Acceptability of HIV-Prevention Messages in Sexually Explicit Media Viewed by Men Who Have Sex with Men

J. Michael Wilkerson, PhD, MPH[1], **Alex Iantaffi, PhD, LMFT**[2], **Derek J. Smolenski, PhD, MPH**[3], **Keith J. Horvath, PhD**[4], and **B. R. Simon Rosser, PhD, MPH, LP**[3]

[1]Center for Health Promotion and Prevention Research, Division of Health Promotion and Behavioral Sciences, School of Public Health, The University of Texas Health Science Center at Houston

[2]Program in Human Sexuality, Department of Family Medicine and Community Health, University of Minnesota

[3]Division of Epidemiology and Community Health, School of Public Health, University of Minnesota

[4]Department of Psychiatry and Behavioral Medicine, Medical College of Wisconsin

Abstract

To inform HIV/STI prevention messaging, we used cross-sectional data from 1,231 MSM to examine the acceptability of strategies for delivering prevention messages in sexually explicit media (SEM). The majority of participants (83%) found it acceptable to include prevention messages in SEM. A latent profile analysis identified three classifications of men with similar views on the acceptability of strategies. Compared to men endorsing some strategies (54%), men endorsing all strategies (29%) were younger (POR_{adj}=0.56 [0.39, 0.79]) and preferred viewing SEM in which the actors used condoms for anal sex (POR_{adj}=1.53 [1.05, 2.23]). Men endorsing no strategies (17%) were of similar age to men endorsing some, but were more likely to prefer viewing SEM in which the actors did not use condoms (POR_{adj}=2.44 [1.43, 4.16]) and to report engaging in insertive unprotected anal sex within the last 3 months (POR_{adj}=2.03 [1.11, 3.70]). Opportunities exist to use SEM for HIV/STI prevention.

Keywords

Introduction

In the United States, the consumption of sexually explicit media (SEM) has grown exponentially as advances in technology have made it accessible, affordable, and anonymous (Cooper, Delmonico, & Burg, 2000; Egan, 2000). For example, in 1970, the industry's annual revenue was estimated to be between $5 million and $10 million; in 2006, this estimate had grown to $13 billion, representing a 1300% increase in revenue (Carroll et

CORRESPONDENCE: J. Michael Wilkerson, PhD, MPH has transferred from the University of Minnesota to The University of Texas Health Science Center at Houston. Contact information as of January 2, 2013: Center for Health Promotion and Prevention Research, Division of Health Promotion and Behavioral Sciences, School of Public Health, The University of Texas Health Science Center at Houston, 7000 Fannin, Suite 2620, Houston, TX 77030. Phone: 713.500.9974. Fax: 713.500.9750. Johnny.M.Wilkerson@uth.tmc.edu.

CONFLICT OF INTEREST

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al., 2008; Egan, 2000). Men are the dominant consumers of SEM. Both nationally and globally, it has been estimated that 86–98% of men have ever viewed SEM (Carroll et al., 2008; Haggstrom-Nordin, Hanson, & Tyden, 2005; Hald, 2006). All-male SEM represents 33–50% of the market (Morrison, Morrison, & Bradley, 2007), though only 3.9% of the US male population are estimated to have had sex with men in the last five years (Purcell et al., 2012). Because men who have sex with men (MSM), a demographic at high risk of HIV/STI infection (Center for Disease Control and Prevention, 2011a, 2011b), appear to be disproportionately consuming SEM and are at risk of HIV/STI infection, opportunities might exist to disseminate prevention messages via SEM.

For the purposes of this study, we used Hald and Malamuth's (2008) definition of SEM: "any kind of material aiming at creating or enhancing sexual feelings or thoughts in the recipient and, at the same time, [1] containing explicit exposure and/or descriptions of the genitals and [2] clear and explicit sexual acts such as vaginal intercourse, anal intercourse, oral sex, masturbation, bondage, etc." Since we were interested in using a SEM typology translatable to HIV/STI prevention, we differentiated between bareback and safer sex SEM. We defined bareback SEM as, "SEM depicting any behavior documented to transmit HIV, including unprotected anal intercourse (UAI), ingestion of another man's semen during oral sex, depictions of ejaculation inside the anus and/or ejaculate in or on the anus, and UAI with multiple men" (Rosser et al., 2012). We defined safer sex SEM as, "the depiction of all anal sex with condoms, no ingestion of semen in oral sex, and no ejaculation inside the anus" (Rosser et al., 2012).

