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Willingness to use couples voluntary counseling and testing services among men who have sex with men in seven countries

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Abstract

The willingness of male-male dyads to use couples voluntary HIV counseling and testing (CVCT) has not been previously investigated globally among men who have sex with men (MSM). Using online advertisements, data were collected from 3245 MSM in seven countries who were 18 years of age and had 1 male sex partner in the previous 12 months. The analysis examined associations between individual characteristics and willingness to utilize CVCT. The willingness to utilize CVCT was compellingly high, ranging from 79% in Australia and UK to 90% in Brazil. Older MSM and those who reported not knowing their sero-status reported lower odds of willingness to use CVCT. The relationship between being in a relationship and willingness to use CVCT varied across countries, perhaps reflecting varied local understandings of the nature and content of CVCT. Further work is required to examine willingness to use CVCT among a more heterogeneous population of MSM, and to examine how CVCT services are locally perceived in order to provide information vital for the development of locally appropriate messages to promote CVCT for MSM.

Keywords

HIV; MSM; couples

Introduction

Couples voluntary HIV counseling and testing (CVCT) has been used in African countries with high adult HIV prevalence for over 20 years, and has been described by CDC as a “high-leverage” HIV prevention intervention for the prevention of HIV transmission among urban heterosexual couples (Painter, 2001). Previous studies with heterosexual sero-

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discordant couples have demonstrated CVCT to be effective in reducing HIV transmission, increasing and sustaining condom use, and reducing sexual risk-taking (Allen et al., 1992, 2003; Dunkle et al., 2008; Painter, 2001; Roth et al., 2001). In CVCT, couples receive pretest information, pretest counseling and risk ascertainment, the results of HIV testing, and posttest counseling. Risk-reduction counseling is tailored to the couple's sero-status.

Analysis by Sullivan et al., found that in the US 68% of new HIV infections among men who have sex with men (MSM) were ascribed to main sex partners (Sullivan, Hamouda, et al., 2009). This finding was driven by several factors: MSM were more likely to have receptive anal sex with their main partners, were less likely to use condoms during anal sex with their main partners (as has also been reported by others: Lyles et al., 2007; Sandfort, Nel, Rich, Reddy, & Yi, 2008; Sifakis et al., 2005; Sullivan, Zapata, & Benbow, 2008; Williamson, Dodds, Mercey, Hart, & Johnson, 2008), and had more overall sex acts per year with main versus casual partners. More recent findings using data from large-scale MSM surveys in the US and Peru have suggested that approximately one-third of new infections occur within main partnerships (Goodreau et al., 2012). The continued demonstration of the significant contribution of transmissions between main partners to the HIV epidemic among MSM warrants the development of dyadic-focused testing and prevention efforts.

A service in which two men can test for HIV together and receive tailored prevention messaging based on their joint sero-status and the realities of their relationship has the potential to add significantly to current HIV prevention efforts for MSM. The results of focus group discussions with MSM in three US cities (Stephenson, Sullivan, et al., 2011) indicated that CVCT services could potentially overcome many barriers to seeking HIV testing, particularly the fear of receiving a positive test result alone. Additional recent data from a national online survey of MSM in the US found that 82% of participants would be willing to use CVCT (Wagenaar et al., 2012). Outside of the US, little is known about the willingness of MSM to use CVCT services. A recent online survey of MSM in South Africa showed that 89% of respondents would be willing to use CVCT services, with willingness not varying significantly across demographic or socioeconomic characteristics (Stephenson, Rentsch, & Sullivan, 2011). This paper examines the willingness to use CVCT among MSM in seven countries – Australia, Brazil, Canada, South Africa, Thailand, the UK, and the USA. Understanding levels of willingness to use CVCT, and variations in willingness among MSM has the potential to significantly inform the messaging of CVCT for MSM.

