
SOMOS: evaluation of an HIV prevention intervention for Latino gay men

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Abstract

Latino gay men face multiple barriers to human immunodeficiency virus (HIV) prevention, in particular a lack of intervention programs that integrate prevention messages with cultural norms and address issues of social marginalization from multiple communities (gay community and Latino community), homophobia and racism. In order to address these specific issues, a multilayered HIV intervention was designed to incorporate and integrate psychosocial and community factors through multiple session groups, social marketing and community presentations. Participants learned strategies for effective community leadership and were encouraged to provide HIV education and address internalized homophobia in their communities. There were a total of 113 Latino gay male participants. Pretests and post-tests at 90-day follow-up were administered to measure knowledge, attitudes and behaviors related to HIV infection, self-efficacy, internalized homophobia and connectedness (i.e. gay community affiliation and social provisions); a risk index was calculated to measure level of behavioral risk for HIV infection. Participants demonstrated lower risk indices and a decrease in partners at 3 and 6 months after the intervention. There was also an increase in reported social support resources, along with an increase in group identification.

Connectedness was a strong predictor of the number of sexual partners at the 90-day follow-up. This homegrown program represents a culturally responsive, highly needed and relevant intervention that should be subjected to further rigorous testing.

Introduction

Nationally, Latino gay men experience higher acquired immunodeficiency syndrome (AIDS) mortality, late-stage diagnosis and a larger proportion of new human immunodeficiency virus (HIV) cases than their white counterparts [1, 2]. Of men who have sex with men (MSM) in New York City, Latino men comprised 31.6% of those diagnosed with HIV in 2007 (compared with 29.3% of white men) [3]. For this population, few HIV interventions have been evaluated and presented in peer-reviewed journals [4]. In the Centers for Disease Control and Prevention (CDC) Diffusion of Effective Behavioral Interventions (DEBI) initiative—a project designed to bring science-based, community-, group- and individual-level HIV prevention interventions to community-based service providers and state and local health departments—only a small number of those disseminated nationally targeted Latino gay men [2, 5]. There is clearly a need for more diverse HIV prevention interventions targeting this vulnerable population, as well as rigorous

evaluation of these interventions and concordant reporting of the findings.

Latino gay men are at increased risk for contracting HIV relative to the general population due to common risk behaviors, psychosocial factors and in particular a specific set of mental health vulnerabilities that are associated with various forms of social discrimination, either perceived or real. Latino gay men have identified homophobia, racism and poverty as key factors affecting their mental health [6] and a study of Latino gay men's mental health reported high prevalence of suicidal ideation, anxiety and depressed mood associated with feelings of social discrimination [6]. Substance use—both illicit and legal—has been shown to drive HIV risk for Latino gay men [7]. In addition, Latinos face multiple stigmas around perceived immigration status complicating health service access, employment, educational opportunities and connection to social networks [8]. These factors interact to complicate attempts at implementing more generic prevention programs among Latino gay men. For example, in one study of randomly sampled venues, nearly half of the young men sampled had not been tested in the past year: nearly 20% of participants identified as Latino [9]. Latino gay men straddle many communities based on ethnicity, race, sexual identity and geography—each with unique, as well as concurrent HIV prevention barriers. Language and cultural barriers further affect Latino gay men's access to services [6, 8]. AIDS-related social stigma remains a concern for Latino gay men especially in terms of public attitudes, negative self-images and disclosure concerns [8, 10]. These concerns exist in the social arena but are experienced personally.

While HIV prevention messages may find wider acceptance in the gay community in general, subsets of the gay community may be isolated from the larger gay community through class, economic status, race, immigration, alternative sex practices, substance use or geographic segregation and will consequently be less likely to internalize or appropriate gay community messages because of lack of informed social support networks [11, 12]. Therefore, as Latino gay men experience or perceive psychological, social or geographic alienation from the

gay community, norms and knowledge about safer sex and HIV messages may not be received effectively by members of this population.