In general, among men (both heterosexual and non-heterosexual), there appear more positive than negative associations with viewing SEM. Men who view SEM have reported increased sexual functioning, sexual experimentation, sexual pleasure, relationship enhancement, and improved sleep (Hald, 2006; Hald & Malamuth, 2008; Weinberg, Williams, Kleiner, & Irizarry, 2010). However, higher SEM consumption has been associated with earlier age of sexual debut, an increased number of sex partners, and substance use during sex (Braun-Courville & Rojas, 2009; Kraus & Russell, 2008). For a minority of men, viewing SEM has been associated with aggressive sexual behavior (Allen, D'Alessio, & Brezgel, 1995).

Few studies have examined the influence of SEM among MSM (Rosser et al., 2012). SEM seems to serve as validation of same-gender attractions (Kubicek, Beyer, Weiss, Iverson, & Kipke, 2010; Kubicek, Carpineto, McDavitt, Weiss, & Kipke, 2011; Morrison, 2004), and might therefore be a potential avenue for sexual education of young MSM. However, MSM who consume more SEM may be at greater risk for poor body image (Duggan & McCreary, 2004; Morrison et al., 2007), and among MSM who watch bareback SEM, there might be increased UAI (Stein, Silvera, Hagerty, & Marmor, 2011). If bareback SEM is associated with increased UAI, then SEM containing explicit safer sex messages might increase condom use.

Recently, members of our research team advanced a model conceptualizing the influence of SEM on the sexual intentions and HIV risk behavior of MSM. The SEM Risk Behavior (SRB) Model (Wilkerson et al., 2012) proposed five pathways between exposure to a sexual behavior via SEM and the maintenance or modification of sexual intentions and behaviors. Three paths resulted in the maintenance of sexual intentions and behaviors. One path resulted in a modification of sexual intentions while maintaining previous sexual behaviors, and one path resulted in a modification of both sexual intentions and behaviors. Whether participants modified their sexual intentions and/or engaged in the new behavior depended on three factors: arousal when imagining the behavior, pleasure when attempting the behavior, and trust between sex partners. Thus, if MSM were to find SEM that included the modeling of HIV-prevention strategies to be arousing, then they might be more likely, with

trusted sex partners, to experiment with these strategies. Assuming the strategies were found to be pleasurable, the model suggests MSM would incorporate the strategies into their sexual repertoire.

Before investing resources into deploying strategies for SEM-based prevention messages, a greater understanding of the acceptability of the types of risk reduction messages within SEM is needed to ensure resources are allocated effectively. In addition to knowing which strategies are most acceptable, researchers, HIV-prevention educators, and SEM industry professionals wishing to develop targeted prevention messages need to know if MSM with different demographic and behavioral characteristics find certain strategies more acceptable than others. Thus, the purpose of this study was to examine the acceptability of various strategies for delivering HIV/STI prevention messages in SEM among a sample of MSM, to classify study participants according to their pattern of acceptable strategies (which can guide the development of targeted messaging), and to identify correlates of class membership.

Methods

Study Design

The Sexually Explicit Media (SEM) study is a NIH-funded study exploring how MSM's use of SEM influences sexual risk behavior. Participants were recruited online between May and August 2011 using banner advertisements on 148 websites affiliated with the Gay Ad Network (Quantcast Corporation, n.d.). Banner advertisements directed interested persons to a webpage hosted on a dedicated university server with secure socket layer (SSL) encryption and a firewall to ensure data security. The webpage included information about the study procedures and a link to the eligibility screener. There were 7,939,758 banner impressions with a click through rate of 0.16% (n=1,270,361). A total of 5,201 men met eligibility criteria, which included having prior sexual experience with a man, being 18 years of age or older, and reporting living in a residential zip code within the United States or its territories. Participants were quota-sampled by race/ethnicity to increase diversity in the sample. By design, to ensure a racially/ethnically diverse sample, 3,338 MSM were excluded because that racial/ethnic category had filled, leaving a total of 1,863 MSM who met all eligibility criteria. Of the eligible men, 1,479 completed the survey. For this analysis, we excluded 22 men who did not report recent SEM consumption and 226 men who had missing data on any of the acceptability measures, resulting in a final sample of 1,231 men. The mean completion time for the survey was 42 minutes. Participants were compensated $25 for completing all tasks related to the study. A Certificate of Confidentiality was obtained from the National Institutes of Health, and the study was conducted under the oversight of the Institutional Review Board of the researchers' home institution.