Methods

The data from this study were drawn from comparable online surveys in seven countries conducted from September 2011 to April 2012. Study participants were recruited through advertisements on social networking site Facebook in the USA, Canada, Australia, UK, South Africa, Thailand, and Brazil over a 5–14 day period in each country. Advertisements were shown to male Facebook users over 18 years of age who indicated an interest in men in their user profiles. Participants were eligible for survey completion if they reported being born male, being 18 years of age, and having had sex with 1 man in the past year. The surveys were conducted in English in all countries except Brazil (Portuguese) and Thailand (Thai). In total 3245 participants completed the survey (Australia: 407, Brazil: 558, Canada: 344, South Africa: 504, Thailand: 473, UK: 466, and USA: 415).

Demographic data were collected on age, race and ethnicity, and education level. Survey participants were asked about their sexual orientation (homosexual/gay or bisexual). HIV status was classified as negative for men who reported negative HIV status, and unknown for men who reported they had never been tested for HIV. Participants reported recreational drug use in the last 12 months, and were categorized as having any drug use versus none.

Participants were also asked about age of first sex and sex of first partner, and age of sexual debut was categorized as <15, 16–19, or over 20. Participants were asked about the number of anal sex acts in the last year, and the number of anal sex acts in the last year for which a condom was used. Condom use at last anal sex was also reported by participants. Finally, participants were asked if they were currently in a sexual relationship with another man, with “relationship” self-defined by the participant.

Internalized homophobia was assessed using a 20-item subset of the Gay Identity Scale, a validated scale that measures an individual's acceptance of his homosexual thoughts, feelings, and behaviors (Brady & Busse, 1994). From respondents' answers, an index scale was created by assigning positive point values to responses agreeing with internally homophobic sentiments, negative point values to responses affirming gay pride, and no points to any neutral response. Increasing index scores correlated with decreasing pride and lowered acceptance of one's homosexual thoughts, feelings, and behaviors. Experiences of *homophobic discrimination* were quantified by creating an index scale of responses to eleven types of homophobic discrimination that have been previously shown to correlate to adverse mental health outcomes (Diaz, Ayala, Bein, Henne, & Marin, 2001). A higher score signifies increasing experiences of homophobic discrimination. Drawing from previous qualitative work with US and South African MSM, experiencing heteronormative social pressure was quantified by creating an index scale of four questions on the degree to which respondents felt pressure to hide their sexuality, get married, have children, and have sex with women. Participants' reported responses were summed to create an index scale ranging from 4 to 20, with a higher score representing greater perceived pressure for heteronormativity.

The survey also collected information on the participant's willingness to utilize CVCT services (“If there were a service in which you could go with your male sex partner and receive your HIV test results together, do you think you would use this service?”).

The analysis was restricted to respondents who reported being either HIV negative or of unknown sero-status, because the outcome of interest focuses on intention to use a HIV testing service. Less than 6% reported a sexual identity other than gay, and thus the final analysis samples were restricted to gay-identified men. The resultant analysis samples are: Australia 407, Brazil 441, Canada 344, South Africa 426, Thailand 387, UK 385, and USA 355.

The data were analyzed using STATA 12. The same outcome variable was used for all seven countries: a binary outcome coded one, if the respondent reported that they would be willing to use CVCT services. A separate logistic model was fitted for each country, with the same covariates used in each model.

Results

Demographic characteristics of the sample are summarized in Table 1. In all countries, the sample was predominantly young (18–24) (although there was a higher percentage of 25–34 years olds in South Africa and Thailand), educated (<12 years of education), and of White/European race or ancestry (although 28% of the Brazilian sample were categorized as mixed race). Additionally, the majority of the sample reported negative HIV status, with the notable exception of Thailand where 54% of the sample reported not knowing their HIV status. More than 90% of participants in all countries reported homosexual/gay identity. Approximately half of the respondents in each country reported that they were currently in a sexual relationship with a man. Reporting of unprotected anal intercourse (UAI) at last sex ranged from 43% in Canada to 64% in Thailand. Mean number of homophobic

discrimination episodes ranged from 4.8 (SD: 0.1) in the UK to 6.0 (SD: 0.1) in RSA. Internalized homophobia mean scores ranged from 13.1 (SD: 0.6) in the UK and 13.5 (SD: 0.6) in the US to 27.1 (SD: 0.6) in Thailand, and heteronormativity mean scores ranged from 6.6 (SD: 0.2) in the UK to 9.9 (SD: 0.3) in Thailand (Table 2).

