Sexual Behavior Among HIV-Positive Men Who Have Sex With Men: What’s in a Label?

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Relatively little attention has been paid to the use and importance of labels used by men who have sex with men to describe insertive or receptive sexual behavior during intercourse. This study examines sexual self-labels, sexual behavior, HIV transmission risk, and psychological functioning among 205 HIV-seropositive men who have sex with men. The majority of participants (88%) identified as a “top,” a “bottom,” or “versatile.” Tops were more likely to engage in insertive anal intercourse than bottoms, and bottoms were more likely to engage in receptive anal intercourse than tops, with versatiles reporting intermediate rates of both behaviors. Although the results suggest preliminary evidence regarding the predictive utility of self-labels, sexual behaviors of self-label groups were greatly overlapping. Differences were found among self-label groups in gay self-identification, internalized homophobia, sexual sensation seeking, and anxiety. Results suggest an added value in assessing self-labels in addition to asking about sexual behavior.

The sexual practices of men who have sex with men (MSM) have been the subject of many studies since the emergence of the human immunodeficiency virus (HIV) epidemic (Stall, Hays, Waldo, Ekstrand, & McFarland, 2000; Wolitski, Valdisseri, Denning, & Levine, 2001). These studies extensively document the prevalence of specific sexual practices but provide little insight into MSM’s identification with, and preference for, specific roles during sexual intercourse. Among MSM, distinctions are commonly made regarding preferences for insertive or receptive intercourse (Wegesin & Meyer-Bahlburg, 2000). Three major self-labels are typically specified: “top,” meaning one who prefers the insertive role; “bottom,” meaning one who prefers the receptive role (Sanderson, 1994); and “versatile,” meaning one who engages in both behaviors without strong preferences for one or the other. Despite the potential utility for those who design HIV prevention programs of knowing how MSM self-label regarding their typical sexual behavior, the use of such self-labels and their relation to HIV transmission behavior and psychological adjustment have received little attention in the literature.

A recent study was among the first to explore self-labels regarding sexual behavior in a sample of gay and bisexual-identified men of mixed serostatus (Wegesin & Meyer-Bahlburg, 2000). Men were asked to indicate whether they identified themselves as a top, bottom, or other, or to indicate that they did not practice insertive anal intercourse (IAI) or receptive anal intercourse (RAI). Results suggested some degree of consistency between self-label and sexual behavior, with tops engaging in a higher frequency of IAI than bottoms and bottoms engaging in a higher frequency of RAI than tops. Degree of pleasure experienced during IAI or RAI was in the expected direction, with tops rating IAI as more pleasurable than bottoms, and bottoms rating RAI as more pleasurable than tops.

Research regarding preferred roles during sexual intercourse suggests that self-labels regarding sexual behavior among MSM may vary by culture. Carrier (1977) argues that interchangeability of insertive and receptive roles found among American MSM (e.g., Hooker, 1965) may be specific to middle- and upper-class non-Latino Caucasian Americans and may not be generally found among MSM of other ethnicities or working-class backgrounds. For example, among Mexicans and Mexican Americans who are less acculturated into the dominant American culture, it is normative to select either the insertive or receptive role but not both roles. Further, in Mexican, Greek, and Turkish culture, only those who engage in RAI are considered to be
homosexual (Carrier, 1985, 1989; Magaña & Carrier, 1991). Despite greater stigma in many communities against engaging in the receptive sexual role, there appear to be no ethnic differences among Latino American, African American, and Caucasian American MSM in proportion of men engaging in RAI versus IAI during a 1-year period (Doll et al., 1992). Given that self-labels may not reflect actual roles during intercourse, it is unknown if there are ethnic differences in self-labeling and its relation to self-identified sexual orientation.

Self-labels also appear to be associated with medical and psychological variables. Bottoms may be more likely to be HIV-seropositive than tops because of their preference for RAI versus IAI (Caceres & van Griensven, 1994; Vittinghoff et al., 1999; Wegesin & Meyer-Bahlburg, 2000). Sexual roles also have been associated with masculinity and femininity; one study showed that adults who preferred RAI recalled more childhood gender nonconformity (Weinrich et al., 1992). Mixed evidence exists regarding an association between top or bottom self-labels and femininity in adulthood (Wegesin & Meyer-Bahlburg, 2000).

Although Wegesin and Meyer-Bahlburg’s (2000) study is remarkable for systematically examining self-labeling among MSM, the study did not examine the sexual behavior of those who identified as “other” or “not applicable.” Many of the men in the “other” category may have identified as “versatile” if given the opportunity, as most men who engage in anal intercourse with other men engage in both insertive and receptive intercourse (Doll et al., 1992). Further, data are needed on those who do not identify with a self-label. Although Wegesin and Meyer-Bahlburg report that the “not applicable” group consisted of those who did not practice insertive or receptive anal sex, it is unknown to what extent this group was celibate or simply preferred other forms of sexual activity.

The current study attempted to answer three primary research questions. First, consistent with a shift in resources toward understanding the HIV risk behaviors of HIV-positive persons (e.g., Janssen et al., 2001), the study attempted to extend the findings of previous self-label research by examining (a) the relationship between self-labeling and sexual behavior in a multiethnic sample of HIV-positive MSM and (b) the use of the versatile label and its relationship to sexual behavior. We hypothesized that self-label would predict overall patterns of sexual behavior, with tops engaging in more IAI than RAI, bottoms engaging in more RAI than IAI, and versatiles engaging in intermediate rates of both IAI and RAI. In addition, we examined the sexual behavior of those who do not identify with a self-label and explored differences in oral intercourse to see if patterns found for oral intercourse were similar or different among self-label groups.