There have been a few Latino-gay-men-focused interventions addressing some of these aforementioned psychosocial factors. These have included culturally coded masculinity, social isolation and number of sexual partners as points of intervention [13]. The use of interventions that employ social and community norms, as well as psychodynamic experiences, is particularly important for HIV interventions for Latino gay men. However, there is evidence that social networks are also an integral place to promote sexual health and other health outcomes for Latino gay men [13–17]. Distance from the gay community, as well as the potential distance from family due to homophobia and HIV/AIDS stigma could indicate that some work must be done on building connectedness with other similar persons [14]. Therefore, interventions looking at social networks should take into account the particular dimensions of the social networks in terms of access to the network populations as well as the resources within the respective networks. The question for those seeking to implement effective HIV prevention programs is: given the frequent distancing of Latino gay males from a larger local gay community, how effective can a generic intervention be?

Because of the complex matrix of needs and concepts of an intervention program targeting Latino gay men, a community-based organization (CBO) could be positioned well to design an effective program and to reach out to the Latino gay population. The CBO typically has ready access to the community and has garnered its trust [4, 18]. The CBO is centered on a particular community and therefore can have an 'insider' understanding of some of the community's cultural and structural concerns.

There is clearly a need for theoretically grounded interventions to explore the intersecting identities of sexual orientation and ethnicity within the social environment. The Latino Commission on AIDS, a CBO serving the Latino population of New York City, recognized not only the need for a Latino-specific intervention for gay Latino men but also

the desire by said community to develop one. Because of prior studies and our preliminary research consisting of focus groups with Latino gay men, there was an evident need for interventions looking at social and personal experiences and behaviors. We developed an intervention based on Social Identity Theory, which incorporates the individual and the social interplay that forms identity and behavior [19]. In particular, Social Identity Theory explains inter-group relationships through a model that places individual needs and motivation (the need for a positive social identity) as the primary means of fundamentally explaining interpersonal and inter-group dynamics [19]. Social identity is the individual's self-concept derived from perceived membership in social groups [11, 19]. In integrating into a community—whether it is defined through sexuality, geography or ethnicity—Latino gay men could be exploring and trying to attain a greater understanding of what the community norms are and how they may differ from the norms already integrated through home or national (if an immigrant) upbringing. By using Social Identity Theory as the intervention base, we developed an intervention that builds social connections between Latino gay men, enhances personal skills to engage in social norms and supports intervention participants to actually conduct interventions in the community via presentations or advertisements in ethnic-specific papers [6, 12]. In particular, considering the social marginalization Latino gay men experience in the United States, we wanted to address homophobia within an ethnic environment as an integral means of building up social identities that had better skills at safer sex negotiation and practices [13].

A Community Advisory Board (CAB) was recruited to help define the specific parts of the intervention. The CAB was made up of community members and leaders—some worked at other CBOs and others were mainstays of ethnic-specific bars. After explanation of the intent behind the intervention, the CAB informed the program design, reviewed risk assessment forms and reviewed materials for appropriateness. CAB meetings were more intensive at the start of the program and lessened off as the intervention progressed.

The intervention design purposely combined individual psychosocial dynamics with social forces that exist outside the individual. More and more, researchers have accepted that HIV prevention interventions exist in a larger context; the public sphere has particular impact on personal identity and interpersonal interactions [20]. The researchers utilized the CAB as a means of understanding community definitions and culturally appropriate ways of approaching the intervention components.

Methods

Participants

A total of 113 Latino gay men made up the sample of this intervention. There were a total of 119 men who were screened but 6 of them had not had sexual intercourse for more than 6 months prior to the intervention. Those six were deemed ineligible (as the intervention was tailored to those who were considered sexually active—defined for this intervention as having had sex in the last 6 months) and provided outside referrals as needed. The sample was recruited and participated in the intervention continuously from 2002 through 2006. Participants were individuals who lived in New York City at the time the intervention was implemented. All the men included in this sample participated in all sessions and components of the program. Furthermore, 100% of the men completed the pre- and post-risk assessments.

