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Moderno Love: Sexual Role-Based Identities and HIV/STI Prevention Among Men Who Have Sex with Men in Lima, Peru

Jesse Clark · Javier Salvatierra · Eddy Segura · Ximena Salazar · Kelika Konda · Amaya Perez-Brumer · Eric Hall · Jeffrey Klausner · Carlos Caceres · Thomas Coates

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Abstract Role-based sexual identities structure male same-sex partnerships and influence HIV/STI epidemiology among MSM in Latin America. We explored shifting relationships between sexual roles, identities and practices among MSM in Lima, Peru, and implications for HIV/STI prevention. Patterns of HIV/STI epidemiology reflected differential risks for transmission within role-based partnerships with relatively low prevalences of HIV, syphilis, and HSV-2 but higher prevalences of urethral gonorrhea/chlamydia among *activo* MSM compared with *moderno* and *pasivo* participants. Qualitative analysis of how MSM in Peru integrate sexual identities, roles, and practices identified four key themes: *pasivo* role as a gay approximation of cultural femininity; *activo* role as a heterosexual consolidation of masculinity; *moderno* role as a masculine reconceptualization of gay identity; and role-based identities as social determinants of partnership, network, and community formation. The concept of role-based sexual identities provides a framework for HIV prevention for Latin American MSM that integrates sexual identities, practices, partnerships, and networks.

J. Clark (✉) · E. Segura · K. Konda · A. Perez-Brumer · J. Klausner · T. Coates
Program in Global Health, Division of Infectious Diseases, Department of Medicine, David Geffen School of Medicine, University of California, Los Angeles, 10833 Leconte Avenue, CHS 37-121, Los Angeles 90095, CA, USA
e-mail: jlclark@mednet.ucla.edu

J. Salvatierra · X. Salazar · C. Caceres
Instituto de Estudios en Salud, Sexualidad y Desarollo Humano, Universidad Peruana Cayetano Heredia, Lima, Peru

E. Hall
U.S. Naval Medical Research Center, Bethesda, MD, USA

Resumen Las identidades basadas en roles sexuales forman la estructura de las relaciones de pareja e influyen en la epidemiología del VIH/ITS entre HSH en América Latina. Se exploró la relación cambiante entre roles, identidades, y practicas sexuales en HSH en Lima, Perú y las implicaciones para la prevención del VIH. Los patrones epidemiológicos del VIH/ITS mostraron diferencias en riesgos de transmisión en parejas definidas por roles sexuales con una prevalencia relativamente baja de VIH, sífilis, y HSV-2, pero una prevalencia alta de gonorrea/clamidia uretral en HSH activos en comparación a modernos y pasivos. El análisis cualitativo de como los HSH en el Perú integran sus identidades, roles y practicas identificó cuatro ejes temáticos: El rol pasivo como una aproximación gay de la feminidad cultural; el rol activo como una consolidación heterosexual de la masculinidad; el rol moderno como una reconceptualización masculina de la identidad gay; y las identidades basadas en roles sexuales como determinantes de la formación de parejas, redes, y comunidades. El concepto de identidades sexuales basadas en roles sexuales ofrece un marco analítico para la prevención del VIH entre HSH Latinoamericanos que puede integrar las identidades, prácticas, parejas, y redes sexuales.

Keywords HIV · STI · MSM · Sexual role · Peru

Introduction

Sexual identities (e.g., homosexual, bisexual, heterosexual, and transgender), sexual roles (e.g., *activo*, *pasivo*, and *moderno/internacional*), and sexual practices [e.g., insertive and/or receptive anal intercourse (AI)] all contribute to the social construction of male same-sex sexual

partnerships in Latin America and influence biological risks for HIV and sexually transmitted infections (STIs) during sexual contacts. The constructions of sexual identities and sexual roles that structure interactions between men who have sex with men (MSM) in Latin America have been well described by researchers in the fields of Anthropology and Sociology. However, efforts to understand the influence of these sexual roles on patterns of transmission for HIV and STIs among MSM, and to incorporate these role-based identities into context-specific HIV/STI prevention interventions, remain underdeveloped.[1]

The social construction of sexual identities among MSM, and the importance of sexual roles in defining these identities, has been well described in a range of different social contexts within Latin America. Groundbreaking work done primarily in Mexico and Central America delineated the classic *activo–pasivo* paradigm that has traditionally been considered to govern sexual interactions between men in Latin America [1–5]. These studies described gendered constructions of sexual identity where sexual penetration is aligned with masculine heterosexuality, and being penetrated with femininized homosexuality. In this construction, the *activo*, or insertive, partner during (primarily anal) intercourse is not necessarily understood by themself or others as gay or homosexual, and maintains their position of masculine dominance in society and within the partnership. In contrast, the *pasivo*, or receptive, partner is considered to play the feminine role during intercourse, is necessarily identified as gay or homosexual, and is subject to the attendant social stigma against homosexuality. This foundational understanding of the social structures that define sexual partnerships between men in Latin America has been invaluable for understanding risk behavior within Latin American and Latino MSM populations, and has provided the basis for research on issues of sexual identity and HIV transmission in the Americas.

Building on this original ethnographic work, subsequent "waves" of research have addressed social constructions of sexual identity among Latin American MSM, traditional as well as new paradigms for the interaction between sexual identities, roles, and practices, and implications for HIV/STI prevention [6–19]. Research with Latin American and U.S. Latino populations has illustrated a range of contexts in which the *activo/pasivo* dynamic has been maintained, modified, rejected, or temporarily suspended in partnership formations that both consolidate and disrupt traditionally defined concepts of gender and sexuality. Yet while the *activo/pasivo* paradigm remains an organizing principle for many MSM in Latin America, sexual identities, roles, and practices are also frequently differentiated and reassembled into new combinations, such as with men that publicly identify as (and/or are perceived as) *activo* or *pasivo* but privately engage in "role-discordant" sexual practices [9, 20]. At the same time, specifically versatile sexual roles (identified as *moderno* in Peru and *internacional* in Mexico and other areas of Latin America) articulate role-based sexual identities for Latin American MSM outside of the masculine/feminine binary system of *activo* and *pasivo* roles [1, 21]. Yet although the versatile *moderno* sexual role avoids segregation into *activo* or *pasivo*, many *moderno* MSM rely on traditional concepts of gender and sexuality to define their sexual identities and practices. For example, research with Latino MSM in New York City has outlined how traditional social and physical characteristics of masculine sexuality were often used to determine which partner would engage in insertive or receptive intercourse (or both) during a specific sexual contact [22]. To address the emerging complexity of sexual identities, roles, and practices, researchers have incorporated the influence of factors including homophobia, structural economic conditions, migration, acculturation, and gay community involvement into analyses of sexual identity formations, role definitions, and sexual practices [23–31]. These studies have illuminated ways in which traditional role-based definitions of gender, sexuality, and sexual practice among Latin American MSM have been maintained as well as reimagined, and have developed a critical theoretical space for understanding the social and cultural dimensions of HIV prevention in Latin America.

Within Peru, studies of sexual identity and behavior among MSM have highlighted the range of identities and practices articulated by MSM, the importance of social contexts of homophobia and machismo in defining gender and sexuality, and the function of structural economic factors in defining sexual partnerships [21, 32–35]. While these analyses have documented the centrality of traditional norms of gender and sexuality in organizing sexual contacts between MSM in urban Peru, they have also identified ways in which these norms are often subverted, and the importance of social and cultural contexts in constructing the meanings of male sexuality [20, 36]. Recent research has also emphasized the blurring of boundaries between gender and sexuality through the production of "transgender" as a unique category of gendered sexual

[1] A note on terminology: we have chosen to use the term "MSM" throughout this paper to describe all male and male-to-female (m–f) transgender persons who have sex with male and/or m–f transgender partners. We are aware of the problems inherent in collapsing differences of gender and sexual identity into a uniform category of "MSM." However, we use the term provisionally for the purpose of analysis in order to consolidate a diverse population into a single, unified category. During the course of our discussion, we explore how the emerging diversity of sexual roles structures identities and subgroups, defines partnership interactions, influences the epidemiology of HIV and STIs, and redefines the meanings of "MSM" in Latin America.

identity similar to but entirely distinct from male-identified MSM [37]. These studies have been critical to understanding the social and cultural background of identities, roles and practices through which sexual partnerships between Peruvian MSM are developed and risk behaviors enacted. However, they have not specifically addressed how and why the social construction of role-based identities influences epidemiologic patterns of HIV/STI prevalence among MSM in Peru.

