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An Online Needs Assessment of a Virtual Community: What Men who use the Internet to seek Sex with Men want in Internet-based HIV Prevention

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Abstract

As part of a study to develop effective Internet-based HIV prevention interventions for Men who use the Internet to seek Sex with Men (MISM), we sought information from the target population on (a) acceptability of sexually explicit media; (b) interest in specific content areas; and (c) identification of credible sources of information. A cross-sectional stratified Internet-based survey design was employed. Between September and November 2005, we recruited 2,716 MISM through Gay.com stratified across race/ethnicity to ensure adequate racial/ethnic diversity. Sixteen Likert-type items assessed acceptability of sexual explicitness, 24 items identified topics for inclusion, and two assessed sources of information. There was near universal acceptability for highly sexually explicit education. Over 75 percent reported high interest in ten sexual health topics. HIV positive MISM and MISM engaged in unprotected anal sex with multiple male partners reported significantly less interest in HIV prevention specific content. Differences across age, race/ethnicity and education were identified. Idiosyncratic searches and gay sites were frequently cited sources of information; however blogs, government, and media sites were not. It is acceptable for web-based HIV prevention for MISM to be highly sexually explicit and to provide detailed content relevant to men's sexual health. Since demographic differences in acceptability and content were minor, it is appropriate for interventions to target across demographics. Interventions to re-engage men engaging in high risk and HIV+ MISM should be considered. Leading health agencies should review whether their web information is retrievable, credible and useful to those most at risk.

Keywords

Needs assessment; Men who have Sex with Men; Sexual Health; Sexually Explicit; HIV prevention; e-Public Health; Internet studies

Introduction

In the U.S., Men who have Sex with Men (MSM) continue to be disproportionately over-represented in the HIV epidemic. MSM are 22 times at greater risk for HIV than the general population, while male-male sex is an identified risk factor in about half of all new infections

(Centers for Disease Control and Prevention, 2006). Two national alerts have prioritized the need for intensive, renewed prevention efforts targeting MSM (Centers for Disease Control and Prevention, 2001a, b), while researchers have expressed alarm at reversals in risk behavior, sexually transmitted infections (STIs), and HIV (Gross, 2003). Among the greatest recent changes in the risk activity of MSM has been the use of the Internet to meet sexual partners. A recent meta-analysis found that at least 40% of MSM now go online seeking men for sex (Liau, Millett, & Marks, 2006) while 14% of Men who use the Internet to seek Sex with Men (MISM) seek their partners *only* by going online (Rosser et al., 2007a). Online sex seeking among MSM has been reliably associated with greater numbers of partners, higher likelihood of meeting HIV-positive (HIV+) partners, more receptive anal sex, and greater methamphetamine use (Benotsch, Kalichman, & Cage, 2004; Liau, Millett, & Marks, 2006; Rosser et al., 2007a). HIV risk in the online environment appears driven by increasing efficiency of meeting sexual partners. In a study conducted by our research team (Rosser et al., 2007a), MISM report a higher number of unprotected anal intercourse (UAI) male partners in Internet-mediated liaisons than offline liaisons, although the proportion of UAI male partners to total partners remains constant.

Accessing quality health information online is problematic. In a meta-analysis, Eysenbach, Powell, Kuss and Sa (2002) found a quality issue with health information found on the Internet. The 5941 evaluated health websites had one or more problems with authority, accuracy, readability, comprehensiveness, or design. In addition to the issue with the caliber of Internet health information, people view on average only 1.9 pages per search (Fallows, 2005), and only 25% of searchers for online health information consistently check the source, date and accuracy of the information they find (Fox, 2006). Relying on health information on the Internet may lead to injury. Fox (2006) reported that 3% of information searchers (about 3 million adults) either know of someone who was, or were themselves, harmed by following information found on the Internet. In HIV prevention, any discussion of harm must address sexual explicitness. At the extremes, harm may include being so explicit that some participants are offended, or so non-explicit that the information is unhelpful, misleading or ambiguous.