Recruitment procedures

Outreach was conducted in New York City at Latino gay bars, university groups, ethnic-specific organizations and ethnic-specific gay social groups as environments where Latino gay men would feel most comfortable, unstigmatized, socially competent and therefore unthreatened by recruiter engagement [13, 17]. Outreach staff, who were not only peers but also part of the local social networks, approached prospective participants, talked about HIV and then invited them to participate in the program. The project's social marketing initiatives—the advertisements from each cohort of the intervention—appeared in local papers, which also

acted as a recruiting tool. Screening was based on five criteria: ethnicity (e.g. self-identified as Hispanic or from a Latino country of origin), sexual identity (e.g. gay, bisexual, transgendered), age (18 years and older), residence (any of the five boroughs of New York City) and sexually active (having had sexual intercourse within the last 6 months). Prospective participants were found in social settings identified either through a formative assessment process (gay bars, ethnic-specific gay bars or ethnic-specific organizations) or through targeted advertisements. Any prospective participant was screened by the previously mentioned criteria and, if eligible, invited to participate in the program. Once enrolled, participants completed a structured interview that lasted approximately an hour. This structured interview was a pre-intervention risk assessment administered verbally, for later comparison with the post-intervention assessment. Intake and program staff were bilingual English/Spanish, trained in health education and the instrument tools.

Intervention design

SOMOS ('we are') was a theory-based HIV prevention intervention targeting Latino gay men with three components: group sessions, social marketing and community presentations (Fig. 1). The CAB informed the design of the sessions and reviewed materials for cultural appropriateness. The name of the intervention, 'SOMOS', emerged from the preliminary research with community members. The name of the program was reflective of the intent to create a sense of belongingness while also enhancing self-identity and cohesion with the Latino gay community. These components, as identified by the CAB and researchers through preliminary research (i.e. formative assessments), incorporated the individual and social interplay that forms identity and behavior. CAB members were eager to have an intervention that highlighted each member's life story and nationality while impacting and integrating into a larger network. Thus, the social identity was at the bedrock of the intervention as CAB members helped create an intervention in the participant's self-concept that emanated from

and was enhanced from perceived membership in social groups.

The group sessions consisted of five meetings, dealing with family issues, gay identity, homophobia, body image and sex. Session 1 focused on family and community. Facilitators asked participants to define their family, cultural and gay-community norms, if any. As the participants responded, facilitators noted the commonalities across the three norms as they emerged. Session 2 focused on gay identity through the coming out process. Participants revealed who had and had not come out to their families. Based on these identifications, participants were placed in small groups to discuss the narrative around coming out, or the barriers to coming out, as appropriate. Session 3 revolved around experienced and societal homophobia. After facilitators defined the term, participants linked the information from the previous sessions (e.g. coming out or not) to the experiences of homophobia. Session 4 looked at the construction of body image. Participants were encouraged to compare the ideal male body image based on their cultural norms and that based on norms in the US gay community. Facilitators explored the participants' different meanings associated with masculinity and body image, including personal experiences, social network pressures and media portrayals. Discussions often included the cultural and racial/ethnic dimensions of masculinity and body image in the United States (e.g. the assumption that there is a racial hierarchy of masculinity and beauty, the inference that white skin is more attractive). Session 5 explicitly focused on the range of homosexual and heterosexual acts possible, as well as the risk reduction activities surrounding them. Participants disclosed difficulty they had negotiating safer sex, including non-monogamous and casual sexual partners and culturally coded gender norms around their own masculinity in sex. Thus, the five sessions were a combination of exposition and discussion.

The intervention was delivered in 10 intervention cycles with 100% retention in each cohort. The high retention rate was achieved through innovative incentives, a highly participatory intervention discussion and extensive follow-up activities between