Previous epidemiologic and socio-behavioral analyses have advanced an understanding of sexual interactions and patterns of HIV/STI transmission among men and transgender persons in Latin America that moves beyond the concept of a uniform, homogenous "MSM" population. Epidemiologic surveys have identified dramatic differences in HIV/STI prevalence between subpopulations of MSM in the US and Latin America defined by sexual and/or gender identities [38–45]. Within Peru, surveillance studies of MSM have documented significantly higher rates of HIV, syphilis, and HSV-2 in gay-identified and transgender MSM as compared with heterosexual- and bisexual-identified MSM [43, 44]. Models of HIV transmission among Peruvian MSM have also addressed the potential impact of sexual role versatility in projecting the spread of HIV through the population [46, 47]. However, the existing epidemiologic literature on HIV/STIs in Peru does not unify the analysis of variations in disease prevalence between different MSM subpopulations with an understanding of how individual behavior, interpersonal partnership dynamics, and social contexts frame the biological mechanics of disease transmission.

Our research addresses the specific function of sexual role in defining concepts of gender and sexual identity and influencing sexual practices and epidemiologic patterns of HIV/STIs among MSM in Lima, Peru. The concept of sexual role provides a critical structure for understanding how individual constructions of gender and sexual identity, sexual behavior, and social patterns of partnership and network interaction collectively influence the spread of HIV and STIs. Within this framework, we present a detailed analysis of the social and behavioral factors that structure sexual identities, roles, and practices and how these factors influence patterns of HIV/STI prevalence among subgroups of MSM in Latin America.

Methods

Study Design and Population

We used quantitative and qualitative methods to study HIV/STI prevalence and associated risk behaviors in convenience samples of MSM recruited from the *Centro de Referencia de ITS Alberto Barton* (Barton STI Clinic) and surrounding neighborhoods in Lima/Callao, Peru. The Barton STI Clinic is located in Lima's port city of Callao in the Ventanilla district, an urban area classified as "Poor" according to Peru's Unmet Basic Needs Index [48]. The Barton STI Clinic is a specialty STI clinic providing HIV/STI services as well as general health care to visitors from throughout Lima and Callao as well as residents of the local neighborhood. Data for this study was collected in three distinct stages: an initial behavioral survey and HIV/STI screening protocol completed between May and December, 2007, a complementary series of qualitative in-depth interviews and focus groups completed in May, 2008 to explore issues addressed in the behavioral/biomedical survey, and an additional series of individual interviews conducted between February and June, 2011 to follow-up key themes identified during the initial qualitative research.

Quantitative Protocol

Recruitment

As in previous epidemiologic surveys of MSM in Peru, participants for the quantitative protocol were selected through convenience sampling of MSM presenting for care at a municipal STI clinic or at one of several neighborhood outreach HIV/STI testing sites in the local community. The majority of participants (n = 438) were recruited from the Barton STI Clinic. An additional 122 participants were recruited in a series of community outreach visits conducted in evening hours by clinic staff in local neighborhoods which were programmed to increase the availability of services for MSM unable or unwilling to attend the clinic venue. Male and m-f transgender patients who presented for care at the Barton STI Clinic or one of the community outreach sites were provided with a flyer providing basic information about the study and instructing the recipient to inform the staff if they were interested in participating. Patients who expressed interest were screened for eligibility by study counselors. Enrollment was limited to persons born anatomically male who reported oral and/or anal sexual contact with a male or m-f transgender person in the preceding 12 months. All participants provided written informed consent prior to the initiation of any study procedures.

Data Collection

Participants completed the study survey using either a computer-assisted self-interviewing (CASI) system (for participants recruited from the clinic), or a paper survey (for participants recruited from community venues) which was subsequently transferred by study staff to a

computerized database. Participants were instructed to complete the survey independently and in private, though counselors were available to provide assistance as needed. Individuals responded to questions in Spanish about their socio-demographic characteristics, sexual identity, sexual role, and sexual behavior generally during the last 6 months and specifically during their last sexual contact, as well as their history of STIs, substance use, and exchange of sex for money or other goods. After completing the survey, blood and urine specimens were collected from all participants by laboratory technicians, and urethral swabs were collected by the clinic physician only from men with urethral discharge. Participants were asked to return to the site approximately 2 weeks later to receive results and post-test counseling. Participants diagnosed with an STI were given appropriate antibiotic therapy and advised of the importance of partner notification. Participants newly diagnosed with HIV infection were provided with post-test counseling and referred to a designated Ministry of Health treatment site for ongoing care.

Laboratory Methods

All biological samples were tested at the U.S. Naval Medical Research Center Detachment laboratory in Lima, Peru. Blood samples were screened for syphilis infection by RPR assay (RPRnosticon, Biomérieux; Marcy l'Étoile, France) and confirmed by Treponema Pallidum Particle Agglutination (TPPA) assay (Serodia, Fujirebio; Tokyo, Japan). TPPA-reactive specimens were serially diluted to measure the RPR titer, with active syphilis infection defined as an RPR titer $\geq$1:8. HIV-1 EIA (Vironostika, Biomérieux; Marcy l'Étoile, France) was used to screen for HIV antibodies in all participants and positive samples were confirmed by Western Blot (Genetic Systems, Biorad; Hercules, CA). HSV-2 ELISA (HerpeSelect, Focus Technologies; Cypress, CA) was used for serologic detection of genital herpes with an index value of $\geq$3.50 used to define seropositivity. (Index values $\leq$0.90 were defined as seronegative and values between 0.91 and 3.49 were classified as indeterminate.) Urine and urethral swab samples were analyzed using nucleic acid amplification testing (Roche Amplicor, Roche Diagnostics; Alameda, CA) for the detection of *Neisseria gonorrhoeae* and/or *Chlamydia trachomatis*.

Data Analysis

Variables Used

Sexual role, sexual identity, and sexual practices were all defined according to participant self-report. Participants were asked to describe their sexual identity either by choosing from a list of possible options to describe their identity or by writing in their own term. Participants were asked to describe their sexual role as: *activo*, *pasivo*, *moderno*, or "Other/Does Not Apply." Participants who defined their role as "Other/Does Not Apply" were excluded from further analyses. Finally, participants were asked to describe their general sexual practices within the previous 6 months as well as their specific sexual practices with their last partner, including oral (insertive and/or receptive), anal (insertive and/or receptive), and/or vaginal intercourse (for participants who reported a female partner) with and/or without a condom.

Statistical Analysis

Prevalence estimates were calculated as percentages with 95 % confidence intervals (CI). The association of sexual role with socio-demographic variables, sexual identity, sexual practices with the last partner, sexual risk behavior, and HIV/STI prevalence were analyzed using contingency tables and Chi-square or Fisher's exact tests, as needed.

Due to the high prevalence of disease in the study population and the subsequent likelihood of overestimating differences between subpopulations when calculating odds ratios in a logistic regression model, we used Poisson regression with a robust variance estimator to estimate the association of HIV, syphilis, and HSV-2 with sexual role [49]. Using *activo* MSM as the reference category, we estimated the prevalence ratios and 95 % CI of HIV, HSV-2, syphilis, and urethral gonococcal and/or chlamydial infection with sexual role. Adjusted prevalence ratios were calculated by controlling for age, number of male sex partners in the past 6 months, and recent involvement in compensated sex in a multivariate Poisson regression model. All statistical analyses were two-tailed, with a p value of <0.05 considered statistically significant. Individuals with missing data were excluded from the affected analysis only. Stata 11.0 software was used for all analyses (Stata Corporation, College Station, TX).