Online HIV risk reduction interventions have only recently begun to be developed and tested (Bowen, Horvath & Williams, 2007; Davidovich, de Wit & Stroebe, 2006; Kok, Harterink, Vriens, de Zwart, & Hospers, 2006). HIV prevention needs assessments of the target population are essential to inform such interventions, including the issue of sexual explicitness. Specifically, by recruiting a diverse sample, and analyzing the needs of both the sample and its subgroups (e.g., older versus younger; high-risk versus low-risk takers; HIV+ versus HIV-), we can tailor interventions to the needs of the community.

Need assessments are based in the community health assumption that it is respectful, empowering and necessary to enlist the community's knowledge when designing interventions to ensure that the resulting product addresses the health need(s) of the population in an informed, culturally sensitive manner. However, the concept of virtual community health is still new; for example, we could find no published needs assessments conducted with MISM specific to designing Internet-based HIV prevention interventions. To address this gap, we conducted an online needs assessment to inform four questions: (1) To what degree should Internet-based HIV prevention interventions include sexually explicit materials? (2) What content areas are of most interest? (3) Do subgroups of MISM differ significantly on issues of acceptability of sexual explicitness and content priorities? and (4) What sources of information are most credible and desired?

Method

Participants

A total of 2,716 MSM eligible participants completed the survey. Participants were recruited during three months in 2005 with banner advertisements placed on the most highly subscribed gay website in the U.S. To be eligible, participants agreed that they were 18 years of age or older, a resident of the United States, and male, and acknowledged having had sex with another man during their lifetime. As categories filled, ethnic/racial eligibility criteria and banner advertisements were adjusted in order to over-sample MSM of Color.

Procedures

Study procedures are described in detail elsewhere (Rosser et al., submitted for publication). By clicking on a study banner advertisement, prospective participants were transported to our study website. Next they answered screening questions (automated to confirm eligibility), and if eligible completed a “chunked” informed consent process.

Participants were required to answer all questions, with a refusal response option provided for each question. Throughout the study, automated validation protocols were run to decrease likelihood of invalid or duplicate participation (see Ross et al., 2004). If a survey was flagged as suspicious (n=321 surveys), staff and a co-investigator would review all data to determine validity and uniqueness. The mean survey completion time was 45 minutes. Subjects were initially compensated \$10, which in the third month was raised to \$20 in order to speed recruitment.

Measures

Questionnaires were developed, white-box tested to ensure proper skip and branching operations, and black-box tested to ensure accuracy of data collection.

Demographics—Demographic factors collected on the survey are shown in Table 1. Demographic questions were taken from the U.S. Census (2000) and the U.S. Census for Hispanics (2000). Education and age were reported in years. HIV status was assessed by self-report, while risk behavior was calculated as the number of UAI male partners in the last 3 months (see Rosser et al., submitted for publication).

Needs Assessment Measures—Participants completed a 40-item Needs Assessment survey. Sixteen items sought participants' opinions concerning the acceptability of the explicitness of content and media to be used in sexual education on the Internet. To assess acceptability, participants were asked, “When accessing sexually explicit materials, how acceptable is the following to you?” Each item included a five-point Likert-type scale (1=Totally acceptable; 5=Totally unacceptable). Twenty-four items sought participants' interest in topics for inclusion in an Internet-based sexual health intervention. Participants were informed, “We are developing a new online sexual health workshop for men who have sex with men. Please state your interest in each of the following topics.” Each item was assessed using a five-point scale (1=Highly interested; 5=Not at all interested), at the end of which two type-in options to add additional topics were offered. The full wording of all items is shown in Table 2.

Credible sources of information—Two questions assessed sources of information, one asking who participants would like to communicate with via email, and one examining the sources they have used in the preceding 12 months to get information about MSM, HIV, STD and sexual health. In both cases, response options were “yes,” “do not know,” “no” and “refuse to answer.”

Data Analysis

Analysis was conducted using the Stata statistical analysis package. Categorical data were compared using chi-square analysis. For each item, the rate of choosing “refuse to answer” was 1 percent or less (Range: 22-35 non-responders). Given the large sample size and number of analyses conducted, α for all analyses was set at .01.