Second, the current study sought to examine the relationship of self-labeling to HIV transmission risk. If self-labeling is found to be associated with sexual behavior, it is possible that frequency of unprotected intercourse is positively associated with the form of sexual behavior engaged in more frequently (e.g., tops will engage in more unprotected IAI). Alternatively, MSM may be less skilled in negotiating condom use in less familiar sexual roles and may therefore engage in more unprotected intercourse (e.g., tops will engage in more unprotected RAI). Therefore, we assessed whether the likelihood of engaging in role-discrepant anal intercourse increased or decreased participants’ likelihood of having engaged in sexually risky behavior above and beyond the general frequency of anal intercourse or number of anal intercourse partners.

Third, this study examined whether self-labeling was associated with sexual behavior only, or if it also was associated with psychosocial measures previously found to be related to sexual roles and behavior among MSM, including gay self-identification and internalized homophobia (e.g., Magaña & Carrier, 1991), sexual compulsivity and sexual sensation seeking (Kalichman & Rompa, 1995), and negative affect (Marks, Bingman, & Duval, 1998).

 METHODS

Participants, Setting, and Procedure

The sample consisted of 205 participants recruited in 1998 for the Seropositive Urban Men’s Study (O’Leary, Purcell, Remien, & Gómez, in press; Parsons & Halkitis, in press; Purcell, Parsons, Halkitis, Mizuno, & Woods, 2001). This study was designed to examine factors associated with safer sex behaviors among HIV-seropositive MSM. Eligibility requirements consisted of being at least 18 years of age, being male (or having male genitalia if self-identified as transgender), self-identifying as HIV-positive, reporting having had sex with another man during the past year, and living in the study catchment area. In addition, we established sampling quotas to ensure the representation of key ethnic/racial groups recruited from three types of community settings: AIDS service organizations (28%); mainstream gay venues such as gay bookstores, bars, and gay pride events (24%); and public sex environments such as bathhouses, outdoor cruising areas, and parks (24%). Field staff recruited participants actively in community venues and passively through flyers placed in the venues and gay-oriented publications. Recruitment materials describing the study provided individuals a toll-free phone number for additional information about the study. To eliminate the need for men to disclose their HIV status, potential participants were told, “If this does not apply to you, please give it to someone you know.” As a result, some men were referred to the study by friends and recruited into the study through snowball sampling (24%). Men who met the eligibility criteria completed a paper-and-pencil survey on-site, which took about 1 hour to complete. We gave an incentive of $30 to those completing the survey. Demographic characteristics of the study sample are presented in Table 1.

The vast majority (97%) of men reported having had a CD4 count (a test measuring the amount of a certain type of white blood cell particularly vulnerable to HIV; mean
CD4 count = 408, SD = 271). Most (95%) had their viral load tested, with 38% reporting an undetectable viral load.

**Measures**

**Self-Label Regarding Sexual Intercourse**

After they answered all questions about sexual practices, participants were asked, “Do you think of yourself as a ‘top’ or a ‘bottom’?” Participants selected their responses from a list of four options: top, bottom, versatile, and these labels don’t apply to me.

**Sexual Behavior and HIV Transmission Risk Behavior**

We asked participants about sexual activities with their primary and nonprimary sex partners who were HIV-seropositive, HIV-seronegative, or of unknown serostatus. Participants who reported having a primary sex partner were asked if this partner had been tested for HIV infection and what the results of this test were. Questions included items about the frequency of IAI, RAI, insertive oral intercourse (IOI), and receptive oral intercourse (ROI) during the past 3 months. HIV transmission risk behavior was assessed by asking participants about the frequency of unprotected IAI and RAI with partners of HIV-negative or unknown serostatus.

**Psychosocial Measures**

*Mental health measures.* Participants completed the anxiety, depression, and hostility subscales from the Brief Symptom Inventory. This is a 53-item, standardized measure of psychological symptoms, problems, and complaints (Derogatis & Spencer, 1982). The three subscales are composed of 18 items using a 4-point Likert-type scale (1 = not at all; 4 = extremely). The subscales have acceptable internal consistency in this sample (αs = 0.87, 0.91, 0.78, respectively).

*Gay self-identification and internalized homophobia.* We asked participants if they self-identified as gay, homosexual, or queer; bisexual; heterosexual; or unsure of their sexual orientation. The internalized homophobia measure contains 5 items assessing degree of discomfort with one’s own homosexuality. Most items are reverse coded (e.g., “I feel extremely comfortable about being sexually attracted to men”). The scale was unidimensional, normally distributed, and demonstrated acceptable internal consistency (α = 0.77).

*Sexual sensation seeking.* The Sexual Sensation Seeking Scale (Kalichman et al., 1994; Kalichman & Rompa, 1995) is an 11-item Likert-type scale (1 = not at all like me; 4 = very much like me) measuring tendency to pursue high levels of sexual excitement and to engage in novel sexual experiences. The Sexual Sensation Seeking Scale has demonstrated good convergent and divergent validity, acceptable internal consistency (α = 0.75), and 2-week test-retest reliability (r = 0.78), and has discriminated between high-risk and low-risk sexual behavior groups in a sample of gay men. Six items were adapted from this scale for the present study. The 6-item version retains internal consistency (α = 0.79).

**Sexual compulsion.** The Sexual Compulsivity Scale (Kalichman et al., 1994; Kalichman & Rompa, 1995) is a 10-item Likert-type scale (1 = not at all like me; 4 = very much like me) that measures lack of control over sexual thoughts and behavior. It is associated with lack of sexual control, low self-esteem, and loneliness among gay men, and with decreased intentions to reduce sexual risk behavior. The Sexual Compulsivity Scale demonstrated excellent 2-week test-retest reliability (r = 0.95) in a sample of gay men, and had good internal consistency (α = 0.89) in a sample of HIV-seropositive men (Kalichman & Rompa, 2001). We adapted 6 items from this scale and demonstrated similar levels of internal consistency (α = 0.84).