The reporting of willingness to use CVCT was universally high: Australia 79%, Brazil 90%, Canada 85%, South Africa 89%, Thailand 83%, the UK 79% and the US 88%. With the exception of the UK, men in all countries who reported a willingness to use CVCT also reported a higher mean level of heteronormative social pressure. Conversely, in all countries, men who reported willingness to use CVCT reported lower mean levels of internalized homophobia. There was no clear pattern between the reporting of homophobic discrimination and willingness to use CVCT. In Australia, Canada, Thailand, and the UK, men who reported a willingness to use CVCT reported higher levels of homophobic discrimination. In Brazil, the reporting of homophobic discrimination did not vary between men who were willing or not willing to use CVCT, while in South Africa and the USA, men who reported that they were not willing to use CVCT services also reported higher levels of homophobic discrimination.

Table 3 shows the results of the modeling of willingness to use CVCT. Relative to those aged 18–24, men aged 35–44 (OR: 0.2, 95% CI: 0.1–0.7) and 45+ (OR: 0.3, 95% CI: 0.1–0.8) in Canada, aged 45+ in Thailand (OR: 0.2, 95% CI: 0.1–0.8) and 45+ in the USA (OR: 0.3, 95% CI: 0.1–0.8) had significantly lower odds of reporting willingness to use CVCT services. Compared to HIV negative men, men who reported not knowing their HIV status had significantly lower odds of reporting willingness to use CVCT in Australia (OR: 0.7, 95% CI: 0.5–0.9), Brazil (OR: 0.6, 95% CI: 0.1–0.9), South Africa (OR: 0.4, 95% CI: 0.3–0.6), and the UK (OR: 0.7, 95% CI: 0.5–0.9). Men in South Africa who reported UAI at last sex had significantly greater odds of reporting willingness to use CVCT (OR: 2.7, 95% CI: 1.3–5.8) than men who reported their last anal sex was condom protected. Canadian men who reported currently being in a relationship with a man had significantly greater odds of reporting willingness to use CVCT (OR: 2.1, 95% CI: 1.1–4.1), while conversely, South African men who reported they were in a relationship reported significantly lower odds of willingness to use CVCT (OR: 0.4, 95% CI: 0.2–0.8). In South Africa, men who reported experiencing more internalized homophobia had lower odds of reporting willingness to use CVCT (OR: 0.9, 95% CI: 0.9–0.9), while men in Australia who reported higher levels of heteronormative social pressure reported significantly greater odds of willingness to use CVCT (OR: 1.13, 1.02–1.26).

Discussion

The results demonstrate universally high levels of willingness to use CVCT, suggestive of a high level of demand for dyadic-focused HIV prevention efforts among MSM. Sullivan, Hamouda, et al. (2009) show in their analysis of trend data from five countries (Australia, Spain, France, UK, and US) that there was no sustained increase or decrease in the prevalence of recent HIV testing over time, during 1995–2006. Additional data show that there were increases in HIV case notifications in MSM in almost all developed countries, starting in the late 1990s. Although increases in HIV testing probably contributed to the increases in some settings, limited cohort data support the existence of a true increase in HIV incidence in European and North American countries (Grulich & Kaldor, 2008). MSM are also the only at-risk group in the US, who have seen a sustained increase in HIV incidence (Prejean et al., 2011), a pattern that is observed in many developed countries. Improvements in testing uptake are clearly needed, and there have been several recent advances in testing provisions – including home-based self-testing and new tests that

provide results in a minute – each of which has the potential to increase testing uptake. However, none of these are currently targeted toward dyads.