Results

Demographic characteristics of the participants are summarized in Table 1. Racial and ethnic diversity was achieved, with approximately three-quarters of participants identifying as men of Color. Younger men were over-represented in the sample (42.7%), while few men self-reported as HIV positive. Most reported post-high school education, with 29% of the sample having student status at the time they completed the survey.

There was strong and uniform acceptability for highly sexually explicit language, visuals, depictions and media across all demographics (see Table 2). For almost all questions, 84-95% of the participants rated the explicitness as somewhat or totally acceptable. Notably, visual images of men engaged in masturbation, oral and anal sex, nude and kissing, pictures of penises, explicit demonstrations, and use of street languages and sex stories were endorsed by over 90% of the study sample. The least acceptable image was of male-female sex where only 74% reported acceptability, 13% were neutral and 13% considered them somewhat or totally unacceptable.

The majority of respondents reported being either somewhat or highly interested in all but three topics for inclusion in an Internet-based sexual health intervention (see Table 2). Over four out of five men in this study expressed interest in how to be a better lover (86%), men's physical sexual health (86%), aspects of relationships (83-85%) and understanding their sexual history and its effects (83%). In contrast, the three items endorsed by only a minority were: help with coming out (48% interested, 24% neutral, and 28% not interested), evaluating alcohol/drug use (41% interested, 25% neutral, and 33% not interested), and coping with sexual abuse (32% interested, 30% neutral, and 38% not interested).

For designing culturally sensitive content, we examined differences in acceptability of sexual explicitness and interest in topics by race/ethnicity, age, education, HIV status, and sexual risk (see Table 3).

Differences across race/ethnicity

When divided into 5 race/ethnicity groups, MISM differed significantly on the acceptability of 3 of the 16 items and 8 of the 24 content areas (see Table 3). The largest differences were between Latino and White for reading sexually explicit text (89% vs. 93%); between Other and White for images of group sex (81% vs. 89%); and between White and Black/African American for images of male-female sex (70% vs. 79%). No consistent differences in finding sexually explicit materials acceptable across race/ethnicity were identified, although White participants always appear either as most or least accepting.

For content interest, the maximum differences were between White and Latino participants in interest in negotiating safer sex (61% vs. 71%), alcohol/drug use (37% vs. 46%), condom use and safer sex (57% vs. 68%), condom demonstrations (47% vs. 56%); and long-term HIV prevention planning (65% vs. 76%); between White and African American/Black participants for sexuality and spirituality (59% vs. 68%); between White and Other participants for coping with sexual abuse (25% vs. 38%); and between White and Asian participants for coming out (41% vs. 56%). Across content areas, where significant differences were identified, White

MISM consistently expressed less interest in sexual health topics than MISM of other race/ethnicities.

Differences across age

As shown in Table 3, MISM of different ages differed on the acceptability of 2 of the 16 items. The magnitude of differences attributable to age appears small; however men aged 18-25 were least likely to report as acceptable images of men fully nude (93% vs. 99% of men aged 50+) and animations of sexual activity (82% vs. 90% in men aged 40-49 years).

Statistically significant differences across age were found for interest in 7 of the 24 content areas. The largest differences between the youngest and oldest cohorts addressed interest in alcohol and drug use evaluation (45% vs. 30%), and aging as a gay man (73% vs. 87%); between the 18-25 years olds and 40-49 year olds on having anal sex without pain (79% vs. 62%), and coming out (52% vs. 39%); between the 30-39 / 40-49 year olds and the 50+ group on correct condom usage (47% vs. 60%); and between 40-49 year olds and the 50+ group on offline dating (62% vs. 77%) and developing a long-term HIV prevention plan (62% vs. 76%).