Measures: Class Indicators

Acceptability of prevention messages in SEM—Acceptability was measured by thirteen questions developed by members of the research team for this study (Table 2). The items were selected after an iterative consultation process with members of our community advisory board, co-investigators, and international consultants who had extensive knowledge of developing SEM measurements for heterosexual populations (Hald, 2006; Hald & Malamuth, 2008; Hald, Malamuth, & Yuen, 2010; Traeen & Nilson, 2006; Traeen, Spitznogle, & Beverfjord, 2004). For each item, participants responded using a seven-point Likert-type scale ranging from 1 "very acceptable" to 7 "very unacceptable", with 4 indicating "no opinion". A "refuse to answer" response option allowed participants to opt out of answering any item.

Measures: Explanatory Variables

Consumption of SEM—Two questions asking about participants' SEM consumption were included in this analysis. The first question asked participants to indicate how often they used Internet-based SEM, on average, in the past three months. Responses were recorded on a six-point scale with the following options: not at all, about once a month, about once a week, a few times a week, about once a day, and more than once a day. The second question asked the average amount of time participants spent watching porn in a single session, with response options 1–15 minutes, 16–30 minutes, 31–45 minutes, 46–60 minutes, between 1 and 1½ hours, between 1½ hours and 2 hours, and more than 2 hours. An approximate dose of SEM exposure per week was calculated converting the frequency of sessions over three months into number of sessions per week and multiplying by the midpoint of the response range for average time spent per session, resulting in the following categories: less than 1 hour per week, 1–3.5 hours per week, 3.5–6.9 hours per week, and 7 or more hours per week.

Sexual risk behavior—Two questions asked participants to enter the number of casual male partners within the last three months with whom they had receptive or insertive UAI. Because the majority of participants reported no UAI, participants were categorized as engaging in receptive or insertive UAI with no, one, or two or more men in the last three months.

Participant demographics—Age was measured continuously, but for this analysis men were categorized as age 18–24 or age 25 and over. The conversion from a continuous to categorical measure of age was done to inform future development of SEM-based prevention programming targeting either younger or older MSM. Race/ethnicity and education were measured categorically. An additional categorical item used a five-point Likert-type scale to ask participants about the degree to which they were open to others (out) about being gay, bisexual, or a man attracted to other men. Because most participants were very out, responses were collapsed into a dichotomous variable indicating whether they were out to most or all people they knew (yes/no). One question asked participants to indicate their HIV-status.

Data Analysis

Determining model fit—The acceptability of prevention messages in SEM was conceptualized as a latent variable. We estimated iterative latent profile models using *Mplus, version 5.1* (Muthén & Muthén, 1998–2009). Latent profile analysis allows for the modeling of a categorical latent variable with continuous indicators (Collins & Lanza, 2010; Gibson, 1959; Moustaki, 1996). This analytic technique allowed us to separate participants into discrete groups based on their response pattern to the 13 items used to measure the acceptability of prevention messages in SEM. Because the items asking men about the acceptability of watching actors putting a condom on themselves or on their partners had a high correlation (r=0.83), these items were combined into one item; the two items asking about the acceptability of watching actors apply lubricant to themselves or to their partners were combined for the same reason (r=0.86). Given the shared variance of the final 11 items, we hypothesized that two or more unobserved groups would account for the observed covariance. Identification of these groups would strengthen our ability to identify particular strategies that are similarly endorsed by participants and to identify key demographic factors associated with class membership, which would facilitate targeting. Responses from 1,231 participants were used for the latent profile analysis and to calculate adjusted prevalence odds ratios. To compare models in terms of relative fit to the data, for each model we used the Akaike information criterion (AIC; Akaike, 1987), the sample-size-adjusted Bayesian information criterion (SABIC; Rissanen, 1978), the Lo-Mendell-Rubin adjusted likelihood

ratio test (LMR-LRT; Lo, Mendell, & Rubin, 2001), and the parametric bootstrap likelihood ratio test (BS-LRT). A better fitting model was defined as one with a lower AIC and SABIC, and a significant (p<0.05) LMR-LRT and BS-LRT. High entropy was used as an indicator of overall quality of the classification of participants (range 0–1, where 1=perfect classification).