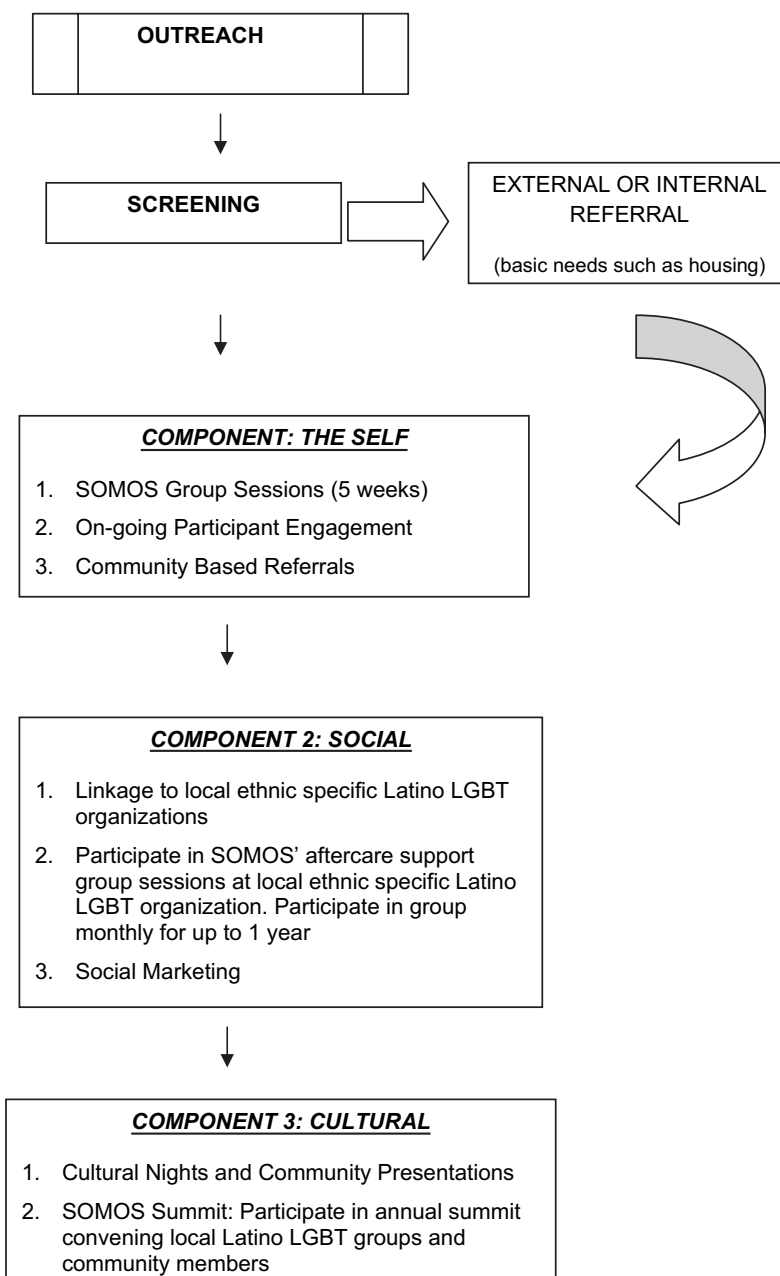


Fig. 1. SOMOS psychosocial cultural program design.

sessions. For example, at the first group session, the facilitator would open up the discussion on what type of incentives would be helpful in motivating

individuals to return. Participants were asked to describe the ideal store for a gift certificate, as well as menus for each session. The incentives were

procured accordingly (within budgetary restrictions), and the menus were incorporated. The menus tended to highlight national cuisines and allowed participants to share with and familiarize others with aspects of their home country, as well as bolstering of self-esteem and highlighting of self-identity. Ninety days after the group sessions, participants were asked to complete a follow-up face-to-face assessment.

After the five sessions, each of the 10 cohorts would produce an advertisement for gay and ethnic-specific community newspapers. This process followed a social marketing premise [21]. The social marketing campaigns were testimonials that mirrored participants' learning during the sessions. The tag line of the ads was 'y tu que piensas?' ('and you, what do you think?'). Participants reviewed the tag line and campaigns and provided feedback and input. The participants created the campaigns based on what they learned, capitalizing on learning moments to reach out to a community they are self-identifying with—whether that identification is sexual or ethnic identity or some combination.

A total of 10 advertisements were placed in five local papers and one magazine. More than 25 community presentations were conducted by intervention participants. These were key themes in the community forum, as intervention participants said it made them more linked into a community and many said the advertisements and community presentations as a way of reinforced the SOMOS experience. Due to budget restrictions, no further data analysis was conducted on this component of the intervention.