Differences across education

MISM of different education levels differed on the acceptability of sexual explicitness on 3 of the 16 items and interest in 2 of the 24 content areas. Again the degree of difference across groups appeared modest (i.e. within 10%). Largest differences were between those with 12-15 years education and the most educated group on interest in demonstrations of condom use (90% vs. 94%), images of group sex (84% vs. 91%), and images of male-female sex (71% vs. 78%); and between the least and most educated groups on evaluating alcohol/drug use (49% vs. 36%), and coping with sexual abuse (42% vs. 28%). As shown in Table 3, most items with statistically significant differences appear to display linear increases or decreases across years of education.

Across HIV status

Although no differences were found in acceptability of sexual content by HIV status, several statistically significant differences by HIV status on interest in content areas were noted. As compared with MISM who had not been diagnosed HIV-positive ($n=2,558$), HIV+ MISM ($n=119$) indicated significantly lower interest in 5 topic areas: negotiating safer sex online (53% vs. 66%, $X^2=9.05$, $p<.003$); having anal sex without pain (57% vs. 75%, $X^2=18.15$, $p<.001$); condom demonstrations (34% vs. 52%, $X^2=15.40$, $p<.001$); coming out (29% vs. 49%, $X^2=16.64$, $p<.001$); and a long-term plan to prevent acquiring/transmitting HIV (56% vs. 70%, $X^2=9.91$, $p<.002$) than did non-HIV+MISM. Notably, the differences were larger in magnitude (13-20%) than for race/ethnicity, age, or education.

Across sexual risk

MISM were classified as low- or high- risk according to whether they had engaged in one or fewer (i.e. low-risk) or more than one (i.e. high-risk) act of UAI during the previous six months. When compared to the low-risk group ($n=1851$), men engaging in higher levels of UAI ($n=471$) were significantly more likely to report as acceptable images of men engaged in group sex (90% vs. 85%, $X^2= 9.52$, $p<.002$), but significantly less likely to find acceptable images of male-female sex (68% vs. 74%, $X^2= 6.59$, $p<.01$). The high-risk group was significantly more likely to report interest in the topic of evaluating drug and alcohol use (47% vs. 39%, $X^2= 9.82$, $p<.002$), but significantly less likely to report interest in the topics of condom demonstrations (43% vs. 54%, $X^2= 17.98$, $p<.001$), ways to feel better about myself (71% vs. 77%, $X^2= 6.68$, $p<.010$), and help with coming out (41% vs. 49%, $X^2= 8.20$, $p<.004$).

Table 4 includes information from participants who responded to questions concerning preference for information sources to communicate with while completing the workshop and information sources used during the previous 12 months to access information concerning various sexual health topics.

Discussion

For Internet-based HIV prevention interventions targeting MSM in the USA, highly sexually explicit materials appear to be acceptable both to MSM as a group and across a diverse range of demographics. A wide range of sexually explicit media were uniformly rated totally or somewhat acceptable by 80-95% of participants, with unacceptability rates across most media being extremely small (i.e. 2-3%). Even the least acceptable item, images of male-female sex, received acceptability ratings of 73%. In identifying what sites MSM have used for HIV related searches in the last 12 months, sites that use explicit language (e.g., GLBT sites: 67%; AskDrK site: 56%) were visited by most participants, while only a minority used the nation's leading health site (cdc.gov: 29%), media sites (21%), or health insurance sites (13%), which tend to use non-visual, non-explicit and technical communication when describing HIV risk between men.

As distinct from a narrow focus on HIV prevention, MSM in the US appear most interested in diverse sexual and mental health concerns. The highest interest and least disinterest was expressed for content addressing how to become a better lover, men's physical sexual health, and developing and maintaining intimate, healthy, long-term, relationships. Coping with sex abuse, alcohol and drug evaluations, help with coming out, and condom demonstrations received the lowest ratings. Abuse and alcohol/drug problems may impact only a minority of participants, while content addressing coming out and condom demonstrations may already be familiar to many in this sample. To retain participants, Internet-based interventions should be built with sufficient learner navigability to allow topics that disinterest participants to be skipped; alternatively, where the topic is central (e.g., condom use) but interest is low (e.g., in condom demonstrations), new approaches to motivate condom use should be tried.