**Preferences for receptive versus insertive intercourse.** Men who reported having a primary partner during the past 3 months were asked about their preferences for receptive versus insertive roles in anal (preferring to be anally penetrated vs. being the penetrator) and oral (preferring to be orally penetrated vs. being the penetrator) intercourse with a primary partner. Participants rated their agreement with each statement using a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). Men who reported having sexual relations with a man whom they did not consider to be a primary partner were asked identical questions about their preference for receptive versus insertive intercourse, but with a nonprimary partner.

**Social Desirability Response Bias**

Participants completed the Marlowe-Crowne Social Desirability Scale - Short Form (Reynolds, 1992) to assess social desirability response bias. This instrument consists of 13 items derived from a factor analysis of the original 33-item instrument (Crowne & Marlowe, 1964) and includes items such as “I’m always willing to admit when I make a mistake.” The Marlowe-Crowne Social Desirability Scale demonstrates high 6-week test-retest reliability (r = 0.74) and internal consistency of 0.74 as assessed by the Kuder-Richardson index.

**RESULTS**

**Analyses**

We conducted chi-square analyses to investigate whether self-labels were associated with differences in categorical demographic variables, prevalence of sexual practices, or sexual orientation. We conducted follow-up chi-square analyses (e.g., tops vs. versatile) when the omnibus test yielded significant findings. We used the continuity correction statistic to determine significance in all 2 X 2 tables. Sexual behavior data were highly positively skewed, and therefore were log-transformed to approximate normality (Kirk, 1968; Winer, 1971) using the formula log(x + 1) for all parametric analyses using sexual behavior as the dependent variable. We then conducted analyses of variance (ANOVA) to investigate whether self-labels were associated with dimensional variables,
with Scheffe post-hoc analyses conducted when the omnibus test yielded significant findings. In the case of significant differences among self-label groups on a dimensional variable, we computed analyses of covariance (ANCOVAs) with self-label as the independent variable and proportion of insertive intercourse relative to total intercourse as the covariate to examine the contribution of self-label beyond actual sexual behavior. In the case of significant differences among self-label groups on a binary variable, we computed logistic regressions with proportion of insertive intercourse relative to total intercourse on the first step and self-label on the second step. To control for sampling and response biases, we conducted univariate analyses via chi-square (for recruitment city and recruitment venue) and ANOVA (for social desirability response bias) techniques. If we found sampling and response biases, we entered the potential confound first before other variables of interest in multivariate analyses. Given that the sample was comprised of HIV-seropositive MSM, we also explored the relation of self-labels and health variables via chi-square (for AIDS diagnosis) and ANOVA (for CD4 count, viral load, and years since testing HIV-positive) techniques.

**Demographic Variables**

Table 1 summarizes the demographic findings. Of the 205 participants, 36 (18%) self-identified as tops, 47 (23%) as bottoms, and 97 (47%) as versatiles, and 25 (12%) reported that these labels did not apply to them (hereafter referred to as the no label group). Self-label groups did not differ in age, racial-ethnic background (Caucasian, African American, Latino, or Other), years since testing HIV-positive, CD4 count, viral load, recruitment city, or type of recruitment venue, or in social desirability response bias. Self-label groups also did not differ in number of male partners, or in having a primary partner or not. As only 15% (n = 31) self-identified as bisexual, heterosexual, or unsure, data from these respondents were collapsed into a single non-gay identified category. Self-label differed significantly by sexual orientation, excluding the no label group due to insufficient cell sizes, $\chi^2(2, N = 180) = 11.87, p < 0.01$. Follow-up analysis revealed that tops were less likely to be gay-identified than were bottoms or versatiles (67% vs. 90% and 90%, respectively), $\chi^2(1, N = 180) = 10.13, p < 0.01$.

**Sexual Behavior With Male or Female Partners**

No differences emerged regarding number of female partners. Due to small cell sizes, we used 2 X 2 Fisher’s exact tests to examine the proportions of participants who had male or female sex partners during the past 3 months. These tests compared each self-label group to all other participants (e.g., tops vs. all others). Regarding sex with a man, we found no differences for any of the 2 X 2 analyses. Tops were more likely than others to have had sex with a woman (22% vs. 9%), $\chi^2(1, N = 205) = 4.05, p < 0.05$.

**Sexual Behavior and HIV Transmission Risk Behavior**

**Anal Intercourse**

*Prevalence of anal intercourse.* Significant differences in the practice of anal intercourse during the past 3 months were found for self-label, $\chi^2(3, N = 192) = 8.94, p < 0.05$. Prevalence of sexual behavior among self-label groups is presented in Table 2. Follow-up analysis revealed that the no label group was less likely to have engaged in anal intercourse than tops, $\chi^2(1, N = 58) = 5.36, p < 0.05$, and versatiles, $\chi^2(1, N = 115) = 5.52, p < 0.05$. A similar pattern emerged regarding the no label group and bottoms, but these differences failed to reach significance. Analyses also explored differences in proportion engaging in IAI or RAI. We excluded the no label group due to the small number of men in this group who had engaged in IAI or RAI. Selecting individuals who had engaged in anal intercourse, we found significant differences among groups in proportion engaging in IAI, $\chi^2(2, N = 135) = 48.17, p < 0.001$. Further exploration revealed that (a) tops were more likely than bottoms to engage in IAI, $\chi^2(1, N = 62) =
22.51, \( p < 0.001 \), and (b) versatile were more likely than bottoms to engage in IAI, \( \chi^2(1, N = 106) = 36.64, p < 0.001 \). Significant differences also emerged among groups regarding proportion engaging in RAI, \( \chi^2(2, N = 135) = 30.21, p < 0.001 \). Further exploration revealed that (a) bottoms were more likely to engage in RAI than tops, \( \chi^2(1, N = 62) = 26.65, p < 0.001 \), or versatile, \( \chi^2(1, N = 106) = 6.30, p < 0.05 \), and (b) versatile were more likely than tops to engage in RAI, \( \chi^2(1, N = 102) = 12.26, p < 0.001 \).

