



Structural and environmental factors are associated with internalised homonegativity in men who have sex with men: Findings from the European MSM Internet Survey (EMIS) in 38 countries

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ARTICLE INFO

Article history:

Available online 5 December 2012

Keywords:

Europe
Internalised homonegativity
Men who have sex with men
Predictors

ABSTRACT

Internalised homonegativity refers to a gay person's negative feelings about homosexuality and is believed to stem from negative societal stereotypes and attitudes towards homosexuality. Surprisingly, little research has centred on this link. In this research, we aimed to examine the associations between internalised homonegativity and structural forces, cultural influence, and access to sexual health promotion measures among a sample of 144,177 men who have sex with men (MSM) in 38 European countries. Participants were recruited as part of the European MSM Internet Survey (EMIS) during 2010. It was a self-completion, multilingual Internet-based survey for men living in Europe who have sex with men and/or feel attracted to men. Assumed causal relations were tested through multiple regression models. Variables at the structure of rule-systems (macro-level) that were significantly and negatively associated with internalised homonegativity were the presence of laws recognising same-sex relationships and same-sex adoption. In the meso-level model, greater proportions of the population expressing that they would not like to have homosexuals as neighbours predicted higher internalised homonegativity. In the last model, five variables were significantly and negatively associated with internalised homonegativity: being exposed to HIV/STI information for MSM, access to HIV testing, access to STI testing, access to condoms, and experience of gay-related hostility. In turn, men who had tested for HIV in the past year evidenced lower internalised homonegativity. This is the largest and certainly most geographically diverse study to date to examine structural and environmental predictors of internalised homonegativity among MSM. Our results show that one insidious consequence of society's stigma towards homosexuals is the internalisation of that stigma by gay and bisexual men themselves, thus, drawing attention to the importance of promoting social equity for self-acceptance around gay identity in building a positive sense of self.

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Introduction

The concept of internalised homophobia has a long history in the research literature, originally appearing in Weinberg (1973) four decades ago, and defined as a gay person's self-loathing. Herek (2004) explains that while the nomenclature varies, there is consensus that the concept at its root involves "negative feelings about one's homosexuality" (p. 19). The term internalised homonegativity is preferred by Mayfield (2001), who describes it as

internalised negative attitudes that lesbian, gay and bisexual (LGB) individuals hold about their own sexuality.

One of the first to problematise the issue of internalised homonegativity was Malyon (1981) whose conception of internalised homonegativity came out of a psychodynamic framework, in which the process of introjections (unconsciously incorporating characteristics of others into one's own psyche) causes negative views of LGB individuals to be taken in and incorporated into the self-representation. Further, the development of internalised homonegativity has typically been understood through the framework of stigma proposed by Goffman (1968) and several researchers have examined gay men's internalised homonegativity in terms of Brooks' (1981) conceptualisation of minority stress as psychosocial stress that results from being a member of a lower-

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status minority group (e.g., Meyer's minority stress model, 1995; 2003; 2007). Brooks described minority stress in ethnic minorities as the exposure to chronic stressors such as neighbourhood violence and prejudice that can negatively affect health outcomes. Applied to gay and bisexual men, Shidlo (1994) argued that internalised homonegativity is a sociocultural cognitive factor that "stem[s] from negative stereotypes and myths about homosexuality that permeate mainstream society and are absorbed from one's culture(s)" (p. 178). According to Herek (2004), negative typecasting of homosexuals has a strong linkage to enforcement of male gender norms as homosexuality questions society's rules about gender, particularly as they apply to males. This may hold particularly true in societies with rigid gender roles.

