual behavior (eg, sex with men exclusively or with men and women), country of origin, and years living in the United States. For example, our sample size may have been too small to identify the mental health burden experienced by transgender respondents; transgender respondents may constitute a different population worthy of a distinct study given their increased rates of depression in studies of racially and ethnicity mixed samples.[69] Future studies may benefit from increasing sample size and/or narrowing inclusion criteria in order to estimate prevalences by subgroup.

Moreover, these prevalence estimates are based on Latino gay men, MSM, and transgender individuals recruited in rural North Carolina. Although the demographics of Latinos immigrating to North Carolina represent those coming to the southern United States, generalization of the findings to other Latino populations (eg, non-MSM) or contexts (eg, urban settings) may not be appropriate. Further studies may be warranted to explore these prevalence estimates in other communities in the South and standardize methods and study designs to compare prevalence estimates across multiple communities.

Finally, the measures used have been tested and used in other studies; nevertheless, some limitations exist because some of these instruments were first created in English, based on the experiences of members of non-Latino communities, and then translated into Spanish.

Conclusions

Using both CBPR and RDS, this study was successful in recruiting immigrant Latino gay men, MSM, and transgender individuals within communities in which publicity over partnerships between local law enforcement and US Immigration and Customs Enforcement and allegations that public health department records had been used in deportation proceedings have contributed to general distrust among many immigrant Latinos.[43,71] Within this socio-political context, this population is even more suspicious and thus more difficult for researchers and practitioners to access. However, the initial trust that our CBPR partnership had in the local community, combined with the RDS recruitment approach, enabled this study to overcome these challenges.

Using a common measure, up to 7 out of 10 Latino gay men, MSM, transgender individuals were identified as experiencing clinical depressive symptoms. Thus, there may be a need to increase access to and use of mental health services for Latino sexual minorities. However, the approach must be multilevel. At the system and individual levels, Latino sexual minorities must have access to services that are comprehensive and culturally congruent. After infrastructure is developed, education will be needed to increase awareness of available services and how these services can be used. Furthermore, broader structural and socio-political interventions may be needed to effect positive change in the way immigrants,

Latinos, and gay men/MSM or transgender individuals are perceived and treated and thus feel about themselves.

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Table 1

Respondent Characteristics (N = 190)

Characteristic	Mean ± SD (min-max) or N (%), As Appropriate
Age (years)	25 ± 5.4 (18–48)
Country of origin	
Mexico	149 (79.2)
Guatemala	4 (2.1)
El Salvador	3 (1.6)
Honduras	3 (1.6)
Other	29 (15.5)
Length of time in US in years	9.8 ± 5.4 (0.3–25)
Gender	
Male	159 (83.7)
Male-to-female transgender	31 (16.3)
Sexual Identity (N = 188)	
Gay/Homosexual	167 (88.8)
Bisexual	18 (9.6)
Heterosexual/Straight	3 (1.6)
Education	
Less than high school diploma or equivalent (GED)	24 (13.5)
High School diploma or equivalent (GED)	122 (68.5)
Some college	23 (12.9)
2-year college degree	5 (2.8)
4-year college degree	4 (2.3)
Employment Status (N = 187)	
Employed year around	170 (90.9)
Employed in seasonal work but not year round	13 (7.0)
Unemployed	4 (2.1)
Employment Type (N= 176)	
Construction	43 (24.4)
Restaurant	37 (21.0)
Factory	21 (11.9)
Furniture manufacturing	20 (11.4)
Hairstylist/barber	10 (5.7)
Janitor/industrial cleaning	8 (4.6)
Animal slaughtering/processing	7 (4.0)
Cashier	7 (4.0)
Lawncare/landscaping	7 (4.0)
Other (eg, farmwork)	16 (9.1)
Annual Income (N = 181)	
<$20,000	56 (30.9)
$20,000–$29,999	94 (51.9)

Characteristic	Mean ± SD (min-max) or N (%), As Appropriate
$30,000–39,999	26 (14.4)
$40,000–49,999	5 (2.8)
Current Living Situation (N = 188)	
Family member's house or apartment	83 (44.1)
House or apartment	65 (34.6)
Someone's else house or apartment	38 (20.2)
Other	2 (1.1)