**Frequency of anal intercourse.** Selecting only participants who had engaged in anal intercourse, we found no differences among groups regarding frequency of anal intercourse in the past 3 months, \( F(3, 144) = 1.19, ns \). Means and standard deviations of log10-transformed sexual behavior frequency variables are found in Table 2. Differences emerged among groups in frequency of IAI, \( F(3, 144) = 12.35, p < 0.001 \). Post-hoc analyses revealed that tops and versatile engaged in more IAI than bottoms (both \( ps < 0.001 \)). Regarding RAI, the omnibus test was significant, \( F(3, 144) = 9.04, p < 0.001 \). Post-hoc analyses revealed that bottoms and versatile engaged in more RAI than tops (both \( ps < 0.001 \)).

**Proportion of IAI relative to total intercourse occasions.** Selecting only participants who had engaged in anal intercourse, we found differences among groups regarding proportion of IAI occasions relative to total anal intercourse occasions, \( F(3, 144) = 35.29, p < 0.001 \). Follow-up analyses revealed that (a) tops had a greater proportion of IAI relative to total anal intercourse occasions than did bottoms, versatile, or the no label group; (b) versatile had a greater proportion of IAI than bottoms; and (c) the no label group had a greater proportion of IAI than bottoms (all \( ps < 0.001 \)).

**HIV Transmission Behavior**

Selecting only those who engaged in anal intercourse within the past 3 months, we found that approximately 66% engaged in unprotected anal intercourse with partners who were HIV-negative or of unknown serostatus. For purposes of group comparison, the no label group was excluded from analysis due to insufficient cell sizes. Proportions of each self-label group engaging in any unprotected anal intercourse, unprotected IAI, or unprotected RAI are presented in Table 3. We found no differences in the proportion of each self-label group engaging in any unprotected anal intercourse, in frequency of unprotected anal intercourse, or in proportion of unprotected anal intercourse occasions relative to total anal intercourse occasions.

Selecting only those who had engaged in IAI, we found no significant differences among groups in proportion engaging in unprotected IAI, in frequency of unprotected IAI, or in proportion of unprotected IAI. Considering only those who engaged in RAI, no differences emerged in proportion engaging in unprotected RAI, frequency of unprotected RAI, or proportion of unprotected RAI. Because of the greater impact on the spread of the HIV epidemic of unprotected intercourse with HIV-negative partners or

### Table 2. Self-Label and Sexual Behavior Among HIV-Seropositive MSM

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Top ( n = 36 )</th>
<th>Bottom ( n = 47 )</th>
<th>Versatile ( n = 97 )</th>
<th>No label ( n = 25 )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proportion engaging in behavior</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anal intercourse</td>
<td>85.3% ( a )</td>
<td>76.7% ( b )</td>
<td>80.2% ( c )</td>
<td>54.2% ( a, b, c )</td>
</tr>
<tr>
<td>IAI(^a)</td>
<td>96.6% ( a )</td>
<td>39.4% ( a, b )</td>
<td>93.2% ( b )</td>
<td>76.9% ( b )</td>
</tr>
<tr>
<td>RAI(^b)</td>
<td>41.4% ( a, b )</td>
<td>100.0% ( a, c )</td>
<td>79.5% ( b, c )</td>
<td>69.2% ( b )</td>
</tr>
<tr>
<td>Oral intercourse</td>
<td>94.3% ( a )</td>
<td>93.5% ( a )</td>
<td>91.6% ( a )</td>
<td>84.0% ( b )</td>
</tr>
<tr>
<td>IOI(^c)</td>
<td>90.9% ( a )</td>
<td>79.1% ( a )</td>
<td>93.1% ( b )</td>
<td>76.2% ( c )</td>
</tr>
<tr>
<td>ROI(^c)</td>
<td>81.8% ( a )</td>
<td>95.3% ( a )</td>
<td>100.0% ( a )</td>
<td>90.5% ( b )</td>
</tr>
</tbody>
</table>

**Frequency of behavior (log10-transformed) in last 3 months (SD)**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Top</th>
<th>Bottom</th>
<th>Versatile</th>
<th>No label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anal intercourse</td>
<td>1.19 (0.58)</td>
<td>1.21 (0.58)</td>
<td>1.41 (0.55)</td>
<td>1.12 (0.74)</td>
</tr>
<tr>
<td>IAI</td>
<td>1.12 (0.57)</td>
<td>0.38 (0.58)</td>
<td>1.09 (0.57)</td>
<td>0.88 (0.70)</td>
</tr>
<tr>
<td>RAI</td>
<td>0.35 (0.54)</td>
<td>1.16 (0.55)</td>
<td>0.97 (0.80)</td>
<td>0.87 (0.70)</td>
</tr>
<tr>
<td>Oral intercourse</td>
<td>1.31 (0.59)</td>
<td>1.18 (0.53)</td>
<td>1.54 (0.53)</td>
<td>1.20 (0.57)</td>
</tr>
<tr>
<td>IOI</td>
<td>1.02 (0.63)</td>
<td>0.67 (0.54)</td>
<td>1.19 (0.58)</td>
<td>0.83 (0.64)</td>
</tr>
<tr>
<td>ROI</td>
<td>0.92 (0.60)</td>
<td>1.02 (0.54)</td>
<td>1.25 (0.52)</td>
<td>0.92 (0.58)</td>
</tr>
</tbody>
</table>

**Proportion of IAI / total AI (SD)**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Top</th>
<th>Bottom</th>
<th>Versatile</th>
<th>No label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anal intercourse</td>
<td>0.86 (0.26)</td>
<td>0.11 (0.18)</td>
<td>0.53 (0.32)</td>
<td>0.51 (0.39)</td>
</tr>
<tr>
<td>IAI</td>
<td>0.57 (0.28)</td>
<td>0.31 (0.27)</td>
<td>0.47 (0.21)</td>
<td>0.41 (0.30)</td>
</tr>
</tbody>
</table>

*Note:* Numbers with the same subscript in a given row differ significantly at the \( p < 0.05 \) level. SD = standard deviation; IAI = insertive anal intercourse; RAI = receptive anal intercourse; IOI = insertive oral intercourse; ROI = receptive oral intercourse.