Descriptive and comparative analysis—Descriptive statistics were calculated using *STATA version 12* (StataCorp LP, 2011). We decided *a priori* to treat items measuring the consumption of SEM, sexual risk behavior, and participant demographics as explanatory variables of the acceptability of prevention messages in SEM in a multinomial logistic regression model that allowed for assignment of class membership after adjusting for the explanatory variables in the model. We chose these measures because they allowed us to compare the characteristics of the participants assigned to each class.

Results

Participant characteristics of the sample are summarized in Table 1. Briefly, 33.8% of participants were 18–24 years old. Over half our participants were men of color (57.5%), and nearly half had earned at least a bachelor's degree (49.2%). Most men were out to most or all of the people they knew (72.1%). Many participants watched one or more hours of SEM per week (79.2%). Only 16.9% of participants reported a preference for condoms to be used in depictions of anal intercourse; the remaining participants were evenly divided between preferring no condoms to be used or having no preference in terms of condom use. The majority of participants had not engaged in either receptive (77.8%) or insertive (76.2%) UAI within the last three months. Few participants reported living with HIV (8.8%).

Identification and Description of Latent Classes

Table 2 lists the mean acceptability of each of the proposed strategies. The most strongly endorsed strategy involved actors putting lubricant on themselves or on their sex partners (X̄=1.87 (SD=1.11)). Modeling putting condoms on was also highly endorsed (X̄=2.03 (SD=1.28)). Other strongly endorsed strategies included showing a scene in which the actors used condoms for anal sex (X̄=2.12 (SD=1.46)), showing a pre-roll advertisement in which an actor promoted safer sex (X̄=2.52 (SD=1.66)), or showing a scene in which the actors modeled sexy ways to talk about condoms (X̄=2.76 (1.66)). Fewer participants thought it would be acceptable to show SEM in which the actors were living with HIV, were discussing HIV status, or were using barrier methods for sexual activities that did not involve anal penetration.

The items listed in Table 2 were used as indicators of a latent variable measuring the acceptability of prevention messages in SEM. Estimation of the latent profile model resulted in a three-class solution (Table 3). Efforts to arrive at a larger class solution resulted in a non-significant LMR-LRT, and at least one class with too few participants and no practically different indicator groupings from the three-class solution. The addition of the covariates strengthened the fit of the three-class solution and did not alter the classification quality.

The posterior distributions of the response means to each of the latent profile indicators are reported in Table 4. These values indicate the mean response among participants assigned to each profile; thus, they enable the interpretation of the profiles. Twenty-nine percent of participants endorsed all strategies for delivering prevention messages, and 54% endorsed some strategies (those involving pre-roll advertisements and actors modeling the use of

condoms and lubricant for anal sex). Seventeen percent of the sample endorsed none of the strategies.

Comparison of Participants Assigned to Each Class

Entering participants' demographics, SEM consumption, and risky sexual behavior as explanatory variables of class membership allowed for comparisons between the characteristics of participants assigned to each class. Because it included the largest proportion of participants, the profile in which participants endorsed some strategies was used as the referent for between-group comparisons. Participants endorsing all strategies were younger (POR_{adj}=0.56 [0.39, 0.79]) and more likely to prefer viewing SEM in which the actors used condoms for anal sex (POR_{adj}=1.53 [1.05, 2.23]). Participants endorsing none of the strategies were of a similar age to participants in the referent group. However, they were more likely to prefer viewing SEM in which the actors did not use condoms (POR_{adj}=2.44 [1.43, 4.16]), and they were more likely to report engaging in insertive UAI within the last 3 months (POR_{adj}=2.03 [1.11, 3.70]).