Although developed as a “couples” intervention, CVCT should ideally be marketed as a dyadic intervention. That is, the word “couple” implies commitment and relationship, while the word “partner” could include sex partners and those at early stages of relationship formation. For that reason, we phrased our question on willingness to use CVCT as: If there were a service in which you could go with your male sex partner and receive your HIV test results together, do you think you would use this service? In our team's work on the rollout of CVCT for male-male dyads in the US, we have messaged the intervention for all forms of male-male sexual dyads, with the understanding that two men who present for CVCT are allowed to self-define their “couple” status. CVCT is not merely for committed long-term couples, and should be available for those in all forms of sexual dyads and stages of relationship formation.

The results show several interesting caveats in the generally high levels of willingness to use CVCT. Older men (aged over 45) were often less likely to report willingness to use CVCT; a similar result has also been found among US men in a separate study (Wagenaar et al., 2012). It is possible that older age is acting as a proxy for length of relationship: MSM in longer-term relationships may perceive less need to test with their male partner. Alternatively, this may reflect the greater likelihood of the adoption of new, novel prevention efforts among younger men. Additionally, men who did not know their HIV status were less likely to report willingness to use CVCT. MSM who do not know their sero-status are likely not frequent HIV testers, and thus, may be less likely to be willing to utilize a testing intervention in the future; Wagenaar et al. (2012) also showed that MSM who had not tested for HIV in the past 12 months reported lower odds of willingness to use CVCT. MSM who have tested recently and know they are sero-negative may be less worried about receiving test results with a partner.

The associations between relationship status and willingness to use CVCT varied. In Canada, MSM who reported they were in a relationship were more likely to report willingness to use CVCT, which makes sense given that CVCT is focused toward MSM in couples. However, in South Africa the reverse was found: men in relationships were less likely to report willingness to utilize CVCT. Although CVCT has been available for some time in South Africa, the service has been targeted toward heterosexual couples. It is possible the ongoing presence of a CVCT service that is locally perceived as being for heterosexual couples has led to perceptions among male-male couples that the service is not available to them, or that they would face discrimination as a same-sex couple if they tried to use CVCT. Interestingly, MSM in South Africa who reported recent UAI were more likely to report willingness to use CVCT; this suggests that MSM view CVCT as an opportunity to discuss recent risks and receive HIV test results with their partner. In all countries, and particularly in South Africa, awareness-raising and education is needed to ensure that CVCT is effectively promoted and that the intention and content of the intervention are understood among MSM.

There is some evidence that social pressures are associated with willingness to use CVCT. MSM in South Africa who reported more internalized homophobia were less likely to report willingness to use CVCT. MSM who are experiencing internalized stigma and identity struggles may be less likely to access services that they see as targeted toward gay men, and this may be particularly true in South Africa where high levels of homophobia have been reported (Spielberg et al., 2003). Conversely, MSM in Australia who reported experiencing more heteronormative social pressure were more likely to report willingness to use CVCT. The desire to use a service targeted toward male couples may be higher among those who

feel that their current environment is tailored toward the needs of heterosexual couples (heteronormative).

There are a number of limitations to this study. Respondents were sampled through Facebook, and as such were all recruited from one “space,” possibly leading to a lack of heterogeneity among the sample. Also, men who may have sex with men, but who do not disclose an interest in men in their profile, were not targeted for recruitment. Because many of the questions in our survey were sensitive in nature, it is possible that some participants did not accurately report their risk behaviors, which could potentially subject our findings to social desirability bias. However, this may not be as great of a concern, since our survey was administered online, and participants are generally more honest about their risk behaviors when a computer-assisted survey method is used instead of traditional survey methods (Turner et al., 1998). The question used to assess willingness to use CVCT had a binary yes-no response; it is possible that a question with a scaled response assessing likelihood of services use (e.g., 1–5) may have been more sensitive to variations in willingness. Lastly, hypothetical interest in using HIV prevention services, included testing services, may not reflect actual use of those services when they are eventually available and also relies on existing respondent knowledge of the testing process (Colfax et al., 2002).