\(^a\)Percentage data represent proportion of each group engaging in insertive or receptive anal or oral intercourse including only those who engaged in anal or oral intercourse (e.g., proportion engaging in IAI includes only those who had anal intercourse in the past 3 months).
partners of unknown serostatus, we repeated each analysis regarding unprotected anal intercourse examining only intercourse with HIV-negative or unknown serostatus partners. An identical pattern of findings emerged with no differences found among groups.

Oral Intercourse

Prevalence of oral intercourse. Due to low numbers of participants who did not have oral intercourse, cell sizes were insufficient for an omnibus chi-square test comparing proportions of each group engaging in any oral intercourse, IOI, or ROI. Thus, we computed Fisher's exact test with 2 X 2 tables comparing one group with the other groups (e.g., tops vs. others). Regarding oral intercourse and IOI, we found no differences in any of the 2 X 2 analyses. Tops were less likely to engage in ROI than others, \( \chi^2(1, N = 184) = 9.87, p < 0.01 \), and versatiles were more likely to engage in ROI than others, \( \chi^2(1, N = 184) = 7.59, p < 0.01 \). Further exploration revealed that versatiles were more likely to engage in ROI than tops (100% versus 82%), \( \chi^2(1, N = 120) = 13.04, p < 0.001 \), and the no label group (100% versus 91%), \( \chi^2(1, N = 108) = 4.02, p < 0.05 \).

Frequency of oral intercourse. Selecting only participants who had engaged in oral intercourse, we found group differences regarding frequency of oral intercourse during the past 3 months, \( F(3, 180) = 5.39, p < 0.01 \). Post-hoc analyses revealed that versatiles engaged in more oral intercourse than bottoms (\( p < 0.05 \)). Differences emerged among groups in frequency of IOI, \( F(3, 180) = 8.03, p < 0.001 \). Post-hoc analyses revealed that versatiles engaged in more IOI than bottoms (\( p < 0.001 \)). Differences also emerged regarding frequency of ROI, \( F(3, 180) = 4.59, p < 0.01 \). Post-hoc analyses revealed that versatiles engaged in more ROI than tops (\( p < 0.05 \)).

Proportion of insertive oral intercourse relative to total oral intercourse. Selecting only those who engaged in oral intercourse, we found differences regarding proportion of IOI occasions relative to total oral intercourse occasions, \( F(3, 180) = 7.12, p < 0.001 \). Follow-up analyses revealed that (a) tops had a higher proportion of IOI than bottoms and (b) versatiles had a higher proportion of IOI than bottoms.

Psychosocial Measures

Internalized Homophobia and Mental Health Symptoms

We found differences among groups regarding internalized homophobia, \( F(3, 201) = 4.00, p < 0.01 \). Post-hoc analyses showed higher internalized homophobia scores among tops relative to versatiles, \( p < 0.05 \). Table 4 presents means and standard deviations for mental health measures. We also found group differences in anxiety, \( F(3, 200) = 4.36, p < 0.01 \). Post-hoc analyses revealed higher anxiety in the no label group relative to versatiles, \( p < 0.05 \).

Table 4. Psychosocial Functioning and Attitudes and Behavior Related to Sexual Behavior

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Top n = 36</th>
<th>Bottom n = 47</th>
<th>Versatile n = 97</th>
<th>No label n = 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological distress</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>13.06 (6.72)</td>
<td>12.35 (5.47)</td>
<td>10.85 (4.04)</td>
<td>14.68 (5.99)</td>
</tr>
<tr>
<td>Hostility</td>
<td>9.58 (4.99)</td>
<td>9.00 (3.49)</td>
<td>8.31 (3.16)</td>
<td>9.04 (3.06)</td>
</tr>
<tr>
<td>Depression</td>
<td>16.49 (7.98)</td>
<td>17.11 (6.96)</td>
<td>15.39 (6.62)</td>
<td>19.52 (8.26)</td>
</tr>
<tr>
<td>Internalized homophobia</td>
<td>2.38 (0.83)</td>
<td>2.06 (0.83)</td>
<td>1.85 (0.75)</td>
<td>2.17 (1.02)</td>
</tr>
<tr>
<td>Personality traits related to sexual behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual sensation seeking</td>
<td>2.47 (0.74)</td>
<td>2.61 (0.68)</td>
<td>2.74 (0.70)</td>
<td>2.61 (0.71)</td>
</tr>
<tr>
<td>Sexual compulsivity</td>
<td>1.80 (0.68)</td>
<td>1.74 (0.61)</td>
<td>1.82 (0.74)</td>
<td>1.66 (0.69)</td>
</tr>
<tr>
<td>Preferences for receptive intercourse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anal with primary partner</td>
<td>2.87 (1.13)</td>
<td>4.31 (1.35)</td>
<td>2.64 (1.28)</td>
<td>3.11 (1.17)</td>
</tr>
<tr>
<td>Oral with primary partner</td>
<td>2.73 (0.96)</td>
<td>3.31 (1.40)</td>
<td>2.79 (1.37)</td>
<td>2.56 (1.24)</td>
</tr>
<tr>
<td>Anal with other primary partner</td>
<td>1.66 (0.94)</td>
<td>4.43 (1.17)</td>
<td>2.87 (1.12)</td>
<td>2.56 (1.04)</td>
</tr>
<tr>
<td>Oral with nonprimary partner</td>
<td>2.14 (1.13)</td>
<td>3.70 (1.41)</td>
<td>2.96 (0.98)</td>
<td>3.42 (1.31)</td>
</tr>
</tbody>
</table>

Note. Numbers with the same subscript in a given row differ significantly at the \( p < 0.05 \) level. SD = standard deviation.
Sexual Sensation Seeking and Compulsivity

Table 4 presents mean scores and standard deviations for attitudes related to sexual behavior. We found group differences in sexual sensation seeking, $F(3, 200) = 3.82, p < 0.05$. Post-hoc analyses revealed that versatiles scored higher than the no label group, $p < 0.05$. No differences were found in sexual compulsivity.