Discussion

Opportunities exist to incorporate HIV/STI-prevention messages into SEM. Often in safer sex SEM, the scene cuts to the men having anal sex with condoms, bypassing the steps in which men apply condoms and lubricant. However, 83% of participants indicated it would be acceptable to watch scenes in which the actors modeled talking about using condoms, and apply condoms and lubricant to their sex partners and to themselves. Including steps within a SEM video clip that models proper condom use might be particularly important for younger MSM who are exploring their sexuality and learning about same-gender sexual behavior; our data suggest it would have high acceptability. Consistent with the SRB Model proposed by members of our research team (Wilkerson et al., 2012), such depictions might reinforce safer sexual norms. This would likely occur when MSM find the clip to be arousing and pleasurable, similar to the way watching bareback SEM might reinforce UAI (Stein et al., 2011). The SRB Model suggests arousal, pleasure, and partner trust are necessary for the modification of sexual intentions and behaviors. Because SEM is frequently being sought out for sexual stimulation, SEM-based prevention presents a unique opportunity to modify MSM's sexual intentions and behaviors while they are in a state of arousal.

In the online SEM viewing environment, in which men might be more likely to click on video clip rather than to watch an entire movie, exposure to a HIV/STI-prevention message could be accomplished by placing pre-roll advertisements before a clip. The use of pop up advertisements, hyperlinks, and banner advertisements offer additional possibilities for delivering prevention messages (Ha & McCann, 2008). Two groups of participants in this study endorsed pre-roll advertisements, suggesting the potential for wide acceptability of this strategy among MSM. For interventionists developing pre-roll advertisements, we recommend close collaboration with both producers of SEM and advertisers familiar with online social marketing to increase the likelihood that the content, delivery modality, and timing of advertisements are acceptable to members of the target population (Kotler & Lee, 2007).

Importantly, our data suggest that MSM are not interested in overt HIV/STI prevention messages during a SEM video, beyond modeling proper use of condoms and lubrication. This is evidenced by the low endorsement of having actors model discussions of HIV status before sex or including porn stars identified as living with HIV in the video clips. The low endorsement of these items could be associated with either a desire to not want to be reminded of HIV when fantasizing about sex since having a HIV-diagnosis is stigmatizing

within the MSM community (Courtenay-Quirk, Wolitski, Parsons, & Gomez, 2006), or the belief that SEM should depict a fantasy world that allows viewers to escape from reality. Future research might assess whether MSM who find prevention messages in SEM unacceptable would refuse to watch SEM if it contains prevention messages, or if there is a threshold of acceptability. This could be useful information for both prevention researchers and the SEM industry. When developing advertisements, it will be important to do extensive pilot testing to ensure the HIV/STI prevention messages are informative and motivating without serving as a deterrent for continuing to access SEM content from the website.

Incorporating prevention messages into SEM appears unacceptable to a sizeable proportion of MSM. Seventeen percent of our sample found all of the proposed strategies for incorporating HIV/STI prevention messages in SEM unacceptable, and these men were more likely to engage in UAI. It could be that men who found the strategies asked about in this survey unacceptable would find other SEM-based prevention messages acceptable. It might advance understanding in this area to examine the effects of including SEM-based messages that focus on factors associated with sexual behavior (e.g., attitudes and intentions) that were not examined in this study for those at highest risk.

The usual limitations of cross-sectional research apply to this study, such as the inability to establish causal inference. Since this sample was recruited from websites targeting MSM, we cannot know if these results can be generalized to all Internet-using MSM or to MSM who do not use the internet. However, recruiting from 148 websites potentially allows for more generalizability compared to a sample of MSM recruited from a single website. In addition, our classification of participants was based on probability modeling of the endorsement pattern to 13 items. Our classifications might have changed with the inclusion of different items. Despite these limitations, this study contributes to our knowledge of MSM's acceptability of HIV/STI prevention messages in SEM by identifying three distinct classifications of men, and by identifying correlates of class membership.

This study provides a better understanding of how acceptable MSM find SEM-based HIV/STI-prevention messages. The high acceptability of prevention messages in SEM for most MSM merits further consideration by HIV-prevention professionals. Using SEM to model safer sex practices and to increase safer sex motivations is a promising new approach to intervention development. At a time when the field is looking for novel approaches to HIV-prevention, these findings identify new directions for research and practice.