Acceptability and interest were moderated by several demographic variables. Although most differences were small, overall, the pattern of differences has important implications for designing interventions. White MSM showed the least interest of any group in content, which may reflect more exposure to prevention, greater HIV prevention education fatigue, or simply less engagement than men of other race/ethnic groups. Content that tended to be age-relevant (i.e. coming out with younger age; aging with older age groups) followed predictable patterns. The more educated appeared less interested in topics possibly because they have more access to or have received more education already.

HIV+ MSM indicated significantly lower interest on all the HIV prevention-specific items. Similarly, men engaged in high-sexual-risk behavior expressed significantly lower interest in HIV prevention educational content, but did indicate higher interest in evaluating drug and alcohol use. Given that HIV+ MSM and men engaging in UAI are presumably among persons at high risk of transmitting or contracting HIV, further research is needed to identify if and how prevention efforts can most engage these groups.

In offline HIV prevention, considerable research has focused on who delivers the HIV prevention (see for example, Kelly et al., 1992). For Internet-based HIV prevention interventions, the ability to communicate with peers and experts on sexual behavior and homosexuality, followed by doctors, peers with experience, and HIV/STD experts, all appeared popular (Table 4). Designers of interventions may consider incorporating these features into future interventions.

Since this is among the first online needs assessment of MSM published, it is worth noting the strengths and limitations of the methods used. The principal methodological limitation in using the Internet as a needs assessment tool concerns representative sampling. We were less worried about this for three reasons. First, representative sampling is seldom achievable in offline studies of MSM. Second, the offline equivalent method (i.e. focus groups) clearly does not yield a representative group either. Third, the ideal sample in a needs assessment is a sample of those likely to attend the intervention, not the population as a whole. By collecting a large sample, demonstrating feasibility by soliciting opinions and attitudes followed by comparative analysis across key demographics, we have demonstrated one method to achieve the principal goal of needs assessment: identification by the community of its needs and preferences.

Other limitations include danger of Type I error due to the large sample size, concerns regarding temporal stability and generalizability, the nature of the data collection process and assumptions inherent to needs assessments. We addressed the first concern by conservatively adjusting our level of significance and restricting interpretation to overall patterns of results. Temporal stability and generalizability are challenges. It is possible, even likely, that interest in topics change over time; hence these data represent MSM's interests in 2005. External influences – such as conducting an assessment in a conservative or liberal climate -- may modify MSM's attitudes towards sexual explicitness and interest in HIV prevention. Generalizability to offline samples, online samples not recruited from MSM-themed websites, other MSM websites, and to other countries should not be assumed. Online surveys likely yield participants' first responses whereas qualitative interviews, online or offline, may be more effective at revealing their considered opinions. This may also explain why relatively few men added responses to the open-ended questions. With closed ended questions, the researcher limits how participants can inform the study. We solicited input on sexual explicitness, content area, and key sources of information, but clearly more research is possible and needed. In Internet-based research, the challenge of the digital divide is also problematic. Finally, the process of needs assessments assumes that the target population knows and will share that information, accurately, on what it needs.

Among strengths, this study may be the largest needs assessment ever conducted to identify the acceptability of sexual content and interests in specific content areas for HIV prevention targeting MSM. While issues of sexual explicitness and content in HIV prevention have been debated for at least 25 years, this may be the first study to sample nationally a large, diverse group of MSM. Using the Internet to solicit the interests and beliefs of a virtual community appears a valid method to advance virtual community health by first involving and then building interventions to the identified needs of the virtual community, in this case MSM. In particular, this study has demonstrated the feasibility of using a stratified sampling plan to recruit an adequately-sized, diverse sample from across the nation to permit comparisons of acceptability and content interest across such variables as age, race/ethnicity, education, HIV status and risk behavior.

Conducting a rigorous needs assessment may be particularly important in e-public health, as it yields the empirical evidence probably needed to inform developers and key stake-holders on such factors as the age-appropriateness, cultural acceptability, reading level, HIV-sensitivity and degree of explicitness needed that will likely be effective and acceptable to the target population. Such research also informs political sensitivities. Since web interventions are highly visible, without input by the target population on what is acceptable and interesting, there may be a risk of building interventions that appear reasonable to the general public, but that fail to meet the needs of the target population.