The quantitative study protocol was approved by the institutional review boards of the University of California, Los Angeles, the Universidad Peruana Cayetano Heredia, and the U.S. Naval Medical Research Center in compliance with all U.S. Federal regulations regarding the protection of human subjects and conducted with the agreement of the Peruvian Ministry of Health, Dirección de Salud I-Callao.

Qualitative Protocol

Recruitment

In order to explore questions raised during analysis of the behavioral/biomedical survey concerning how role-based identities influence HIV/STI epidemiology, we used

qualitative methods to assess the interaction of social constructions of sexual identities and roles with sexual practices and risks for HIV/STI acquisition among MSM in Peru. The initial qualitative analysis used focus group discussions to explore popular opinions and dominant social norms of sexual identities, roles, and practices while interviews were used to explore individual understandings of the interaction between sexual identity, role, and practice. As part of a separate study on partner notification among MSM patients of the Barton STI Clinic, we conducted a final series of interviews to further explore specific questions of sexual role-based identities and partnership structures that emerged during analysis of the earlier research.

The first stage of qualitative research was completed in May, 2008. In order to mimic the recruitment strategy of the behavioral/biomedical survey, participants were recruited from the Barton STI Clinic and surrounding neighborhoods by community-based outreach workers to participate in a study on sexual identity and risk behavior among men who have sex with men. Four community-based outreach workers purposively sampled MSM from clinic and community venues to obtain a study population that reflected the diversity of sexual identities in their local community. Enrollment was limited to persons born anatomically male who reported oral or anal sexual contact with a male or m–f transgender partner in the preceding 12 months. A total of 36 MSM participated in individual interviews (n = 8) or in one of four focus group discussions (n = 28). Interviewers used a semi-structured interview guide to discuss issues of sexual identity, sexual role, sexual behavior, and risks for HIV and STIs.

Based on findings from the initial qualitative analysis, additional information on sexual roles and identities within MSM partnerships in Peru was collected during a series of interviews conducted for a study on partner notification among MSM between February and June, 2011. A total of 126 participants were recruited from the Barton STI clinic for a study of partner notification following STI diagnosis. Enrollment for the partner notification study was limited to patients who were born anatomically male, reported oral or anal sexual contact with a male or m–f transgender partner in the preceding 12 months, and had recently been diagnosed with HIV, syphilis, or another STI. After completing a behavioral survey addressing issues of sexual identity, sexual role, sexual practices, HIV/STI history, and attitudes and practices related to partner notification (to be reported separately) a stratified sample of 27 individuals was invited to participate in a supplementary interview. Recruitment was stratified according to participants' self-described sexual role and identity as reported in the behavioral survey. Spanish-speaking interviewers with extensive experience in HIV/STI prevention among MSM used a semi-structured questionnaire to address issues including the interaction of sexual identities and sexual roles, the function of these concepts in structuring partnerships between men, and their impact on partner notification decisions. Data on sexual identities, roles, and practices of MSM provided during these interviews was abstracted for use in the current analysis.

For both sets of interviews and focus groups, all participants provided verbal informed consent prior to the initiation of interviews and focus group discussions. Interviews and focus groups were conducted in a private office in the Barton STI Clinic. Interviews and focus groups were recorded, transcribed verbatim, and analyzed in Spanish. Quoted excerpts from transcripts were translated into English by the first author for the purpose of publication.

Qualitative Analysis

Transcripts were reviewed in Spanish by two readers and coded for thematic content using a grounded theory approach [50]. Open interpretive coding was used to identify key themes that were organized into categories unique to one topic area or cutting across several areas. Discrepancies between the two readers were discussed to ensure consistency in coding and assess inter-reader reliability (87 % concordance based on a random selection of coded interview and focus group transcripts). Axial coding was then used to organize themes in relation to a central category of role-based sexual identity in order to develop a theoretical framework for understanding the qualitative data. Throughout the qualitative analysis period, members of the research team met regularly to identify and discuss emergent themes in order to refine the theoretical framework.

No personal identifying information was collected in either the qualitative or quantitative analysis. Participants in individual interviews are identified by a pseudonym and the specific word(s) they used to describe their sexual identity. Participants in focus groups are identified by the sexual identity most commonly reported by all members of the group.

The qualitative protocols were approved by the institutional review boards of the University of California at Los Angeles and the Universidad Peruana Cayetano Heredia in compliance with all U.S. Federal regulations regarding the protection of human subjects.

Results

Quantitative results

A total of 560 MSM were screened for participation in the behavioral and biomedical survey between May and

December, 2007 and all 560 participants provided biological specimens. 532 participants provided information on their sexual role, 7 participants described their role as "Other/Does Not Apply" and 21 participants declined to respond. The median age of participants was 28 years (IQR 23–35), and 78.1 % had graduated from high school (Table 1). The majority of participants were employed in some capacity and 11.7 % denied having any regular source of income. Among participants who reported their sexual identity, 37.6 % used standard categories of gay or homosexual; 19.5 % as *travesti* or transgender; 3.6 % as bisexual, and 24.8 % as heterosexual. The remaining 14.2 % of participants either selected an alternative option to describe their sexual identity, such as *Flete* or *Mostacero* (colloquial terms that typically refer to heterosexual men who have sex with men for pleasure, money, or material goods), or wrote in a new term to modify standard categories, such as *transformista* or *gay activo*. Participants who reported a sexual role were approximately evenly divided between *activo* (32.0 %), *pasivo* (33.6 %), and *moderno* (34.4 %) roles.

Correlations of sexual role with sexual identity and sexual practices generally followed expected patterns. The majority of men who identified as heterosexual reported an *activo* sex role (97.7 %; 127/130), while most transgender participants reported a *pasivo* role (69.6 %; 71/102), and none described themselves as *activo*. Gay or homosexual-identified MSM most commonly described their sex role as *moderno* (52.3 %; 103/197), though 39.1 % (77/197) described themselves as *pasivo*. Sexual roles generally correlated with self-reported sexual practices as 61.7 % (50/81) of men who engaged in exclusively insertive AI with their last partner identified as *activo* [and 1.2 % (1/81) as *pasivo*], 68.7 % (169/246) of participants who had engaged in exclusively receptive AI identified as *pasivo* [0.8 % (2/246) as *activo*], and 95.6 % (66/69) of participants who engaged in both insertive and receptive AI with their last partner identified their role as *moderno*. Sexual risk behavior followed a similar pattern with 55.3 % of *activo* MSM reporting unprotected insertive AI in the previous 6 months, and 55.6 % of *pasivo* MSM reporting unprotected receptive AI in the same time period. In contrast, 6.4 % of *activo* MSM reported unprotected receptive AI and 6.7 % of *pasivo* MSM reported unprotected insertive AI in the same time frame. Of note, the greatest frequencies of both insertive and receptive unprotected AI were reported by *moderno* MSM, with 71.8 % recently engaging in unprotected insertive and/or receptive AI.

Prevalences of HIV, syphilis, and HSV-2 infection were significantly lower among *activo* MSM compared with *pasivo* and *moderno* participants (Fig. 1; Table 2). While the prevalence of HIV infection was 26.8 % (95 % CI = 20.9–33.8 %) among men who identified as *pasivo* and 28.4 % (CI = 22.4–35.3 %) among *moderno* participants, the prevalence among *activo* MSM was 11.8 % (CI = 7.8–17.5 %). Similar prevalence patterns were observed for HSV-2 and syphilis infection. In contrast, patterns of urethral gonococcal and/or chlamydial infections were reversed, with the lowest prevalence of infection noted in participants who reported a *pasivo* sex role (1.7 %; CI = 0.6–4.8 %), the highest prevalence observed in *activos* (10.0 %; CI = 6.4–15.5 %), and an intermediate prevalence noted among *modernos* (6.0 %; CI = 3.4–10.4 %).