Table 2

Prevalence Estimates of Depressive Symptoms and Psychosocial Factors Among Immigrant Latino MSM

	N	Unweighted % (95% CI)	RDS weighted % (95% CI)
Clinically Significant Depressive Symptoms (score ≥ 16)	130	69.2% (62.2–75.3)	74.8% (61.9–80.2)
Acculturation			
Language use (α = 0.92)			
Less acculturated (< 3)	143	75.3% (68.7–80.9)	75.9% (68.6–82.6)
Media use (α = 0.94)			
Less acculturated (< 3)	89	46.8% (39.9–53.9)	43.1% (33.8–52.4)
Ethnic/social relations (α = 0.93)			
Less acculturated (< 3)	153	80.5% (74.3–85.5)	83.2% (79.3–88.0)
Religiosity (α = 0.98)			
Low (< 20)	29	27.4% (19.8–36.5)	36.9% (22.8–48.6)
Middle (20–29)	51	48.1% (38.8–57.5)	46.9% (35.3–59.9)
High (≥ 30)	26	24.5% (17.3–33.5)	16.2% (9.8–24.9)
Sexual Compulsivity (α = 0.95)			
Frequently or Very Frequently	116	61.1% (54.0–67.7)	76.7% (68.5–85.5)
Moderate to High Internalized Homo-negativity (α = 0.44)	165	88.25% (82.8–92.1)	88.5% (83.8–93.6)
Perceived Unfairness			
Agree or Strongly Agree	43	23.5% (17.9–30.2)	26.1% (15.1–36.7)
Victimization (Yes)	30	16.3% (11.7–22.3)	15.3% (8.2–18.6)
Discrimination-Related Stress (Yes)	17	10.8% (6.8–16.6)	10.4% (4.9–20.3)
Perceived Day-to-Day Discrimination (α = .94)	58	31.2% (25.0–38.2)	31.9% (22.7–44.7)
High Self-esteem (α = 0.81)			
Agree	44	23.4% (17.9–30.0)	32.1% (25.0–45.0)
Strongly Agree	144	76.6% (70.1–82.1)	67.9% (55.0–75.0)

Table 3

Correlates of Depressive Symptoms Among Recent Immigrant Latino MSM: Univariate and Multivariable Logistic Regression Analyses

Characteristic	Univariate Analysis	Multivariable Analysis
	OR (95% CI)	Adjusted OR (95% CI)
Age	0.98 (0.93–1.04)	NI
From Mexico	1.21 (0.57–2.57)	NI
Length of Time in the US	1.03 (0.96–1.11)	NI
Transgender Identity	1.64 (0.66–4.08)	NI
Bisexual Identity	0.38 (0.14–1.02)	NI
Less Than High School or GED equivalent	0.24 (0.10–0.60)*	0.92 (0.27–3.17)
Not Employed Year Round	0.72 (0.22–2.30)	NI
Annual income < $20,000	1.12 (0.56–2.24)	NI
Living in Someone Else's House or Apartment	2.16 (1.09–4.27)*	1.44 (0.61–3.43)
Acculturation - Language	2.35 (1.49–3.70)*	1.63 (0.88–3.05)
Acculturation - Media	1.81 (1.27–2.57)*	NI[a]
Acculturation - Socialization	2.27 (1.31–3.93)*	NI[a]
Religiosity	1.04 (0.98–1.11)	NI
Social Support (α = 0.88)	0.79 (0.67–0.91)*	0.80 (0.66–0.98)*
Sexual Compulsivity	6.63 (3.03–14.53)*	4.55 (1.83–11.30)*
Internalized Homo-negativity	0.98 (0.95–1.01)	NI
Perceived Unfairness	0.75 (0.36–1.56)	NI
Victimization	1.11 (0.47–2.60)	NI
Discrimination-Related Stress	1.14 (0.38–3.45)	NI
Perceived Day-to-Day Discrimination	0.57 (0.25–1.29)	NI
Self-esteem	4.51 (2.10–9.70)*	5.59 (2.01–15.59)*

*$p < 0.05$

Notes.

NI = Not included in the multivariable model.

[a]Not included due to high correlation.

[b]Not included due to missing data.