To complement the advertisements, SOMOS participants were encouraged to conduct activities in their local communities, in order to similarly capitalize on the learning moments. The intervention participants came up with the concepts, and the program staff supported the execution. With guidance from the CAB and program staff, intervention participants put on cultural nights and plays in a variety of settings. One play 'Mi otro yo' (My other me) explicitly discussed the intersection of Latino and gay identity and was recognized by the Queens'

Borough Council. In addition, SOMOS participants presented workshops on homophobia, HIV and identity at institutions including universities, social service organizations and consulates. These activities encouraged bonding as Latinos while working specifically to intervene in experiences of homophobia or invisibility in ethnic-specific Latino communities.

To further address the complicated relationship between social and personal spheres, the participants' experience culminated in the implementation of an annual summit that addressed the then locally defined pressing issues of the Latino gay community, including gay marriage and immigration reform. The community summit had multiple purposes. It showed participants from multiple intervention cycles that there was a community of Latino gay men who had similar experiences and identities, thus reinforcing the positive identity developed in the intervention. It also allowed for the community of participants to engage each other and celebrate the success of some of the social activities associated with the intervention, such as the widely recognized *Mi Otro Yo* community play put on by SOMOS participants. The intervention design utilized both the personal experience and the social fields.

Instruments

A total of four instruments were administered throughout the intervention. These included a screening questionnaire to assess eligibility, a psychosocial questionnaire, a sexual behavior and risk assessment questionnaire and a knowledge test. The psychosocial and risk assessment questionnaire, along with the knowledge test, were administered at three different intervals: baseline, follow-up at 90 days and follow-up at 180 days after the group level sessions ended. Whenever possible, instruments were utilized that had established psychometric properties with Spanish and English versions. When scales were not available in Spanish, program staff translated the scale and another back-translated to identify inconsistencies and correct them. After CAB review, some of the scales had to be adapted further for specific populations

and literacy levels. Data were collected under approval of the final author's university institutional review board.

Screening

Potential participants were screened utilizing three questions: do they reside in New York City? what is their ethnicity? and have they ever had sex with another male and are they sexually active (have they engaged in sexual activity in the last 6 months).

Knowledge

Knowledge of HIV/AIDS and hepatitis C was measured, respectively, with a 45-item and a 10-item questionnaire. The HIV/AIDS knowledge questions covered transmission (HIV can be spread by mosquitoes) and definition (HIV and AIDS are the same thing).

Risk assessment

The risk assessment instrument asked participants to provide information on number of sexual partners in the last 30 days, different types of partners they may have had sex with and the context of high-risk sexual encounters (i.e. high on drugs) in the last 30 and 90 days (subsequently labeled as high-risk situations and partners by the researchers) and the type of drugs, if any, they inject [22].

Psychosocial

The psychosocial instrument included established scales to measure coping, self-efficacy, internalized homophobia, self-esteem, sources for social support and collective self-esteem (Table I) [11, 23–26].

Data analysis

Data were analyzed using SPSS 17.0. Data cleaning was conducted by two persons trained in SPSS with more than 1 year in data entry, interdependently. Descriptive analyses were performed to develop a demographic profile of the study population. To assess changes in indicators from baseline to follow-up, *t*-tests were conducted, and multiple regression analyses were used to identify predictors of the outcomes of interest. The main outcomes of inter-

ests were total number of sexual partners in the past 30 days and sexual risk as measured by a risk index score calculated from: types of high-risk partners and situations ever, in the past 30 days and in the past 90 days (with each of those weighted differently); HIV testing history; injection drug use and whether they consistently carry condoms. The collected psychosocial measures were included in multivariate analyses to determine if changes in self-efficacy, coping strategies, types of social provisions or internalized homophobia contributed to a decrease in the number of sexual partners and the HIV risk index score.

Results

Participant demographics

Regarding ethnicity, 12% self-reported that they were from Central America, 47% from South America and 22% from Puerto Rico (Table II). Participants ranged widely in age, with the youngest being 20 years and the oldest being 62 years. The average age was 35.35 years (SD = 9.11). Over 77% of the participants had been previously tested for HIV. Participants were fairly divided as to preferred language, with 54% reporting that both English and Spanish were their preferred language and 43% reporting that they solely preferred Spanish (data not shown). None of the participants identified with any race at baseline.