Measures of involvement in communities and social networks of MSM also showed significant variations according to sexual role. In contrast to *pasivo* and *moderno* participants, 24.7 % of *activo* men reported never having visited a community venue associated with MSM including a bar, disco, sauna, social club, or party, 84.1 % reported not having any friends who identified as gay, bisexual, or transgender, and 85.4 % reported that few or none of their friends knew that they have sex with men.

Qualitative Results

Content analysis of the interview and focus group transcripts identified four central themes related to the interaction of sexual roles, identities and practices, their influence on partnership and network structures, and vulnerability to HIV/STIs among MSM in Peru: (1) *pasivo* role as a gay or transgender approximation of cultural femininity; (2) *activo* role as a heterosexual or bisexual consolidation of unquestioned masculinity; (3) *moderno* role as a gay reconceptualization of masculine sexual identity; and (4) role-based sexual identities as structural determinants of sexual partnerships, social and sexual networks, and community formation.

Pasivo Role and Feminine Homosexuality

Participants who described their sexual role as *pasivo* frequently described it as similar to the "female role" during intercourse between men, with many linking the *pasivo* sexual role to a cultural appropriation of feminine sexuality. *Pasivo* participants described their role during intercourse, "as if it were the role of the woman, only penetrative sex, or rather that the man penetrates you" (Pilar, *Gay*). While participants described the *pasivo* sexual role as similar to that of a woman, they also articulated a fundamental difference between the two:

> I think that what it is to be *pasivo* is that they penetrate you. It is to play the role of the woman, in any case. Or, rather, *pasivo* because I can penetrate him, because I can do it to him, but not the role of the

Table 1 Sociodemographic and behavioral characteristics of MSM according to self-defined sexual role; Lima, Peru 2007

	Activo (n = 170)	*Pasivo* (n = 179)	*Moderno* (n = 183)	Total (n = 532)	*p* Value
Age (median ± IQR)	26 (21–34)	30 (23–37)	30 (25–36)	28 (23–35)	<0.001
Education (HS Diploma or Higher)	78.8 % (72.1–84.2 %)	73.2 % (66.2–79.1 %)	81.4 % (75.1–86.4 %)	78.2 % (74.6–81.4 %)	0.138
Unemployed	18.2 % (13.1–24.7 %)	8.4 % (5.2–13.4 %)	9.8 % (6.3–15.0 %)	11.7 % (9.3–14.6 %)	0.010
Compensated sex (6 months)	18.9 % (13.8–25.5 %)	38.1 % (31.2–45.4 %)	36.3 % (29.6–43.5 %)	30.8 % (27.1–34.8 %)	<0.001
Self-identify as sex worker	8.3 % (5.0–13.4 %)	34.3 % (27.7–41.5 %)	30.8 % (24.5–37.8%)	24.4 % (21.0–28.2 %)	<0.001
Median number of male partners (6 months) ± IQR	1 (0–3)	4 (1–9)	3 (1–10)	2 (1–6)	<0.001
Median number of female partners (6 months) ± IQR	2 (1–4)	0 (0)	0 (0)	0 (0–1)	<0.001
Unprotected anal intercourse (6 months)					
Any unprotected receptive AI	6.4 % (3.2–12.6 %)	55.6 % (47.9–63.1 %)	60.5 % (52.3–67.7 %)	44.1 % (39.6–48.8 %)	<0.001
Any unprotected insertive AI	55.3 % (45.7–64.6 %)	6.7 % (3.8–11.6 %)	59.6 % (51.2–66.9 %)	37.8 % (33.3–42.4 %)	<0.001
Any unprotected AI	52.2 % (43.0–61.3 %)	58.4 % (50.8–65.7 %)	71.8 % (64.4–78.1 %)	60.9 % (56.3–65.3 %)	0.003
Gender of last sex partner					<0.001
Male	25.3 % (19.4–32.3 %)	98.3 % (95.2–99.4 %)	96.2 % (92.3–98.1 %)	72.9 % (69.1–76.4 %)	
Female	67.6 % (60.3–74.2 %)	1.7 % (0.6–4.8 %)	2.2 % (0.9–5.5 %)	24.3 % (20.9–28.1 %)	
Transgender	7.0 % (4.1–11.9 %)	0 % (0–2.0 %)	1.6 % (0.6–4.7 %)	2.7 % (1.7–4.5 %)	
Sexual practices with last partner (male partners only)					<0.001
Only insertive AI	29.4 % (23.1–36.7 %)	0.6 % (0.1–3.0 %)	16.4 % (11.7–22.4 %)	14.9 % (12.2–18.1 %)	
Only receptive AI	1.2 % (0.4–4.2 %)	94.4 % (90.0–96.9 %)	41.0 % (34.1–48.2 %)	45.2 % (78.0–84.5 %)	
Both insertive and receptive AI	1.2 % (0.4–4.2 %)	1.1 % (0.3–4.0 %)	36.6 % (30.0–43.8 %)	12.9 % (10.3–15.9 %)	
No AI or female partner	68.2 % (60.9–74.8 %)	3.9 % (1.9–7.8 %)	6.0 % (3.4–10.4 %)	27.0 % (23.5–30.9 %)	
Sexual identity					<0.001
Heterosexual	77.0 % (70.0–82.7 %)	1.1 % (0.3–4.0 %)	0.6 % (0.1–3.1 %)	24.8 % (21.3–28.7 %)	
Bisexual	4.2 % (2.1–8.5 %)	1.7 % (0.6–4.8 %)	5.0 % (2.6–9.2 %)	3.6 % (2.3–5.6 %)	
Homosexual	10.3 % (6.5–15.9 %)	43.3 % (36.2–50.6 %)	56.9 % (49.6–63.9 %)	37.6 % (33.6–41.8 %)	
Transgender	0 % (0–2.3 %)	40.1 % (33.3–47.2 %)	17.1 % (12.3–23.3 %)	19.5 % (16.3–23.1 %)	
Other	8.5 % (5.1–13.7 %)	14.0 % (9.7–19.9 %)	20.4 % (15.2–26.9 %)	14.2 % (11.5–17.4 %)	
Few or no friends identify as Gay/Bi/Trans	84.1 % (77.8–88.9 %)	19.6 % (14.4–26.2 %)	35.2 % (28.6–42.4 %)	47.2 % (43.0–51.4 %)	<0.001
Few or no friends know participant is MSM	85.4 % (79.1–89.9 %)	16.9 % (12.2–23.2 %)	18.9 % (13.8–25.2 %)	45.9 % (41.7–50.1 %)	<0.001
No attendance at MSM venues	24.7 % (18.8–31.7 %)	5.0 % (2.7–9.3 %)	2.2 % (0.9–5.5 %)	12.5 % (10.0–15.6 %)	<0.001

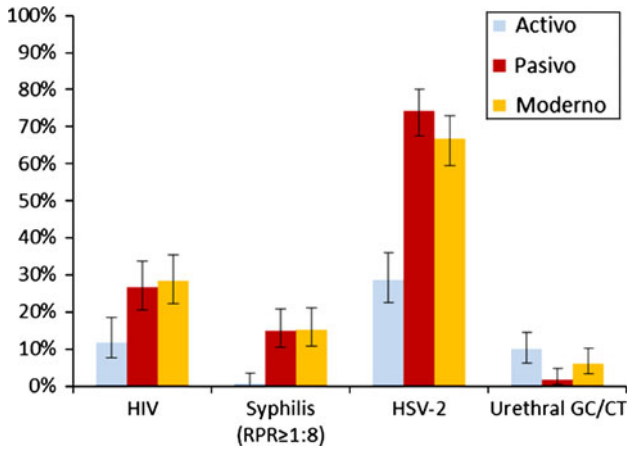

Fig. 1 Prevalence of HIV, syphilis, HSV-2, and urethral gonorrhea/chlamydia infection among MSM according to sexual role; Lima, Peru 2007

> woman. Because definitely, not for nothing, the role of the woman is totally different. (Eduardo, *Bisexual*)

Some *pasivo* MSM reported engaging in penetrative intercourse with male partners, though usually described these episodes as isolated commercial sexual transactions, "*activa* when it has to do with work" (Focus Group Participant, Trans), distinct from the intimate sexual behavior they engaged in with romantic partners.