Conclusion

HIV incidence is increasing among MSM despite almost 30 years of individually focused prevention efforts, and thus a dyadic intervention that allows men to learn their sero-status with their partner and develop a prevention plan that is tailored to their relationship has the potential to add significantly to HIV prevention efforts. The results are suggestive of a very high level of demand for CVCT services among MSM across seven countries. Further work is required to examine the levels of comprehension of CVCT among MSM, to provide information for locally specific messages to promote the use of CVCT among MSM, and to investigate the social and cultural forces that may influence both the willingness and ability for male partners to test for HIV together.

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Background characteristics and reported willingness to use couples-based voluntary counseling and testing (CVCT) services among Internet-using MSM in seven countries, 2011–2012.

Table 1

	Australia (n=361)		Brazil (n=441)		Canada (n=344)		RSA (n=426)		Thailand (n=421)		UK (n=385)		USA (n=355)	
	%	% CVCT willing	%	% CVCT willing	%	% CVCT willing	%	% CVCT willing	%	% CVCT willing	%	% CVCT willing	%	% CVCT willing
Age (%)														
18–24	60	92	67	91	42	87	28	88	38	87	50	77	60	92
25–34	17	85	24	90	26	87	36	94	44	81	25	82	17	85
35–44	8	83	7	90	13	76	19	89	15	82	13	86	8	83
45+	15	77	2	72	19	81	17	85	3	60	11	77	15	77
Race/Ancestry (%)														
White	83	87	58	90	81	83	85	90	96	83	95	79	83	87
Mixed	–	–	29	90	–	–	–	–	–	–	–	–	–	–
Other	17	92	14	90	19	93	15	90	4	82	5	89	17	92
Education (%)														
12 years	29	91	38	92	26	85	31	92	22	84	22	83	29	91
> 12 years	71	86	62	89	74	84	68	89	78	83	78	78	71	86
Sexual orientation (%)														
Homosexual/Gay	97	88	96	90	94	86	97	90	95	83	98	79	97	88
Bisexual	3	83	4	100	6	68	3	92	5	85	2	89	3	83
HIV status (%)														
Known negative	71	88	63	94	74	87	89	92	46	86	72	83	71	88
Unknown	29	87	37	86	26	78	11	73	54	81	28	72	29	87
UAI at last sex (%)														
No	51	87	51	89	57	85	46	86	36	80	55	78	51	87
Yes	49	88	50	91	43	83	54	93	64	84	45	82	49	88
Age of sexual debut (%)														
15 years	37	88	57	89	35	86	39	93	39	83	42	77	37	88
16–19 years	50	88	36	91	49	83	41	86	39	84	47	82	50	88
20+ years	12	86	7	90	16	86	20	92	22	81	11	79	12	86
Drug use in last year (%)														
No	64	87	70	90	52	85	59	92	70	82	65	80	64	87
Yes	36	88	30	90	48	84	40	87	30	85	35	78	36	88

	Australia (<i>n</i> =361)		Brazil (<i>n</i> =441)		Canada (<i>n</i> =344)		RSA (<i>n</i> =426)		Thailand (<i>n</i> =421)		UK (<i>n</i> =385)		USA (<i>n</i> =355)	
	%	% CVCT willing	%	% CVCT willing	%	% CVCT willing	%	% CVCT willing	%	% CVCT willing	%	% CVCT willing	%	% CVCT willing
<i>Currently in relationship (with a man)</i>														
No	51	89	55	89	41	80	44	92	51	80	47	81	51	89
Yes	49	86	45	91	59	88	56	88	49	87	53	78	49	86
Total	100	79	100	90	100	85	100	90	100	83	100	79	100	88

Note: The values in bold are statistically significant differences at the 5% level.

Table 2

Mean scores for measures of experience of homophobic discrimination, internalized homophobia and heteronormative social pressure among MSM in seven countries.