Acknowledgments

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Table 1

Participant characteristics (N=1,231)

	n (%)
Age	
18–24 years	416 (33.8)
25 or more years	815 (66.2)
Race/Ethnicity	
Black or African American	138 (11.2)
Hispanic/Latino	356 (28.9)
White	523 (42.5)
Other	214 (17.4)
Obtained a bachelor's degree	
Yes	605 (49.2)
No	626 (50.9)
Out to most or all people they now	
Yes	888 (72.1)
No	343 (27.9)
Amount of SEM consumption	
Less 1 hour per week	254 (20.8)
1–3.4 hours per week	435 (35.6)
3.5–6.9 hours per week	243 (19.9)
7+hours per week	289 (23.7)
Preferred type of SEM	
Without condoms	515 (41.8)
With condoms	208 (16.9)
No preference	508 (41.3)
Number of receptive UAI last 3 months	
None	958 (77.8)
1 casual male sex partner	119 (9.7)
2+ casual male sex partners	128 (10.4)
Number of insertive UAI last 3 months	
None	938 (76.2)
1 casual male sex partner	158 (12.8)
2+ casual male sex partners	110 (8.9)
Living with HIV	
Yes	108 (8.8)
No	1,123 (91.2)

Note: Differences in counts are the result of missing values.

Table 2

Acceptability of strategies for delivering prevention messages in SEM (N=1,231)

	$\bar{X}\,(SD)$
1 A clip at the beginning with a porn star encouraging you to practice safer sex	2.52 (1.66)
2 Guys finding sexy ways to talk about condoms	2.76 (1.66)
3 Guys putting a condom on themselves or on their partner(s)	2.03 (1.28)
4 Guys applying lube to themselves or to their partner(s)	1.87 (1.11)
5 Discussion of HIV status before sex	3.25 (1.82)
6 Including porn stars living with HIV	3.36 (1.84)
7 Using condoms for anal sex	2.12 (1.46)
8 Using dental dams or barriers for rimming	3.68 (1.85)
9 Using gloves for fingering	3.93 (1.87)
10 Using gloves for fisting	3.04 (1.76)
11 Using condoms for oral sex	4.33 (1.89)

Note: Participants responded to 13 questions. Item 3 is an average of responses to two questions as is item 4 because the original items were highly correlated. All items were responded to using a 7-point Likert-type response format, with 1 = very acceptable and 7 = very unacceptable.

Table 3

Latent profile analysis for the strategies variable (N=1,231)

Model	Log Likelihood	df	SCF	AIC	SABIC	Entropy	LMR-LRT	df	p	BS-LRT	df	p
Crude												
2 classes	−24291.867	34	1.718	48651.735	48717.666	0.868	3090.569	12	0.010	3126.764	12	0.000
3 classes	−23416.015	46	1.403	46924.029	47013.23	0.896	1731.428	12	0.000	1751.706	12	0.000
4 classes	−23023.364	58	1.679	46162.728	46275.199	0.901	776.210	12	0.133	785.301	12	0.000
5 classes	−22752.493	70	1.743	45644.986	45780.727	0.89	535.471	12	0.321	541.742	12	0.000
Adjusted												
2 classes	−24219.573	50	1.534	48539.146	48636.104	0.876	3255.015	28	0.017	3271.352	28	0.000
3 classes	**−23334.096**	**78**	**1.366**	**46824.192**	**46975.446**	**0.893**	**1762.111**	**28**	**0.031**	**1770.956**	**28**	**0.000**
4 classes	−22908.670	106	1.267	46029.341	46234.891	0.900	846.598	28	0.410	850.847	28	0.000
5 classes	−22615.035	134	1.296	45498.071	45757.917	0.894	584.337	28	0.021	587.270	28	0.000

Note: df=degrees of freedom, SCF=scaling correction factor, AIC=Akaike information criterion, SABIC=sample-size-adjusted Bayesian information criterion, LMR-LRT=Lo-Mendell-Rubin likelihood ratio test, and BS-LRT=bootstrap likelihood ratio test.