The concept of *pasivo* sexual role as an approximation of feminine sexuality was often seen as governing partnerships and sexual contacts between MSM, with *pasivo* partners considered to be submissive or dependent in their interaction with their male partner(s). *Pasivo* MSM described their, "role of being weaker than the man, of not feeling like I am the one who manages the situation" (Susana, *Trans*). Others described the *pasivo* partner as literally passive, as someone who is acted upon by their partner but does not act, "the tranquil person, the one who is with the other person and is penetrated" (Jésica, *Travesti*)

Further blurring the line between *pasivo* role and feminine gender, many *pasivo* participants unified their self-presentation of gender, sexual identity, and sexual role into a transgender or *travesti* sexual/gender identity. These participants described their gender as a superficial cultural construct distinct from female anatomy where, "To be *trans*… is to be a feminine creation—not a female creation, because obviously a woman is natural. We are feminine" (Susana, *Trans*). Others associated their *pasivo* role with a feminine dissemblance of their male anatomy during intercourse such that, "The *pasiva* is the woman, that is, you cover up your parts" (Jésica, *Travesti*). For these participants, their combination of feminine gender identity, male anatomy, and *pasivo* sexual role was considered to appropriate and exceed cultural norms of femininity, "because we have the body of a woman, we behave like a woman, but they [male partners] want us to do more than a woman" (Jésica, *Travesti*). This splitting of feminine sexuality from female sex was reinforced by *activo* male participants who considered their *pasivo* partners as feminine sexual objects, similar to female sex workers, appropriate for performing acts that were socially unacceptable to "proper women":

Table 2 Prevalence, crude and adjusted prevalence ratios for HIV, syphilis, HSV-2, and urethral gonorrhea/chlamydia infection according to MSM sexual role; Lima, Peru, 2007

	Role	Prevalence	Prevalence ratio	*p* Value	Adjusted prevalence ratio[a]	*p* Value
HIV	*Activo* (N = 170)	11.8 % (7.8–17.5 %)	Ref	–	Ref	–
	Pasivo (N = 179)	26.8 % (20.9–33.8 %)	2.26 (1.40, 3.65)	0.001	2.36 (1.46, 3.82)	<0.001
	Moderno (N = 183)	28.4 % (22.4–35.3 %)	2.40 (1.50, 3.85)	<0.001	2.49 (1.55, 4.01)	<0.001
Syphilis (any RPR titer)	*Activo* (N = 170)	5.9 % (3.2–10.5 %	Ref	–	Ref	–
	Pasivo (N = 179)	35.8 % (29.1–43.0 %)	6.08 (3.23, 11.44)	<0.001	5.85 (3.10, 11.07)	<0.001
	Moderno (N = 183)	29.0 % (22.9–35.9 %)	4.92 (2.59, 9.36)	<0.001	4.75 (2.49, 9.06)	<0.001
Syphilis (RPR ≥ 1:8)	*Activo* (N = 170)	0.6 % (0.1–3.2 %)	Ref	–	Ref	–
	Pasivo (N = 179)	15.1 % (10.6–21.1 %)	25.64 (3.52, 186.63)	0.001	24.71 (3.38, 180.33)	0.002
	Moderno (N = 183)	15.3 % (10.8–21.2 %)	26.94 (3.71, 195.61)	0.001	25.78 (3.54, 187.73)	0.001
HSV-2	*Activo* (N = 170)	28.8 % (22.5–36.0 %)	Ref	–	Ref	–
	Pasivo (N = 179)	74.3 % (67.4–80.1 %)	2.58 (2.00, 3.31)	<0.001	2.52 (1.96, 3.25)	<0.001
	Moderno (N = 183)	66.7 % (59.5–73.1 %)	2.31 (1.79, 2.99)	<0.001	2.31 (1.79, 2.98)	<0.001
Urethral GC/CT	*Activo* (N = 169)	10.0 % (6.4–15.5 %)	Ref	–	Ref	–
	Pasivo (N = 179)	1.7 % (0.6–4.8 %)	0.17 (0.05, 0.56)	0.004	0.19 (0.06, 0.64)	0.008
	Moderno (N = 183)	6.0 % (3.4–10.4 %)	0.60 (0.29, 1.64)	0.166	0.66 (0.32, 1.39)	0.276

[a] Adjusted for age, number of male sex partners in previous 6 months, and recent history of compensated sex

> Sometimes your [female] partner doesn't accommodate you. For example, if you want anal sex with your partner, she doesn't accommodate you. Sometimes men want to get oral sex and sometimes women refuse. That's why men don't just get their feet off the floor [*se sacan los pies del piso*] with women, but also with *travestis* or gays, because the woman doesn't accommodate the man. (Focus Group Participant, *Bisexual*)

Activo Role and Masculine Heterosexuality

In contrast to the interweaving of feminine sexuality and male anatomy articulated by many *pasivo* participants, *activo* MSM aligned their sexuality within an unquestionable masculinity based on male anatomy, but also acknowledged the potential threat their sexual behavior presented to their masculine identity. For most of the *activo* men interviewed, their masculine gender identity was a fundamental anatomic truth supported by their penetrative sexual practices, regardless of the gender of their sex partner(s). *Activo* MSM typically linked their presumptive masculine/male sexual identity with their insertive role during intercourse by declaring that, "Men, we are always *activos*" (Luis, *Bisexual*), and professed ignorance of concepts of sexual identity:

> I feel that I am normal like that, you know? To have relations with a gay, it doesn't change the… my way of being [*mi forma de ser*], no? Because there are those who, yes, I believe that they feel themselves different, no? (Luis, *Bisexual*)

Many *activo* participants refused to question the impact of their sexual practices on their sexual identity, "Since I have relations with men, women, I play my soccer, I know what I am" (Focus Group Participant, *Bisexual*).

Similarly, none of the *activo* men interviewed acknowledged the possibility that they might engage in receptive intercourse:

Interviewer:	Has the situation ever presented itself where they ask to penetrate you?
Fernando:	No.
Interviewer:	Never?
Fernando:	No.
Interviewer:	If it did occur, what would you do?
Fernando:	I'd put a stop to it. I would say, 'You know what? I don't like that stuff and it's up to here and no more. It's over.'

Even *activo* MSM practicing commercial sex categorically refused that they might engage in receptive intercourse, stating, "I don't accept. They always offer me more money, but no" (Armando, *Heterosexual*). However, echoing the common saying that, "Men, with liquor, turn over" (Focus Group Participant, Bisexual), focus group participants frequently described a social awareness of *activo* MSM who engaged in receptive intercourse while under the influence of alcohol: "When there's beer, when there's drinking, on their own they turn over. You see them as tough guys, bad boys, but in the moment…" (Focus Group Participant, *Bisexual*). Using a similar logic, some participants in individual interviews described alcohol as a justification for their sexual contact with men, as with a participant who described his only same-sex sexual encounter as,

> A passing thing, no? We went to the bathroom and the guy gave me oral sex. He told me to penetrate him, and I said, 'But how?' since I was like that with alcohol. So, okay, to see, to try it out, no? I did it like that a little, but I lost interest quickly. (Carlos, *Heterosexual*)

While several *activo* participants described their sexual identity as "bisexual," they explained it in strictly behavioral terms, "Because I often have sex with a gay and I have my partner, who is a woman, no?" (Luis, *Bisexual*). None of the *activo* MSM interviewed considered their sexual interactions with men as an integral part of their identity, though many expressed uncertainty about the implications of their behavior on their sexuality. When asked to elaborate further on what it meant to be bisexual, *activo* participants typically responded that, "The only thing I understand is to have sex with men and women" (Fernando, *Bisexual*). But some *activo* MSM in individual interviews voiced a painful recognition that their sexual contacts with men implied an unwelcome adjustment to their sexual identity:

> In this case, I would be homosexual, because I have a *travesti* partner, so I would be homosexual. It wouldn't be—it's not that I don't have heterosexual preferences, I do have heterosexual preferences, I prefer a woman 100 percent. But in this case, at this moment, I am pigeon-holed [*encasillado*] into a homosexual behavior. Definitely, I am not in agreement with my preference, definitely, definitely, to say that I am homosexual makes me uncomfortable. I prefer to say that I am… or, I don't like it… I don't like the term. But those are the preferences that I am having now, so that is what I am. But I don't like the term. (Jaime, *Homosexual*)

Moderno Role as Masculine Homosexuality

In contrast to the tensions between gender and sexuality structuring the traditional *activo*/*pasivo* dichotomy, many

MSM who identified as *moderno* perceived their role as a reconceptualization of male homosexuality as something both masculine and gay. As described by one participant, "A *moderno* is he who can share in some way the homosexuality, the reaction, of being *activo* and also being *pasivo*. Or, rather, to maintain the two things: To permit and to do [*dejar y hacer*]" (Jose, *Bisexual*). In contrast to the binary structure of *activo*/*pasivo* partnerships, contacts between *moderno* MSM were based on an equality of gender and sexuality between partners:

> Sex, more than anything, is how I make another guy feel the same sensation of having sex with an equal man, with a man. To show him to himself, to demonstrate his strength in his embrace, in his kisses, in passion, that is what I consider part of *modernismo*, that's what you don't get in a *pasivo*. In the *pasivo* its more feminine, more womanly. In *modernismo*, no. *Modernismo* is to have relations between two men demonstrating their force [*midiendo fuerzas*] sexually, I consider it like that." (Focus Group Participant, *Gay*)

At the same time as they emphasized their masculine gender, many *moderno* MSM unified their presentation of masculinity with their versatile sexual practices and gay identity:

> In a word, you could say that we both enjoy what we desire to do, or what we want to do, without pretexts. There is no shame in what he can do, or in what I can do to him, there is no shame. In contrast, with an *activo* who is looking for a *pasivo*, let's say criollamente,[2] he considers himself a man and nothing happens, although in reality he's gay. (Alan, *Moderno*)

In contrast to *activo* and *pasivo* participants who considered role segregation a fundamental aspect of their identity, *moderno* MSM described their sexual practices with men as varying according to the specific characteristics of a given sexual contact. Many *moderno* men engaged in versatile sexual practices where, "I simply adapt myself to the person and try to satisfy the person as they are, whether they are *activo*, *pasivo* or, in this case, if he were *moderno*, we would both be *moderno*" (Pedro, *Homosexual*). Specific criteria for determining which partner played the insertive or the receptive role in a given interaction were not elicited, though the cultural logic equating masculinity with penetration was echoed in participants' statements that, "When you get to the action and you like him, if a gay acts like a man, if he doesn't act like a fag in the street [*no se mariconea en la calle*] and you like him, he does the *pasivo* or, if not, the man and I am the *pasivo*" (Daniel, *Versátil*). Others modified the *moderno* role terminology to indicate that they preferred insertive sexual practices while still maintaining a *moderno* identity:

> In my case, because there are a lot of guys who don't like penetration—because *moderno* means that you give and receive—they preface the *moderno*, they do sex "light", which are kisses, caresses, or oral sex that the *activo* performs on the other person. I am a *moderno activo*, that is, someone who is still *activo*, who doesn't let themselves be penetrated, or doesn't like it. I don't like to be penetrated, but I can perform oral sex, I can do sex "light," as they say, with kisses and caresses and all those things. (Juan, *Bisexual*)

As reflected in the above comments, many *moderno* MSM lacked a specific vocabulary to define their unique sexual role or identity and did so through comparison or opposition to traditional categories of *activo* and *pasivo*. Others aligned themselves with a *moderno* role, but expanded the boundaries of the term to create new role-identities such as *moderno activo*, *gay activo*, or *versátil* ("versatile"):

> *Versátil*, I accommodate the situation. That is, a *versátil* can screw with a man and a woman at the same time. Instead, a *moderno* plays the man's role, or rather is *activo* and *pasivo*, but only with men, not with a woman, because they only like men. In contrast, a *versátil* can be *activo* and *pasivo* and can penetrate a woman as well, understand? (Diego, *Versátil*)

These participants considered the *moderno* sexual role, or their modification of it, to be the only way to adequately signify the complex intersection of masculine gender, insertive and receptive sexual practices, and non-heterosexual identity that defined their sexuality:

> Homosexual, I consider like effeminate, gay, heading towards what you call 'trans' and all those things. And to say, '*moderno activo*' I consider more masculine, to exist among people without saying that I am gay, that I am homosexual, and so to maintain my identity… as a man. (Cesar, *Moderno Activo*)

In contrast, both *activo* and *pasivo* participants considered the masculine homosexuality of the *moderno* role to be a disruption of traditional norms of gender and sexuality. *Pasivo* participants described the versatile practices of *moderno* MSM as a violation of masculine sexuality, describing a *moderno* as someone who, "appears to be a masculine person, that is you don't recognize it, you see

[2] *Criollamente* refers to the contemporary Peruvian cultural sensibility produced by a blend of European and indigenous American cultures.

him and it's like you were looking at a man. But in private, they let themselves be penetrated" (Focus Group Participant, *Gay*). Similarly, *activo* participants described *moderno* MSM as a potential threat to their masculine role within the traditional *activo*/*pasivo* order, "transforming themselves and no longer—that is, they like men, but the really macho guys. But not so that they can be penetrated by them, but so that they can penetrate the men. Those are the *modernos*" (Armando, *Heterosexual*).

Sexual Roles and the Formation of Sexual Partnerships, Networks, and Communities

By structuring sexual practices and interpersonal partnership dynamics, role-based sexual identities also defined relationship characteristics and ideas of romantic commitment among MSM and influenced control over sexual behavior and potentially vulnerability to HIV/STIs. As seen in their rejection of the gay masculinity of *moderno* MSM, both *activo* and *pasivo* men emphasized the importance of maintaining clearly identified sexual roles that govern sexual practices and identities. Many *pasivo* participants refused sexual contact with non-*activo* partners because, "I want a man who's really a man" (Maria, *Travesti*), and maintained distinct sexual roles in all aspects of their partnerships:

> The *activo* is your partner, supposedly your man, and he penetrates you, nothing more, he doesn't let you touch his buttocks, nothing. He penetrates you, you give him a blow job (*tu le haces sus guauis*) and nothing more. (Focus Group Participant, *Gay*)

In contrast, while *moderno* participants described a general tendency to form partnerships with other *moderno* MSM,

> It's not, as they say, a requirement, no? That is, if I'm *moderno* and my partner is *pasivo*, it's normal, but if I'm *moderno* and my partner's *moderno*, I adjust to that, too, or if I'm *moderno* and my partner is *activo* and only wants to do the *activo*, then I do the *pasivo*. (Hugo, *Gay*)

Although most *pasivo* MSM recognized the potential for intimate relationships with their *activo* partners as limited, they also voiced hope that in the future they might enjoy a stable, committed relationship with a male partner:

> I would someday like to have a committed relationship with someone who offers me affection and to whom I, too, can give affection, without the need for incentives on either side, neither for me nor for the other person. Because it would be a way, a sacrifice by both of us, mutually, to move forward. (Pilar, *Gay*)

In contrast, the *activo* men interviewed characterized their sexual contacts with gay and transgender partners as distinct from and less than their romantic partnerships with women, as, "A friend that I see sometimes, nothing else. Not like a partner (pareja), no? Because a partner would be there every day, give you a little kiss and such" (Eduardo, *Bisexual*). These distinct perspectives on the character of their relationships correlated with differences in risk-taking behavior within the partnerships, with *activo* MSM typically viewing male partners as potential sources of disease:

> A gay is not like the girls who sometimes do it with somebody but don't have sex that regularly. I am of the opinion that the gays, they are mostly with one person and another and then another, and they can have any illness, AIDS, any disease. For that reason, I protect myself. (Fernando, *Bisexual*)

In contrast, both *pasivo* and *moderno* participants considered sex with known partners to be relatively safe, often neglecting condom use with anyone they considered a stable partner since, "In general, with a partner you don't use it [a condom]" (Focus Group Participant, *Gay*).