Mean scale index scores and stratified by willingness to use CVCT																				
Australia			Brazil			Canada			RSA			Thailand			UK			USA		
Mean (SD)			Mean (SD)			Mean (SD)			Mean (SD)			Mean (SD)			Mean (SD)			Mean (SD)		
Willing to use CVCT?			Willing to use CVCT?			Willing to use CVCT?			Willing to use CVCT?			Willing to use CVCT?			Willing to use CVCT?			Willing to use CVCT?		
All	No	Yes	All	No	Yes	All	No	Yes	All	No	Yes	All	No	Yes	All	No	Yes	All	No	Yes
Experiences of homophobic discrimination																				
5.03 (0.13)	4.61 (2.53)	5.15 (2.38)	5.64 (0.10)	5.66 (2.33)	5.63 (2.13)	5.07 (0.14)	4.43 (2.78)	5.19 (2.54)	5.96 (0.11)	6.05 (2.37)	5.96 (2.28)	4.14 (0.10)	4.00 (1.90)	4.12 (2.08)	4.80 (0.12)	4.68 (1.97)	4.83 (2.35)	5.08 (0.13)	5.11 (2.17)	5.07 (2.39)
Internalized homophobia																				
16.70 (0.69)	17.45 (13.19)	16.51 (13.05)	17.20 (0.56)	17.27 (10.87)	17.19 (11.81)	15.90 (0.72)	16.45 (15.78)	15.79 (12.98)	13.65 (0.53)	16.98 (13.45)	13.27 (10.56)	27.05 (0.59)	27.98 (12.72)	26.67 (12.28)	13.09 (0.56)	13.52 (8.99)	12.98 (11.35)	13.52 (0.59)	15.93 (15.25)	13.18 (10.46)
Experiences of heteronormative social pressure																				
7.10 (0.19)	6.42 (3.25)	7.28 (3.71)	8.43 (0.20)	7.77 (3.99)	8.50 (4.33)	7.63 (0.22)	7.60 (4.11)	7.63 (4.04)	7.21 (0.20)	6.53 (3.49)	7.28 (4.08)	9.91 (0.26)	9.05 (5.01)	10.26 (5.33)	6.59 (0.18)	6.71 (3.27)	6.56 (3.51)	7.62 (0.20)	7.57 (4.39)	7.63 (3.74)

Table 3

Logistic regression models for reported willingness to use couples-based voluntary counseling and testing (CVCT) services among MSM in seven countries.