Baseline HIV-related knowledge and sexual history

Of 45 items for HIV knowledge, scores could range from 0 to 45 (Table III). The baseline sample mean for the HIV/AIDS knowledge test was 35.98 (SD = 4.43). Of nine items for hepatitis C knowledge, scores could range from 0 to 9. The baseline sample mean for hepatitis C knowledge was 5.19 (SD = 2.91).

The mean number of sexual partners in the immediate month prior to baseline was 1.62 (SD = 1.44). Participants were asked to indicate the number of HIV risk situations based on partner type and/or

Table I. *Psychosocial measures*

| Scale and sample item | Scale range |
|---|--|
| Self-measures | |
| (1) Self-esteem. <i>On the whole I am satisfied with myself</i> | 0 (never) to 4 (always) |
| (2) Internalized homophobia. <i>How often have you wished you weren't gay?</i> | 1 (strongly disagree)/4 (strongly agree) |
| (3) Coping self-efficacy. | 0 (cannot do at all)/10 (certain can do) |
| Connectedness/social identity measures | |
| (1) Social provisions. | 1 (strongly disagree)/4 (strongly agree) |
| (2) Collective self-esteem. Identity Membership Public (reference group: White; Latino) Private | 1 (strongly disagree)/7 (strongly agree) |
| Sexual behavior measures | |
| (1) Self-efficacy limiting HIV risk behaviors scale. <i>Prevent a partner from having anal sex with you?</i> | 0 (not sure at all) to 4 (very sure) |

activity. These included different partner types (i.e. injection drug user, unknown status, HIV positive, anonymous, exchanges sex for money) or situations (i.e. while on drugs, in exchange for money or food, met on the internet) they had engaged in for a total of eight partners/situations. Participants were then asked if they had any of these high-risk partners or situations in the following time frames: ever, during the past 90 days and during the past 30 days. The mean number of types of sexual partners/situations across all participants at baseline (meaning ever) was 2.84 (SD = 1.08).

HIV risk factors

In terms of knowledge, there was a statistically significant increase in HIV/AIDS knowledge (from 35.98 at baseline to 40.08 at the 90-day follow-up out of a possible score of 45, $t = 10.84$, $p < 0.05$) and hepatitis C knowledge (from a score of 5.19 at baseline to a score of 8.07 at the 90-day follow-up, $t = 12.87$, $P < 0.05$).

Results from t -test analyses using the number of sexual partners in the prior 30 days showed significant differences between the baseline assessment and the first follow-up assessment at 90 days (Table III). The mean number of sexual partners decreased from 1.62 (SD = 1.44) to 1.18 (SD = 0.83), $t(112) = 4.33$,

Table II. *Participant demographics*

| Demographics | <i>N</i> | % |
|------------------------|----------|----|
| Ethnicity ^a | | |
| Dominican | 21 | 19 |
| Puerto Rican | 25 | 22 |
| South American | 53 | 47 |
| Central American | 13 | 12 |
| Age (years) | | |
| 19–24 | 12 | 11 |
| 25–29 | 21 | 19 |
| 30–34 | 23 | 21 |
| 35–39 | 25 | 22 |
| ≥40 | 30 | 27 |
| Testing history | | |
| HIV | 88 | 77 |
| TB | 38 | 34 |
| Hepatitis | 25 | 22 |
| Location of residence | | |
| Brooklyn | 28 | 25 |
| Bronx | 28 | 25 |
| Manhattan | 31 | 27 |
| Queens | 25 | 22 |
| Staten Island | 1 | 1 |
| Last sexual activity | | |
| Past month | 95 | 84 |
| 2 months | 6 | 7 |
| 3 months | 7 | 6 |
| 3–6 months | 3 | 3 |

^aThey could select more than one.

$P = 0.000$. Additionally, the mean number of partner types in the past 90 days decreased from 2.17 (SD = 0.98) to 1.97 (SD = 0.72), $t(112) = 3.89$, $P = 0.000$. Furthermore, the HIV risk index score showed a statistically significant decrease from baseline (mean = 5.33, SD = 6.04) to the 90-day follow-up (mean = 4.35, SD = 4.61) ($t = 4.08$, $P = 0.000$). Because we collected data at the 180-day follow-up for several key variables (i.e. number of sexual partners), we were able to gauge sustainability of the intervention's effects. There was a statistically significant difference in number of sexual partners reported at baseline (mean = 1.62, SD = 1.44) to the 180-day follow-up (mean = 1.07, SD = 0.66); $t = 4.76$, $P = 0.000$.