Based upon the results of this needs assessment, we recommend leading health and media sites conduct studies using members of high-risk populations to assess whether information is

accessible, credible, and helpful. For researchers developing Internet-based HIV prevention interventions for MISM, we recommend focusing on re-engaging HIV+ MISM and MISM engaged in UAI with multiple partners, use of highly sexually explicit media, integration of HIV prevention content into broader sexual and mental health curricula, attention to user determined navigability, incorporation of features such as communicating with peers, and e-access to experts on sexual behavior and homosexuality into such sites.

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Table 1

Demographic Characteristics (N=2,716)

	N	%
Age		
18-24	1159	42.7
25-29	510	18.8
30-39	724	26.7
40-49	249	9.2
50-59	62	2.3
60+	9	0.3
Race/Ethnicity		
White-American	728	26.8
Latino-American	683	25.1
Asian-American	512	18.9
African American	445	16.4
Other	348	12.8
HIV Status		
HIV-positive	119	4.4
HIV-negative or unsure	2578	95.6
Years of Education		
< 12	88	3.2
12-15	1093	40.3
16	827	30.5
>16	704	26.0
Annual Income, in \$1000		
< 20	938	35.9
20-39	852	32.6
40-59	419	16.1
60-79	194	7.4
>80	207	7.9
Occupation		
Professional	1315	48.8
Lower skilled worker	460	17.1
Student	787	29.2
Unemployed	32	1.2
Retired	103	3.8
Urbanicity		
Rural	130	4.8
Small town	378	14.1
Medium-sized city	690	25.7
Suburb	655	24.4
Downtown	831	31.0
Region of USA		
Northeast	405	15.1
Southeast	633	23.5
Midwest	779	29.0
West	873	32.5

Table 2
Acceptability of Sexually Explicit Media and Interest in Sexual Health Topics (N=2,716)

	Totally or Somewhat Acceptable (%)	Totally or Somewhat Unacceptable (%)
Acceptability of Sexually Explicit Media		
Images of men fully nude	95	2
Pictures of two men kissing	94	2
Seeing sexually explicit images	93	2
Use of formal sex terms (e.g. anal sex, masturbation)	93	2
Explicit demonstration of how to put a condom on	92	2
Images of men masturbating	92	3
Polite/indirect language describing sex (e.g. make love)	92	3
Reading sexually explicit text (e.g. stories about sex)	92	3
Images of men engaged in oral sex	92	3
Images of men engaged in anal sex	91	3
Pictures of penises	91	3
Street language (e.g., sucking, fucking, jerking off)	90	5
Hear sexually explicit audio (e.g. men taking sexually)	88	3
Images of men engaged in group sex	87	7
Animations (e.g. cartoons) of sexual activity	84	6
Images of male-female sex	74	13
Interest in Specific Content for an Online Sexual Health Intervention		
How to be a better lover	86	5
Men's physical sexual health (e.g. testicular cancer and prostate health)	86	6
Building a healthy relationship	85	6
Keeping a long term relationship	85	6
Understanding my sexual history and how it affects me	83	6
Developing an intimate relationship	83	7
Ways to improve how I feel about my body	77	8
Aging as a gay man	76	11
Ways to feel better about myself	76	10
How to have anal sex without pain	74	11
How to date men offline (i.e. in real life)	72	11
Dating men online	70	12
Developing a long-term plan to minimize getting HIV and STDs (or giving it to others)	69	13
Ways to improve how I feel about my genitals (i.e. penis and testicles) and ass	66	13
Negotiating safer sex online	66	13
Ways of coping with depression	66	15
How to talk about sex	65	13
Ways of coping with anxiety	64	16
Exploring the relationship between my sexuality and my spirituality	63	20
How to talk about condoms and safer sex	62	14
Watching how to put on a condom, correctly	52	20
Help with coming out (e.g. to family)	48	28
How to evaluate my alcohol and drug use	41	33
Ways of coping with sexual abuse	32	38