Preferences for Receptive Versus Insertive Intercourse

Among men who reported having had a primary partner during the past 3 months, differences emerged in preference for RAI with a primary partner, $F(3, 83) = 7.18, p < 0.001$. Post-hoc analyses revealed that bottoms preferred RAI more than tops ($p < 0.05$) or versatiles ($p < 0.001$). Analyses failed to find differences in preference for ROI with a primary partner.

Analyses also explored preferences among men with nonprimary partners. Among men who reported having had sex with someone other than a primary partner during the past 3 months, differences emerged regarding preference for RAI with a nonprimary partner, $F(3, 155) = 37.24, p < 0.001$. Post-hoc analyses revealed that bottoms expressed a greater preference for RAI than did tops, versatiles, or the no label group (all $ps < 0.001$), and versatiles expressed more RAI preference than did tops ($p < 0.05$). Analyses also revealed differences in preference for ROI with a nonprimary partner, $F(3, 156) = 10.74, p < 0.001$. In post-hoc analyses, bottoms expressed a stronger preference for ROI than did tops or versatiles ($ps < 0.001$), versatiles a stronger preference than tops ($p < 0.05$), and the no label group a stronger preference than tops ($p < 0.01$).

Multivariate Analyses

Multivariate analyses explored whether self-labels would continue to predict sexual orientation, internalized homophobia, anxiety, and preferences for receptive over insertive anal and/or oral intercourse when controlling for proportion of IAI relative to total anal intercourse and proportion of ROI relative to total oral intercourse.

Gay Self-Identification

Logistic regressions regarding proportion of IAI and self-label as predictors of gay self-identification are presented in Table 5. Proportion of IAI and proportion of ROI were entered on Step 1 and both failed to reach significance. Self-label was entered on Step 2 comparing tops with versatiles and bottoms. Tops continued to be significantly less likely to self-identify as gay than versatiles or bottoms.

Internalized Homophobia

An ANCOVA with self-label as the independent variable and proportion of IAI and proportion of ROI as covariates showed that proportion of IAI, $F(1, 96) = 4.16, p < 0.05$, and proportion of ROI, $F(1, 96) = 6.69, p < 0.05$, predicted internalized homophobia. Self-label (tops vs. versatiles) continued to predict internalized homophobia when we controlled for proportion of IAI and proportion of ROI, $F(1, 96) = 16.25, p < 0.001$.

Preferences for Receptive Versus Insertive Intercourse

Using the same procedure described for internalized homophobia, proportion of ROI, $F(1, 60) = 5.53, p < 0.05$, but not proportion of IAI, $F(1, 59) = 2.91, p < 0.05$, predicted preference for RAI versus IAI with a primary partner. Self-label (bottoms vs. tops and versatiles) failed to predict preference for RAI versus IAI with a primary partner when we controlled for proportion of IAI and proportion of ROI, $F(1, 59) = 1.78, ns$. Analyses also explored sexual behavior preferences among men with nonprimary sexual partners. For the first ANCOVA (bottoms vs. others), proportion of IAI, $F(1, 117) = 15.81, p < 0.001$, but not proportion of ROI, $F(1, 117) = 0.05, ns$, predicted preference for RAI versus IAI. Self-label continued to predict preference for RAI when we controlled for proportion of IAI and proportion of ROI, $F(1, 117) = 30.04, p < 0.001$. For the second ANCOVA (versatiles vs. tops), proportion of IAI, $F(1, 78) = 4.94, p < 0.05$, but not proportion of ROI, $F(1, 78) = 0.97, ns$, predicted preference for RAI versus IAI. Self-label continued to predict preference for RAI when we controlled for proportion of IAI and proportion of ROI, $F(1, 78) = 14.24, p < 0.001$.

Previous analyses revealed differences in preference for ROI over IOI with a nonprimary partner. For the first ANCOVA (tops vs. others), proportion of IOI, $F(1, 118) = 14.41, p < 0.001$, but not proportion of IAI, $F(1, 118) = 0.06, ns$, predicted preference for ROI. Self-label continued to predict preference for ROI when we controlled for proportion of IAI and proportion of IIO, $F(1, 118) = 6.38, p < 0.05$. For the second ANCOVA (bottoms vs. versatiles), proportion of IAI, $F(1, 81) = 4.26, p < 0.05$, and proportion of IIO, $F(1, 81) = 13.22, p < 0.001$, predicted preference for ROI. Self-label continued to predict preference for ROI when we controlled for proportion of IAI and proportion of IIO, $F(1, 81) = 13.68, p < 0.001$.

Table 5. Behavior and Self-Label as Predictors of Gay Self-Identification

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$B$</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAI / AI</td>
<td>3.27</td>
<td>2</td>
<td>-0.94</td>
<td>0.75</td>
</tr>
<tr>
<td>IOI / AI</td>
<td>-0.73</td>
<td>1.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAI / AI</td>
<td>4.81</td>
<td>3</td>
<td>-0.10</td>
<td>0.88</td>
</tr>
<tr>
<td>IOI / IA</td>
<td>-0.42</td>
<td>1.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-label</td>
<td>-1.39*</td>
<td>0.64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. $N = 135$. IAI / AI = proportion of insertive anal intercourse relative to total anal intercourse occasions; IIO / IO = proportion of insertive oral intercourse relative to total oral intercourse occasions. *$p < 0.05$.
intercourse and prevalence of ROI as covariates. These two variables were entered as covariates because unlike proportion of IAI or proportion of RAI, they differed between versatility and the no label group. Both anal intercourse, \( F(1, 114) = 1.26, ns \), and ROI, \( F(1, 114) = 2.25, ns \), failed to predict anxiety. Self-label continued to predict anxiety (the no label group having higher anxiety than versatility) when we controlled for anal intercourse and ROI, \( F(1, 114) = 19.47, p < 0.001 \).