Other results show that there was an increase in some key psychosocial measures. For instance, there was an increase in self-esteem from baseline (mean = 15.18, SD = 2.27) to 90-day follow-up (mean = 16.17, SD = 1.94), ($t = 3.89$, $P = 0.000$). There was also a statistically significant increase in the reported number of social provisions (resources for social support) from 11.44 (SD = 2.85) at baseline to 12.19 (SD = 2.30) at the 90-day follow-up.

Furthermore, the participants' social provisions score remained enhanced from baseline (mean = 11.44, SD = 2.85) to the 180-day follow-up (mean = 12.19, SD = 2.29); $t = -4.15$, $P = 0.000$. For the collective self-esteem components of Identity and Public, there was an increase from baseline to 90-day follow-up (Table III).

We conducted a hierarchical regression analysis whereby we first entered baseline number of partners, self-referencing psychological variables such as self-esteem were entered in the next step, the connectedness variables (social provisions and identification with groups) were entered third and knowledge was entered in the last step (Table IV). The full model was statistically significant ($F_{8/104} = 12.87$, $P = 0.000$) predicting a substantive 50% of the variance in the number of sexual partners reported at 90 days. The multiple linear analyses showed that connectedness (social identity and social support networks) was a strong predictor of the number of sexual partners at 90 days ($R^2 = 0.51$, $F_{5/104} = 13.34$, $P = 0.000$). Furthermore, in terms of connectedness there was an increase from baseline to the 90-day follow-up in how participants' Latino

Table III. Means, standard deviations and one-tailed *t*-test results for key outcomes

| Outcome | Baseline Mean (SD) | Follow-up 90 days Mean (SD) | <i>t</i> -test ^a |
|---|-----------------------|--------------------------------|-----------------------------|
| HIV knowledge ^b | 35.98 (4.43) | 40.08 (2.62) | 10.84* |
| Hepatitis knowledge ^b | 5.19 (2.91) | 8.07 (1.08) | 12.87* |
| Number of sexual partners in the previous month | 1.62 (1.44) | 1.18 (0.83) | 4.33* |
| Type of partners: 90 days | 2.17 (0.98) | 1.97 (0.72) | 3.89* |
| Risk Index Score | 5.33 (6.04) | 4.35 (4.61) | 4.08* |
| Internalized homophobia ^c | 11.93 (2.98) | 11.44 (4.61) | 1.67 |
| Coping | 13.33 (4.34) | 13.92 (3.70) | 3.68* |
| Self-esteem ^b | 15.18 (2.27) | 16.17 (1.94) | 3.55* |
| Social provisions | 11.44 (2.85) | 12.19 (2.29) | 4.15* |
| Collective self-esteem | | | |
| Identity | 5.08 (0.84) | 4.88 (0.65) | 1.95* |
| Membership | 6.29 (0.68) | 6.39 (1.14) | .85 |
| Private | 5.92 (1.00) | 6.13 (1.10) | 1.40 |
| Public | 5.09 (1.15) | 4.19 (0.97) | 6.54* |
| Public Latino | 3.74 (1.49) | 4.20 (0.86) | 3.57* |

^aPresent the *t*-test for analyses comparing baseline to follow-up at 90 days.

^bOnly collected at baseline and at 90-day follow-up.

^cReversed scored scale: lower scores indicate change in the desired direction. * $P < 0.05$.

Table IV. Prediction of number of sexual partners reported at 90 days using hierarchical linear regression

| Predictor variable | ΔR^2 | β | ΔF | Predictor <i>t</i> |
|---------------------------------------|--------------|---------|------------|--------------------|
| Step 1 | 0.44 | | 85.55** | |
| Baseline no. of partners past 30 days | | 0.66 | | 9.33** |
| Step 2 | 0.01 | | 1.27 | |
| Post-internalized homophobia | | 0.07 | | 0.92 |
| Post-self-esteem | | -0.01 | | -0.16 |
| Step 3 | 0.05 | | 3.24* | |
| Social provisions | | 0.11 | | 1.52 |
| Post-collective SE membership | | -0.15 | | 0.98 |
| Post-collective SE private | | -0.06 | | -0.39 |
| Step 4 | 0.01 | | 0.31 | |
| Post-hepatitis knowledge | | -0.03 | | -0.34 |
| Post-HIV knowledge | | 0.06 | | 0.76 |

* $P < 0.05$, ** $P < 0.01$.

public self-esteem changed, meaning how they felt the Latino community regarded them.