Formation of social networks and communities also varied according to actual or perceived sexual roles, with resultant differences in access to health education and HIV/STI prevention services. While participation in heterosexual social networks was presumed to identify a man as *activo*, "because *activos* generally have their woman and all that" (Pilar, *Gay*), public socialization with gays or transgenders had the opposite effect:

> One day, I went to a party and a guy took me out to dance a few times, and I didn't realize that he was *moderno*. Then I saw him in the street with a lot of gays. So even before he told me 'I'm *moderno*,' I already knew the truth. (Maria, *Travesti*)

These social networks influenced access to health education and HIV/STI control efforts for MSM, with health education messages targeted towards gay- or transgender-identified MSM distributed to their non-gay identified partners only indirectly. *Pasivo*-identified MSM discussed telling their *activo* partners, "about the dangers of HIV and I tell them, 'If you go out with another fag [*maricona*] or something like that, use your condom'" (Maria, Travesti). Similarly, *activo* men who were aware of public health education and services for MSM described indirect access to these interventions through their gay-identified partners where, "They taught him and he taught me" (Luis, *Bisexual*), about the need for condom use and routine HIV/STI screening:

> Before when I was young I didn't have any clear idea about gay life (*el ambiente*), I was a stay-at-home kid,

> I hadn't heard about condoms. Recently, when I met this partner, he taught me so much, he told me about infections, about AIDS. He taught me, I learned a ton. (Focus Group Participant, *Bisexual*)

It is important to emphasize that the sexual roles described here outline general principles structuring sexual identities and practices among MSM in Peru and do not represent strictly defined, universal truths held constant throughout the population. Within this framework, many MSM interviewed described a gradual, ongoing transformation of traditional sex roles both within themselves as individuals and within the community as a whole. Several participants described modifying their initially *pasivo* role to eventually include insertive sexual practices, and redefine themselves as *moderno*:

> Sometimes when I was *pasivo*, I found myself with *moderno* guys and when that situation occurred I left. I liked *activo* guys and if they were identical to me, nothing happened. It shocked me, but when you get to find out how it is, and you like it, you go on being *moderno*. (Focus Group Participant, *Gay*)

Similarly, the *activo* role adhered to by many non-gay identified MSM was described in some focus groups as a thing of the past, "Whoever tells you that he's *activo*, that's already gone, it doesn't exist, it's over" (Focus Group Participant, *Bisexual*). One interview participant articulated his understanding of *activo* and *pasivo* roles that both recognized and questioned the traditional link between gender and sexuality:

> '*Hombre*' refers to gender, conduct is something else. Now yes, if we, with a clinical eye observe ten *activos* and ten *pasivos*, those ten *pasivos* are always going to have a more feminine conduct, from what I have seen. But the *activo* doesn't necessarily have to be or to have characteristics of masculine conduct. (Antonio, *Bisexual*)

Although these perceptions of changes in role-based identities among MSM in Peru were not shared by all participants, they reflected a recognition of how traditional sexual role frameworks provide the structure for a larger social transformation of identities, roles, and practices that was echoed by all of the MSM in our study:

> One time I went to a party and saw two beautiful men. They were kissing each other like crazy, the two of them equal to each other, with great, big bodies. But the gay world [*el ambiente*] is like that, you see normal guys giving each other crazy kisses. You have to be really good to be able to differentiate between them. (Focus Group Participant, *Gay*)

Discussion and Conclusions

Our findings provide important information about the relationship between the ongoing transformation of sexual identities, roles, and practices among MSM in Lima, Peru and subsequent implications for the dissemination and control of HIV and STIs in this population. Integrating social and epidemiologic analyses of sexual role-based identities provides a framework for analyzing multiple factors that influence the spread of HIV and STIs among MSM in Peru including: shifting meanings of gender, sexual identity, sexual roles, and sexual practices among Peruvian MSM; epidemiologic patterns of HIV/STIs and associated risk behavior that mirror role-based sexual practices within MSM partnerships; interpersonal contexts of sexual behavior and power dynamics within MSM relationships; and effects of role-based sexual identities on social and sexual network formation and access to HIV/STI prevention resources.

Quantitative and qualitative findings from our study demonstrate how traditional systems of gender-based sexual roles among MSM in Peru have been both reinforced and reinterpreted through new constructions of sexual identities, roles, and practices. The majority of MSM in our study affirmed the continued importance of the *activo*/*pasivo* system and adhered to traditional roles with corresponding sexual identities and practices. However, many participants located themselves outside of the *activo*/*pasivo* tradition and based their sexual identity and/or practices on a reconceptualization of gay and transgender roles within MSM partnerships. Participants in our study used the *activo*/*pasivo*/*moderno* system as a common frame of reference, using this system as a basic framework through which to develop their own personalized identity formations incorporating gender, sexual identity, sexual role, and sexual practices.

Research from other areas of Latin America has demonstrated a similar proliferation and transformation of traditional sexual identities and roles in relation to contextual factors including gay community involvement, international migration, socioeconomic status, and involvement in transactional sex [9–14, 27–31]. By reinterpreting how sexual identities and roles are formed and implemented as sexual practices, these studies have shifted the understanding of HIV/STI prevention from a focus on individual behavioral modification within fixed social frameworks to a dynamic process where the individual, the partnership, and the social context are all integral elements in defining HIV/STI transmission and prevention [16]. In Peru, additional interdisciplinary research is needed to further explore factors underlining the development of traditional and non-traditional role-based sexual identities as well as

their implications for partnership interactions, social and sexual network formation, and the spread of HIV and STIs.

The multidimensional reinterpretation of sexual identities, roles, and practices described in our qualitative findings was reflected in the complex patterns of HIV/STI prevalence observed between different subgroups of MSM. While the prevalence of HIV and STIs was high among all of the MSM surveyed, certain general patterns of role-based interaction can be discerned within the epidemiologic findings. High prevalences of HIV, syphilis, and HSV-2 among *pasivo* MSM were distinct from comparatively lower prevalences of disease among *activo* men. In contrast, the prevalence of urethral gonorrhea and chlamydia was significantly greater among *activo* as compared to *pasivo* MSM. These complementary HIV/STI prevalence patterns are most readily explained by known differences in risk for acquiring HIV and urethral bacterial STIs during receptive as opposed to insertive sexual intercourse [51, 52]. However, with ulcerative STIs like syphilis and genital herpes, transmission may occur through superficial contact with infected skin or mucosal surfaces and is not necessarily dependent on condom use during intercourse or related to an individual's position during sexual contact. Accordingly, the greater prevalence of these STIs noted among *pasivo* compared with *activo* MSM is likely due to a combination of risk factors observed in this subpopulation, including frequently reported unprotected receptive AI, high median numbers of male sex partners, and an increased frequency of contact with MSM sexual networks that maintain a higher baseline prevalence of disease than primarily heterosexual networks.

Social and behavioral factors, specifically the ways in which sexual roles structure partnerships between MSM in Peru, may also impact the spread of HIV and STIs by influencing power dynamics, perceptions of romantic commitment, and trust within partnerships of MSM. Within *activo–pasivo* relationships, the *activo* partner was described as controlling both the specific sexual encounter and the general pattern of interaction within the partnership. While *pasivo* participants often hoped for love and intimacy in their relationships with *activo* partners, the *activo* MSM interviewed typically considered their sexual contacts with other men as incidental events without ties of intimacy or commitment. From our data, it is not clear what direct impact power differentials, control over sexual practices, and variations in romantic commitment within *activo–pasivo* partnerships have on risk for HIV/STI acquisition. However, recognition of how these partnership factors influence interpersonal interactions and control over sexual practices is important for understanding the context of HIV/STI prevention interventions introduced into partnerships structured by this dynamic.