	Australia ^{a,b}	Brazil ^d	Canada	RSA	Thailand ^c	UK ^d	USA
<i>Age</i>							
18–24	Referent	Referent	Referent	Referent	Referent	Referent	Referent
25–34	0.8 (0.4, 1.6)	0.9 (0.4, 2.1)	0.61 (0.2, 1.6)	2.2 (0.8, 6.2)	0.6 (0.3, 1.2)	1.0 (0.5, 2.1)	0.5 (0.2, 1.4)
35–44	1.0 (0.4, 2.6)	0.4 (0.2, 2.5)	0.2 (0.1, 0.7)	0.9 (0.3, 2.7)	0.6 (0.2, 1.5)	1.6 (0.6, 4.3)	0.5 (0.1, 1.7)
45+	0.9 (0.3, 2.3)	0.2 (0.1, 1.0)	0.3 (0.1, 0.8)	0.5 (0.2, 1.4)	0.2 (0.1, 0.8)	0.7 (0.3, 1.8)	0.3 (0.1, 0.8)
<i>Race/Ancestry</i>							
European ^e /White/Thai ^c	Referent	Referent	Referent	Referent	Referent	Referent	Referent
Australian ^b /Mixed ^d	1.5 (0.8, 2.8)	1.1 (0.5, 2.3)	–	–	–	–	–
Other	1.8 (0.9, 3.7)	1.0 (0.4, 2.7)	2.0 (0.7, 5.5)	0.9 (0.3, 2.6)	0.7 (0.1, 3.7)	3.0 (0.6, 14.3)	1.2 (0.9, 1.7)
<i>Education</i>							
12 years	Referent	Referent	Referent	Referent	Referent	Referent	Referent
>12 years	0.6 (0.3, 1.1)	0.7 (0.4, 1.5)	0.9 (0.4, 1.8)	0.6 (0.2, 1.4)	1.1 (0.6, 2.3)	0.7 (0.3, 1.3)	0.7 (0.3, 1.6)
<i>HIV status</i>							
Known negative	Referent	Referent	Referent	Referent	Referent	Referent	Referent
Unknown	0.7 (0.5, 0.9)	0.6 (0.4, 0.9)	0.7 (0.5, 1.1)	0.4 (0.2, 0.6)	0.8 (0.4, 1.4)	0.7 (0.5, 0.9)	0.8 (0.5, 1.1)
<i>UAI at last sex</i>							
No	Referent	Referent	Referent	Referent	Referent	Referent	Referent
Yes	1.5 (0.8, 2.6)	1.2 (0.6, 2.3)	0.7 (0.3, 1.3)	2.7 (1.3, 5.8)	1.4 (0.8, 2.4)	1.5 (0.9, 2.6)	1.2 (0.6, 2.5)
<i>Age of sexual debut</i>							
15 years	Referent	Referent	Referent	Referent	Referent	Referent	Referent
16–19 years	1.4 (0.7, 2.5)	0.8 (0.4, 1.6)	0.8 (0.4, 1.7)	0.4 (0.2, 1.0)	1.0 (0.5, 2.0)	1.6 (0.9, 2.9)	0.7 (0.3, 1.5)
20+ years	1.7 (0.6, 4.4)	0.7 (0.2, 2.5)	1.4 (0.5, 3.8)	0.5 (0.2, 1.5)	1.0 (0.5, 2.1)	1.4 (0.5, 3.6)	0.8 (0.3, 2.5)
<i>Drug use in last year</i>							
No	Referent	Referent	Referent	Referent	Referent	Referent	Referent
Yes	0.7 (0.4, 1.2)	1.0 (0.5, 2.0)	1.0 (0.5, 1.9)	0.4 (0.2, 0.8)	1.3 (0.7, 2.5)	0.8 (0.5, 1.4)	1.0 (0.5, 2.0)
<i>Currently in relationship (with a man)</i>							
No	Referent	Referent	Referent	Referent	Referent	Referent	Referent

	Australia ^{a,b}	Brazil ^d	Canada	RSA	Thailand ^c	UK ^a	USA
Yes	0.8 (0.4, 1.4)	1.2 (0.6, 2.3)	2.1 (1.1, 4.1)	0.4 (0.2, 0.8)	1.5 (0.9, 2.8)	0.8 (0.4, 1.4)	0.8 (0.4, 1.6)
<i>Homophobic discrimination</i>							
Per 1 scale unit	1.1 (0.9, 1.2)	1.0 (0.8, 1.2)	1.1 (1.0, 1.3)	0.9 (0.8, 1.1)	1.0 (0.9, 1.2)	1.0 (0.9, 1.2)	1.0 (0.8, 1.1)
<i>Internalized homophobia</i>							
Per 1 scale unit	1.0 (0.9, 1.0)	1.0 (0.9, 1.0)	1.0 (1.0, 1.02)	0.9 (0.9, 0.9)	1.0 (0.9, 1.0)	1.0 (1.0, 1.03)	1.0 (1.0, 1.0)
<i>Experiences of heteronormative social pressure</i>							
Per 1 scale unit	1.1 (1.1, 1.3)	1.1 (0.9, 1.1)	1.0 (0.9, 1.1)	1.1 (0.9, 1.2)	1.1 (1.0, 1.1)	1.0 (0.9, 1.1)	1.0 (0.9, 1.1)

Notes: The values in bold are statistically significant differences at the 5% level.

^aEuropean ancestry is reference category.

^bAustralian ancestry is second comparison category.

^cThai race is reference category.

^dMixed race is second comparison category.