**Sexual Sensation Seeking**

Under the same procedure described for anxiety above, anal intercourse, \( F(1, 111) = 0.00, ns \), and ROI, \( F(1, 111) = 1.15, ns \), failed to predict sexual sensation seeking. Self-label continued to predict sexual sensation seeking (versatiles having greater sexual sensation seeking than the no label group) when we controlled for anal intercourse and ROI, \( F(1, 111) = 8.07, p < 0.01 \).

**DISCUSSION**

Results suggest that identification with a self-label (top, bottom, or versatile) is common among HIV-positive MSM. Of the 205 HIV-positive men in the sample, 88% self-identified as a top, bottom, or versatile. Findings of this study extend previous research examining sexual practices and top or bottom self-labels among primarily middle-class White gay men (Wegesin & Meyer-Bahlburg, 2000) to a multiethnic sample of primarily low-income HIV-positive MSM. Compared with bottoms, tops were more likely to have engaged in IAI, had more IAI, and engaged in a greater proportion of IAI relative to total anal intercourse than bottoms. Compared with tops, bottoms were more likely to engage in RAI, had more RAI, and tended to prefer more strongly RAI versus IAI.

The present study suggests that assessment of top or bottom self-label alone may be insufficient, as fewer than half of the participants identified as top or bottom (41%) and nearly half of the participants self-identified as versatile. Consistent with hypotheses, versatility occupied an intermediate status between tops and bottoms regarding sexual role preferences and sex behavior. With regard to sex with nonprimary partners, for example, bottoms preferred RAI more than versatiles, and versatiles preferred RAI more than tops. Versatiles’ weaker preferences for RAI relative to IAI appeared to be consistent with their behavior. Versatiles were more likely to have engaged in IAI than bottoms but equally likely to have engaged in IAI as tops. Similarly, versatiles were more likely to have engaged in RAI than tops but equally likely to have engaged in RAI as bottoms. The pattern of findings regarding oral intercourse resembled that found for anal intercourse, with tops having a higher proportion of IOI relative to total oral intercourse than versatiles, and versatiles having a higher proportion of IOI than bottoms. Self-labels therefore appeared to predict patterns of anal and, to a lesser degree, oral intercourse.

Although the results suggest preliminary evidence regarding the predictive utility of self-labels, sexual behavior of self-label groups was highly overlapping, with 41% of tops engaging in RAI and 39% of bottoms engaging in IAI at least once in the past 3 months. The overlap among groups was even more pronounced regarding oral intercourse, with no differences found among groups regarding proportion of each group engaging in IOI and with the vast majority (at least 82%) of each group engaging in ROI. Thus, self-label predicted overall patterns of insertive versus receptive behavior, but even the groups with the strongest preferences, tops and bottoms, still engaged in a variety of insertive and receptive practices.

Further, self-labels did not predict sexual behavior conducive to HIV transmission. Self-labels failed to predict unprotected anal intercourse, frequency of unprotected anal intercourse, or proportion of unprotected anal intercourse relative to total anal intercourse with HIV-negative or unknown serostatus partners. An identical pattern emerged when analyses examined unprotected intercourse with partners of any serostatus. In other words, tops and bottoms were equally likely to use condoms whether engaging in behaviors that were consistent or inconsistent with their self-label. Thus, assessment of self-label appears to reveal overall patterns of sexual behavior (e.g., tops engaging in more IAI than RAI), but self-label does not appear to be a viable replacement for behavioral assessment of sexual behavior, high-risk or otherwise.

**Differences Among Self-Label Groups Regarding Psychosocial Variables**

**Gay Self-Identification and Internalized Homophobia**

In this multiethnic sample, tops were less likely than versatility or bottoms to identify as gay and more likely to have had sex with a woman during the past 3 months. These findings are consistent with reports that some men who have IAI with other men do not consider themselves to be homosexual and may also have female sexual partners (e.g., Carrier, 1989; Doll and Becker, 1996). Tops also manifested higher internalized homophobia than versatiles. Although it is unclear why tops would manifest higher internalized homophobia than versatiles but not other groups, results are consistent with findings of a positive association between internalized homophobia among MSM and reported attraction to women (Ross & Ross, 1995). It is possible that many tops prefer to only take the insertive role in sexual relations to avoid identifying themselves as gay. However, the cross-sectional design of the present study precludes any ability to determine causality regarding attitudes about one’s homosexuality and sexual behavior. A longitudinal study examining sexual identity development and behavior among MSM beginning in adolescence would provide more conclusive data on these relationships.

Differences between tops and other groups in gay self-identification and internalized homophobia may also be relevant to HIV prevention efforts. Given that HIV-seropositive tops are more likely to engage in IAI when
having anal intercourse than other groups, they may be at greater risk for transmitting HIV during anal intercourse. If approximately one third of HIV-seropositive tops fail to identify as gay in the present sample, and tops are more likely to feel uncomfortable with other people who identify as gay, it is uncertain whether self-identified tops are underrepresented in current HIV prevention interventions. Although we found no differences regarding unprotected intercourse, the lack of findings may be partially related to small cell sizes, as only 104 participants reported unprotected anal intercourse, making detection of differences among groups difficult. Further research examining self-label and high-risk sexual behavior using large sample sizes is warranted.