In general, it is believed that negative societal stereotypes and attitudes towards homosexuality shape the development of internalised homonegativity (Winter, Webster, & Cheung, 2008). Surprisingly, little research has centred on this link. Literature has primarily examined internalised homonegativity as a predictor of poor mental health and risky behaviours (e.g., Baiocco, D'Alessio, & Laghi, 2010; Folch, Muñoz, Zargagoza, & Casabona, 2009; Ratti, Bakeman, & Peterson, 2000; Ross, Rosser, Neumaier, & the Positive Connections Team, 2008; Rosser, Bockting, Ross, Miner, & Coleman, 2008; Shoptaw et al., 2009; Torres, 2008). However, examining factors that lead to internalised homonegativity is equally important, because aspects of the broader community in which homonegativity, or heterosexism, are embedded seems to affect the internalisation of such sentiments. Understanding these links offers a lens towards the social determinants of health for sexual minorities and, in turn, ways to improve LGB individuals' overall health and quality of life. Of particular interest is the extent to which societal structures (factors that may produce stratification within a society, e.g., the distribution of income, discrimination, and political and governance structures [WHO, 2011]) and community aspects of the environment affect homonegative internalisations. As far back as 1996, Wagner, Brondolo, and Rankin lamented that "little is known about what predicts or precludes internalised homophobia (p. 92)." In this research, we aimed to examine the associations between internalised homonegativity and structural forces, cultural influence (beliefs and values held in common by a community), and access to sexual health promotion measures among European MSM.

Various studies suggest that over the past decades, acceptance of LGB individuals and their rights has increased considerably in Western societies (Hellevik, 2002; Jaspers, Lubbers, & de Graaf, 2007). One major advance has been the legal protections extended to LGB people. There are now legal protections, perhaps most notably the inclusion of sexual preference in anti-discrimination laws as a protected category, providing LGB people recourse through the courts for discrimination in areas such as employment and housing (Hooghe et al., 2010). At present, same-sex marriage is legal in ten countries (Argentina, Belgium, Canada, Iceland, Norway, Portugal, South Africa, Spain, Sweden, the Netherlands) and in a few states in the USA. Same-sex couples may also register as partners or have rights to a form of civil union in a number of other countries (ILGA-Europe, 2012; Peel & Harding, 2008). According to ILGA-Europe, current European Union law protects people against discrimination based on sexual orientation – as well as age, disability, religion and belief – in the area of employment (ILGA-Europe, 2012). However, European legislation does not protect against discrimination in other areas of life such as access to goods and services, social protection and social advantages, education, and health care. In effect, gay and bisexual individuals can be refused medical services and treatment, and access to social security schemes, such as survivors' pensions. Moreover, few countries grant equal parenting rights to gay and

heterosexual couples (ILGA-Europe, 2012). In Poland, openly gay teachers are fired (Mos, 2011). Thus, at the societal level of rule-systems, institutionalised homonegativity takes the form of anti-gay legislation such as laws preventing same-sex couples from adopting children, laws preventing gays from openly serving in the military, denial of registration of gay civil rights organisations (ILGA-Europe, 2012) and banning gay pride marches, which has been the case in Latvia, Poland, Russia, and Serbia in the recent decade (Holzhacker, 2010).

Longitudinal research has demonstrated that legal rights for LGB people have been accompanied by a decrease in negative attitudes towards homosexuality among younger age groups (Andersen & Fetner, 2008). Yet, communities' heterosexism manifests in the work, family, and school environment, albeit perhaps more insidiously than with regards to legislation, for example in the form of social exclusion and bullying. The available evidence suggests that this form of prejudice is widespread in European societies. Lottes and Alkula (2011), who examined sexuality-related attitudinal patterns across 32 European countries, found that most post-communist countries were distinguished from the rest of Europe by low justifications of homosexuality. Similarly, Stulhofer and Rimac (2009) used the European Values Survey 1999/2000 dataset to examine culture-level determinants of negative attitudes towards homosexuality and homosexuals. On a social level, they demonstrated that countries that score higher on postmaterialism (e.g., Scandinavian countries) have lower levels of prejudice against homosexuality.