Table 3
Differences across Race/Ethnicity, Age, and Education in Acceptability of Sexually Explicit Media and Interest in Online Sexual Health Topics (N= 2,716)

<i>Differences by Race/Ethnicity</i>	Total %	% by Race/Ethnicity				χ^2
		Latino (n=683)	Other (n=348)	White (n=728)	Asian (n=512)	
Reading sexually explicit text (A)	92	89	93	94	91	13.78**
Images of men engaged in group sex (A)	87	88	81	89	87	15.74**
Images of male-female sex (A)	74	73	72	70	77	15.88**
Negotiating safer sex online (I)	66	71	62	61	69	21.62***
How to evaluate my alcohol and drug use (I)	41	46	42	37	38	15.06**
Explore sexuality and spirituality (I)	64	67	67	59	61	16.35**
How to talk about condoms and safer sex (I)	62	68	62	57	64	18.37**
Watching how to put on a condom, correctly (I)	52	56	49	47	55	15.83**
Ways of coping with sexual abuse (I)	32	37	38	25	32	29.12***
Help with coming out (e.g. to family) (I)	48	50	47	41	56	28.18***
Developing a long-term HIV/STD prevention plan (I)	69	76	69	65	69	19.95**
<i>Differences by Age (years)</i>						
		18-25 (n=1159)	26-29 (n=510)	30-39 (n=724)	40-49 (n=249)	50+ (n=71)
Animations (e.g. cartoons) of sexual activity (A)	84	82	84	87	90	15.78**
Images of men fully nude (A)	95	93	94	96	98	16.74**
How to evaluate my alcohol and drug use (I)	41	45	43	38	32	23.99***
Aging as a gay man (I)	76	73	76	75	83	16.87**
How to have anal sex without pain (I)	74	79	76	70	62	42.22***
Watching how to put on a condom correctly (I)	52	55	52	47	47	14.43**
How to date men offline (i.e. in real life) (I)	72	74	75	70	62	17.95**
Help with coming out (e.g. to family) (I)	48	52	49	42	39	28.21***
Developing a long-term HIV/STD prevention plan (I)	69	71	73	66	62	18.84**
<i>Differences by Education (years)</i>						
		<12 (n=88)	12-15 (n=1093)	16 (n=827)	>16 (n=704)	
Explicit demonstration of how to put a condom on (A)	92	94	90	93	94	14.09**
Images of men engaged in group sex (A)	87	86	84	86	91	14.70**
Images of male-female sex (A)	74	71	71	75	78	11.74**
How to evaluate my alcohol and drug use (I)	41	49	44	41	36	14.50**
Ways of coping with sexual abuse (I)	32	42	36	30	28	15.43**

A = Acceptability; I = Interest

**
 P<.01;

 p<.005. Additional posthoc pairwise comparisons not conducted due to Type I error concerns.

Table 4
Sources of information sought in the past year and preferences for communicating in an online workshop (N=2,716)

	N	%
<i>In the last twelve months, which of the following have you used to get information about men having sex with men, HIV, STD and sexual health?</i>		
Internet search engines (e.g., Google, Yahoo!, AOL)	2,069	76
Gay, Lesbian, Bisexual Transgender web sites (e.g., gay.com)	1,825	67
Internet health sites (e.g., WebMD, Yahoo!Health, AskDr.K)	1,521	56
Bulletin boards/blogs	813	30
Government sites (e.g., National Institutes of Health, Centers for Disease Control)	778	29
National radio and television websites (e.g., New York Times, Washington Post, Public Radio)	566	21
Health insurance (e.g., Blue Cross and Blue Shield, Health Partners)	347	13
Email health to a health provider	248	9
<i>In doing this online workshop, would you like to be able to communicate with:</i>		
Other guys online (in the workshop)	1,975	73
Experts on sexual behavior and homosexuality	1,955	72
People who have personal experience (e.g., men living with HIV)	1,832	68
Medical doctors	1,856	68
Experts on HIV/STD	1,791	66
Other (Mental health professionals=22)	87	3