Discussion

The development of the SOMOS intervention was pursued with an idea of creating a Latino-specific health intervention that would holistically approach the culturally specific prevention needs, barriers and resistance of Latino gay male communities, thereby reducing their risk of HIV. Primarily, SOMOS demonstrated that there are four key ingredients to an effective, culturally specific Latino MSM prevention program—(i) being culturally responsive, (ii) addressing HIV knowledge, (iii) taking into account mental health issues such as self-esteem and identity and (iv) enhancing connection to the community and within smaller social networks. The SOMOS intervention was organized based on the knowledge of the CAB and program staff who were experienced, community-based and culturally aware of factors affecting Latino gay men's experiences.

The SOMOS homegrown intervention met its explicit objective of helping participants reduce the number of sexual partners and decrease their sexual

risk index score from the start of the program to 3 months after the group level sessions ended. The program also increased participants' sense of belonging to the Latino community, their perceptions of being viewed favorably by the Latino community and increased self-efficacy around condom negotiation with their partners. Participants expressed that such a program was needed to increase Latino gay men's sense of belonging and help them navigate the new environment in which they found themselves. Participants expressed a higher level of efficacy at negotiating condom use with a casual sex partner.

From initial data, the interplay of social and personal fields was an integral part of the efficacy of SOMOS as an intervention. We learned that HIV risk could be conceptualized by creating an index score rather than focusing narrowly on one or two factors. In this project, we understood that HIV risk for communities who experience multiple marginalization factors was not limited to HIV knowledge or condom use. We created an index score to account for number of sexual partners, personal psychosocial dynamics and social connectedness. This index score accounted for a large proportion of the difference in intervention participants.

Although there were significant differences in key behaviors (multiple sex partners) and indexes of behaviors at the end of the program compared with baseline, the participants did report low risk behaviors at baseline. Such reporting could be due to self-report bias since the assessments were conducted face-to-face by a member of the community. Despite that possible self-reporting bias, there was a decrease in the reported number of multiple sexual partners and an increase in self-efficacy in talking to primary partners, which past research has shown to be a risk factor for Latino gay men [7, 13]. Furthermore, the participants displayed at baseline above-average knowledge of HIV. This reflects the national data reported by Kaiser Family Foundation of high levels of HIV knowledge in the US Latino population [27]. The findings point toward the strength of a holistic approach to an intervention targeting Latino gay men that just does not rely on enhancing knowledge. Specifically, the intervention's results demonstrate that a sense of

connectedness is an integral component of addressing HIV risk behaviors in Latino gay men. We understand that the intervention takes place in an urban setting, which has a certain level of community cohesion and social marketing venues.

Future research should include a more rigorous evaluation of the SOMOS program (i.e. control group comparison, analysis of social marketing impact and interaction and layering effects of the varying components) as this type of intervention with preliminary evidence of efficacy can help stem the alarming increase of HIV in the Latino gay community. This intervention grew out of concerns about the dearth of holistic approaches to HIV prevention for Latino gay men. In order to disseminate these types of interventions into impacted communities, more funding needs to be directed toward aiding CBOs to develop and evaluate homegrown interventions. Future iterations of this intervention should measure the impact of each component to measure its impact on the population.

Latino gay men remain an important population for HIV prevention and AIDS services, yet few interventions targeting the population have engaged in rigorous evaluation. SOMOS differs from other interventions in that it utilizes intervention components that affect personal, interpersonal and social fields. The researchers were able to base the intervention firmly within an appropriate behavioral theory, and the three parallel intervention components were designed to produce impact effects for intervention participants. This intervention is an important step in meeting the HIV prevention needs of an often overlooked population.

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Conflict of interest statement

None declared.

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