**Versatile as a Self-Label**

The current study extends previous research by exploring the sexual behavior of MSM who identify as versatile. Versatiles’ proportion of IAI relative to total anal intercourse and preferences for RAI versus IAI were intermediate between that of tops and bottoms. However, versatile is not merely an intermediate status: Versatiles but not tops had more IOI than bottoms, and versatiles but not bottoms had more ROI than tops. Further, versatiles had more overall oral intercourse than bottoms. Versatiles may engage in more sexual behavior because of their greater flexibility regarding sexual activity. In other words, unlike tops, who tended to prefer IAI or IOI, or bottoms, who preferred RAI or ROI, versatiles have no strong preferences and therefore have more opportunities to engage in oral intercourse. Greater sexual sensation seeking may also explain why versatiles may be more flexible regarding sexual activity, although the current study cannot answer this question.

Versatiles may also experience better psychological health. They experience less anxiety than the no label group, and less internalized homophobia than tops. A future question to explore is whether psychological functioning is related to greater sexual sensation seeking, lower erotophobia, and greater comfort with a variety of sexual roles. Research with heterosexual individuals (Leary & Dobbins, 1983) suggests this is the case, as anxiety has been associated with decreased range and frequency of sexual behavior.

**MSM Who Do Not Identify With a Self-Label**

There is a need for research into what it means to not identify with these categories commonly used in the gay community. It appears that the no label group has less anal intercourse but not less oral intercourse. Thus, the no label group may comprise people for whom anal intercourse is not a large component of their sexual repertoire. The no label group also may be composed of (a) those who were not familiar with self-label terms due to lack of acculturation into MSM communities and (b) those who dislike labeling their sexual behavior.

Other findings deserving further exploration are the no label group’s higher anxiety and lower frequency of anal intercourse during the past 3 months. It is unknown whether anxiety leads to greater aversion of labeling oneself as an MSM or if anxiety would be associated with increased likelihood of engaging in anal intercourse and therefore decreased ability to label one’s tendencies to engage in insertive versus receptive intercourse. Some data support a relation of anxiety and decreased sexual activity among heterosexual individuals (Leary & Dobbins, 1983). Similar to findings regarding the no label group, higher social anxiety was associated with decreased frequency of vaginal intercourse but not oral intercourse among heterosexual men. Much of the higher anxiety experienced by the no label group may therefore be social in nature.

**The Value of Self-Label Assessment**

Self-labels are not only consistently good predictors of sexual behavior but also are associated with differences in several psychosocial variables including preferences for receptive versus insertive anal and oral intercourse, gay self-identification, internalized homophobia, and anxiety. Further, self-label continued to predict psychosocial variables even when we controlled for actual sexual behavior. Thus, self-label appears to capture not only sexual behavior and sexual preferences but also psychological adjustment. Findings are consistent with other research suggesting a relation between self-label and psychological variables (Wegesin & Meyer-Bahlburg, 2000; Weinrich et al., 1992).

**Limitations and Future Directions**

There is a need for more qualitative and quantitative research on the use of self-labels, as several questions remain unanswered by the present study. First, it is unknown how MSM develop sexual role preferences and when these preferences develop. Preferences for certain types of sexual behavior, especially RAI, have been found to be associated with childhood personality variables (e.g., RAI with femininity among boys who later become MSM; Weinrich et al., 1992). Second, a larger sample may elucidate further differences among groups, especially between the no label group and other groups. Because only 12% of the sample declined to self-label as top, bottom, or versatile, insufficient cell sizes necessitated this group’s exclusion from certain analyses. For example, it would be beneficial to explore whether people of certain racial-ethnic backgrounds or immigrants less acculturated into the dominant American culture are more likely to decline to use a self-label. Third, the present study relies upon self-report of self-labels and behavior. It is possible that some MSM may avoid self-labeling as bottoms because of the stigma associated with taking a passive or “feminine” role during intercourse (Wegesin & Meyer-Bahlburg, 2000). However, self-labels were not related to social desirability response bias, suggesting that reported self-labels are consistent with how participants actually label themselves regarding their sexual practices and preferences. Fourth, although the proportions of the sample identifying as tops or bottoms were sim-
ilar (18% and 23%, respectively), this HIV-seropositive sample may overrepresent men who engage in RAI (Weinrich, 1992; Wegesin & Meyer-Bahlburg, 2000). The sample was also low-income; many participants were unemployed due to disabilities, a fact likely related to the high proportion (40%) of the sample with an AIDS diagnosis. Studies of seronegative MSM therefore are needed to explore the generalizability of findings in this study. Fifth, the self-report method also means that participants needed to report the HIV status of their partners. Many HIV-positive men may overestimate their proportion of HIV-positive nonprimary partners, consistent with research suggesting that people assume their partners have an identical HIV status, especially when engaging in high-risk sexual behavior (Suarez & Miller, 2001). The current study partially controlled for this artifact because the participants were asked whether each partner informed them about his or her serostatus. Still, the lack of findings regarding self-labels and unprotected intercourse may be subject to recall or reporting errors.

The vast majority of MSM self-identified as tops, bottoms, or versatiles. Self-labels were related to overall patterns of sexual behavior, sexual preferences, and psychological adjustment. Although self-labels were not associated with unprotected intercourse, tops, who engaged in a greater proportion of IAI than other groups, were also less likely to identify as gay. Non-gay-identified MSM may have less contact with HIV prevention messages and may be less likely to be reached by HIV prevention programs than are gay-identified men (Wolitski, 1993). Tops may be less likely to be recruited in venues frequented by gay men, and their greater internalized homophobia may result in greater denial of ever engaging in sex with other men. Tops also may be more likely to transmit HIV to women because of their greater likelihood of being behaviorally bisexual. Further research is therefore needed to further explore possible relationships between self-labels and HIV transmission risk.

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Derogatis, L. R., & Spencer, P. M. (1982). The Brief Symptom Inventory (BSI); Administration, scoring, and procedure manual. Baltimore, MD: John Wiley.

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