In contrast to the complementary patterns of disease prevalence observed between *activo* and *pasivo* MSM, *moderno* men in our study were found to have high prevalences of all STIs, including HIV, syphilis, HSV-2, and urethral gonorrhea and chlamydia. *Moderno* MSM reported partnership structures that were generally equal in terms of sexual practices, power relations, and approaches to intimacy. However, despite the egalitarian power dynamics of their partnerships, *moderno* participants reported higher frequencies of insertive and receptive unprotected AI compared to both *activo* and *pasivo* MSM, suggesting the importance of social norms as well as interpersonal partnership factors in defining sexual risk behavior. Possible explanations for the high prevalence of infection observed among *moderno* MSM include the higher rates of dissemination of HIV and STIs through role-versatile sexual networks, and the corresponding increased likelihood of HIV/STI exposure during unprotected sexual contacts with other *moderno* MSM (as opposed to *activo* male or heterosexual female partners) [46]. Additional factors underlying the high levels of sexual risk behavior and HIV/STIs observed among *moderno* MSM may include the crude nature of this category for capturing subtle distinctions in gender, sexuality, and sexual practices articulated by many participants in our qualitative study. While the *moderno* label is frequently adopted by gay or m-f transgender MSM who engage in both insertive and receptive sexual practices, our qualitative findings illustrate how the meanings of the *moderno* role extend beyond basic sexual practices and vary widely between individuals to include concepts of gender, sexuality, sexual behavior, and interpersonal partnership structures. Research specifically addressing the construction of *moderno* sexual roles among MSM in Peru, variations in these identities between MSM of different geographic, social, and economic communities in the region, and implications for sexual risk behavior and HIV/STI acquisition will be important for a detailed understanding of how new role-based identities are produced and defined, and their influence on interpersonal and community-based interactions between MSM.

Building on the understanding of how sexual role-based identities influence individual behavior, partnership interactions, social network formation, and the spread of HIV/STIs presents an important challenge for prevention research. Knowledge of how sexual roles, identities, and partnerships are structured and their relationship with sexual behavior and risks for HIV/STI acquisition can contribute to comprehensive prevention interventions specifically tailored to the individual and the partnership context. Specific prevention tools including regular condom use, routine HIV/STI screening, pre-/post-exposure prophylaxis, topical microbicides, and initiation of antiretroviral therapy for HIV-positive MSM can be combined

and optimized for use within specific social and behavioral contexts. Context-specific prevention approaches can be developed as individual, partner-level, or network-level interventions to address key issues including sexual behavior, interpersonal communication, power dynamics, social network formation, and access to structural health care resources. For example, given the combined disproportionate difference in HIV/STI prevalence and unequal power dynamics present in *activo*/*pasivo* partnerships, interventions such as pre-exposure prophylaxis, rectal condoms, and topical rectal microbicides that offer the receptive partner greater control in preventing disease transmission may provide an important prevention resource in this context. In contrast, HIV/STI control methods based on open communication between partners like serostatus disclosure, partner notification, and patient-delivered partner therapy may be more effective within communities where partnerships are considered equal but prevalences of HIV/STIs and associated high-risk behavior remain high, as with *moderno* MSM. Additional studies of how intimacy, communication, trust, and power dynamics influence sexual risk behavior and HIV/STI acquisition within different types of partnerships will help to develop and introduce context-specific, partner-based prevention interventions for MSM in Peru.

Similarly, improved understanding of how sexual identities and roles influence social and sexual network formation can also inform HIV prevention efforts in Peru. Network-based interventions provide a critical opportunity for disseminating health education and behavioral prevention interventions through peer-based social networks as well as for retracing patterns of disease transmission to deliver targeted HIV/STI screening and treatment through sexual networks. Both quantitative and qualitative data from our study suggest that sexual roles and identities contribute to the formation of participants' social networks and influence their access to sexual health education and prevention resources. Gay and m–f transgender MSM, who typically identified as *pasivo* or *moderno*, were familiar with new concepts of sexual identity, integrated into social networks of MSM, and aware of ongoing HIV/STI prevention efforts in Peru, including access to free condoms, HIV/STI counseling and testing, and sexual health education. In contrast, *activo* MSM frequently denied knowledge of abstract concepts of sexual identity or practical HIV/STI prevention outreach measures directed to MSM. *Activo* MSM who reported access to HIV/STI prevention services described being educated about and connected to these resources by their *pasivo* partners. Acknowledging how existing networks distribute health education and HIV/STI prevention methods to different MSM subpopulations and developing new channels to provide information to underserved groups of MSM present critical challenges for preventing the spread of disease among all MSM. Given the ways in which health education information is currently distributed through male sexual partnerships and networks, public health efforts directed towards gay-identified men and transgender persons may be an effective starting point for disseminating HIV prevention interventions for all MSM. In these groups, interventions involving open discussions of sexuality, HIV/STIs, and sexual risk behavior based on diffusion of innovations or community-popular opinion leader models may be effective in disseminating information and modifying community behavioral norms. However, these efforts are likely to have only a tangential impact on non-gay identified *activo* MSM who are not integrated into traditional gay or transgender social networks. To effectively reach these MSM, prevention researchers must acknowledge and incorporate the ways that they understand and articulate their sexual identity and behavior as well as their specific patterns of socialization with both male and female sexual partners, as well as with their social peers. Detailed understanding of the social and sexual network patterns that exist among non-gay identified, *activo* MSM will help to address their specific needs both in the content of the message (e.g., the importance of risk behavior reduction with both male and female partners) and in the mechanism of delivery (e.g., distribution of information through connections with partners or with peers).

There are several issues that limit the generalizability of our findings. Since our study evaluated convenience samples of MSM from a specific cultural and socioeconomic context in Lima, Peru, the data is not representative of all MSM in Peru and cannot be directly superimposed onto other areas of Latin America. Recruitment of the majority of study participants from an STI clinic venue is likely to have overestimated the prevalence of HIV/STIs and sexual risk behavior in the population and potentially affected estimates of disease prevalence in different MSM subpopulations. As in any study of sexual behavior, use of self-reported data on recent sexual practices may have resulted in response bias due to both social desirability in reporting potentially stigmatizing information and participant recall concerning recent sexual practices. In addition, though we have outlined general patterns of interaction between HIV/STI prevalence and socially constructed sexual identities, roles, and partnerships, the crudeness of our system for classifying sexual roles and the complexity of role-based identities maintained by MSM in Peru complicate efforts to understand the relationship between epidemiologic and social factors and implications for HIV/STI prevention. Further research is needed to address how these identities are developed and defined, and how they influence the spread of HIV/STIs within networks of MSM in Peru and throughout Latin America. Finally, since our

study was not designed to address network patterns of disease transmission at the partnership or population level, we can draw only limited conclusions concerning these topics and highlight them as important areas for future research. Despite these limitations, our findings make an important contribution to research on the interconnected nature of sexual identities, roles and practices and implications for HIV/STI prevention research with MSM in Latin America.

As MSM in Peru and throughout Latin America work to reinforce and redefine traditional meanings of sexual identities and roles, researchers and public health officials must make a parallel effort to understand how these shifting articulations of identity and role guide sexual practices and influence risks for transmission of HIV and STIs within sexual partnerships and sexual networks. The complexity of interactions between identities, roles, and practices, as well as the proliferation of new terms to capture these redefinitions, limit the development of universal approaches to HIV/STI prevention for "MSM." Instead, specific details of the social and behavioral contexts of sexual partnerships and implications for the spread of HIV/STIs need to be incorporated into new prevention interventions that collectively address sexual identities, practices, partnerships, and networks in comprehensive approaches to HIV and STI prevention for MSM in Latin America.

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