Table 4

Endorsement of prevention messages in SEM with covariate adjustment (N=1,231)

	$\bar{X}$ (SD)		
	All **n=353**	**Some** **n=663**	**None** **n=215**
1 A clip at the beginning with a porn star encouraging you to practice safer sex	**1.68 (0.06)**	**2.40 (0.18)**	4.29 (0.14)
2 Guys finding sexy ways to talk about condoms	**1.76 (0.07)**	**2.65 (0.15)**	4.73 (0.20)
3 Guys putting a condom on themselves or on their partner(s)	**1.33 (0.04)**	**1.74 (0.07)**	4.05 (0.44)
4 Guys applying lube to themselves or to their partner(s)	**1.35 (0.04)**	**1.67 (0.06)**	3.31 (0.34)
5 Discussion of HIV status before sex	**2.02 (0.08)**	3.46 (0.13)	4.66 (0.16)
6 Including porn stars living with HIV	**2.54 (0.11)**	3.59 (0.11)	4.05 (0.15)
7 Using condoms for anal sex	**1.27 (0.03)**	**1.88 (0.16)**	4.28 (0.23)
8 Using dental dams or barriers for rimming	**1.71 (0.08)**	4.25 (0.12)	5.21 (0.15)
9 Using gloves for fingering	**1.84 (0.10)**	4.62 (0.12)	5.32 (0.14)
10 Using gloves for fisting	**1.57 (0.08)**	3.41 (0.08)	4.39 (0.21)
11 Using condoms for oral sex	**2.24 (0.13)**	5.08 (0.10)	5.55 (0.13)

Note: Means <3.0 were considered indicators of class membership (indicated by boldface). All items were responded to using a 7-point Likert-type response format, with 1 = very acceptable and 7 = very unacceptable.

Table 5

Odds of endorsing a group of strategies based on a multinomial logistic regression (N=1,231)

| | $POR_{Adj.}$ (95% CI) | | |
	All n=353	Some n=663	None n=215
Age			
18–24 years	**0.56 [0.39, 0.79]**	Ref.	0.71 [0.45, 1.11]
25 or more years	Ref.	Ref.	Ref.
Race/Ethnicity			
Black or African American	1.31 [0.79, 2.18]		0.67 [0.34, 1.31]
Hispanic/Latino	1.09 [0.76, 1.56]	Ref.	0.88 [0.57, 1.37]
White	Ref.	Ref.	Ref.
Other	1.18 [0.77, 1.81]	Ref.	0.78 [0.46, 1.34]
Obtained a bachelor's degree			
Yes	**0.71 [0.52, 0.97]**	Ref.	0.96 [0.65, 1.41]
No	Ref.	Ref.	Ref.
Out to most or all people they now			
Yes	Ref.	Ref.	Ref.
No	1.21 [0.87, 1.68]	Ref.	1.14 [0.75, 1.71]
Amount of SEM consumption			
Less 1 hour per week	1.33 [0.90, 1.95]	Ref.	1.28 [0.71, 2.31]
1–3.5 hours per week	Ref.	Ref.	Ref.
3.5–6.9 hours per week	0.76 [0.49, 1.17]	Ref.	1.11 [0.67, 1.85]
7+hours per week	1.36 [0.92, 2.01]	Ref.	1.46 [0.92, 2.30]
Preferred type of SEM			
Without condoms	**0.59 [0.40, 0.89]**	Ref.	**2.44 [1.43, 4.16]**
With condoms	**1.53 [1.05, 2.23]**	Ref.	0.68 [0.30, 1.55]
No preference	Ref.	Ref.	Ref.
Number of receptive UAI last 3 months			
None	Ref.	Ref.	Ref.
1 casual male sex partner	1.13 [0.65, 1.96]	Ref.	0.92 [0.44, 1.92]
2+ casual male sex partners	1.14 [0.60, 2.17]	Ref.	1.78 [0.99, 3.20]
Number of insertive UAI last 3 months			
None	Ref.	Ref.	Ref.
1 casual male sex partner	0.74 [0.45, 1.21]	Ref.	1.05 [0.62, 1.76]
2+ casual male sex partners	0.54 [0.26, 1.12]	Ref.	**2.03 [1.11, 3.70]**
Living with HIV			
Yes	1.11 [0.64, 1.92]	Ref.	1.22 [0.67, 2.21]
No	Ref.	Ref.	Ref.

Note: Statistically significant at p<0.05 indicated by boldface.