Even in countries with very liberal legislation with regards to homosexuals there is social prejudice against gays. As Phoenix, Frosh, and Pattman (2003) found in London, Hooghe (2011) observed in Belgium that homophobia was widespread among adolescents, in particular among boys, Muslim minorities and those with a high level of ethnocentrism. In Norway, gay and bisexual youth are more likely to face harassment and violence than heterosexual youth (Moseng, 2007). Finally, in Prati et al.'s study (2011), Italian high school students revealed that homonegative behaviours in schools were widespread, especially verbal abuse, but also written insults, social exclusion and physical abuse. These behaviours were more often directed at young men than young women. Like Poteat (2007, 2008), the researchers demonstrated that a homonegative social climate characterised by prejudice was associated with individuals' level of anti-gay sentiments.

In the present research, which follows on from questions raised in another paper (Ross et al., submitted for publication), we explored the influence of social determinants on homonegative internalisation through a macro-meso-micro analytic framework. The motive for the framework was to call attention to social determinants, while making clear the complex and multi-level nature of forces perpetuating homonegative internalisations. Novel and less conventional methods, including various data sources, are required to broaden the view of inequity and environment at the levels of individual gay men. In our framework, the macro (national) level consists of the societal structure of rule-systems. Meso structure is between the elements of the macro and micro, consisting of community norms and their population of actualisations in the form of expressed values, while micro refers to the individual-level forces affecting internalisation of gay stigma.

Methods

The research is based on the European MSM Internet Survey (EMIS), which was a multilingual Internet-based survey for men living in Europe who have sex with men and/or feel attracted to men.

Procedures

The participant recruitment and data collection were designed to capture a large and diverse sample of MSM across Europe by promoting the study through invitations in gay social media, a wide variety of over 235 (trans-)national websites for MSM, and via non-governmental organisations in each participating country. Potential participants were routed to a landing page, which presented the 25 survey language names in the language in question and a simple count for the total number of returns to the whole survey up to that point. Upon selection of language, the study website described the research in the chosen language. Men who declared they had read and understood the aim of the study and were legally of age to have consensual sex with men in their country of residence were routed to the survey questions.

The survey questions were the result of more than a year's work of examining previous questionnaires (e.g., Schmidt, Marcus, & Hamouda, 2007; Tikkanen, 2008), agreed indicators, scientific literature, consulting a large number of NGOs (including ILGA-Europe), piloting and revising. Briefly, the survey was first piloted for comprehension and length by MSM in 21 collaborating countries. After revision and uploading online, MSM in London completed the survey while participating in a cognitive interview that sought to identify incorrect interpretation of questions and difficulties in completion. Lastly, MSM in collaborating countries piloted the online survey, focussing on routing, timing, question acceptability, etc. This was an extensive process because EMIS required questions which were relevant for the entire European MSM population regardless of their sexual identity, or the social and political environment in which they lived. The final self-completion survey consisted of about 280 unique questions, but was tailored using intra-survey filters which depended on the respondent's answer to previous questions. Instructions for answering the survey and definitions of terms were provided in the survey itself. Informal language was used because it is believed to increase reporting of socially undesirable behaviour (Bradburn, Sudman, & Wansink, 2004). The median completion time was about 20 min (calculated from the precise completion time for each survey, which was auto-captured as an integral part of the survey software utilized).

The survey software installed no cookies or left any other trace files on computers, and we saved no IP-addresses or other data that could be used to identify computers (and hence participants). On the one hand, this ensured the survey was completely anonymous; on the other hand, the respondent had to complete the survey in one sitting. The answers were only recorded by the respondent clicking through to the final page and selecting the 'submit' button. The respondent was then exited to an LGB-website (or MSM-specific HIV prevention website, if existent), which was nominated by national collaborators and appropriate to the language of survey completion and country of residence. The survey was available for online completion during 12 weeks in June through August 2010, and all procedures were approved by the Research Ethics Committee of the University of Portsmouth, United Kingdom (REC application number 08/09:21). Full details regarding the methods are available in Weatherburn et al. (submitted for publication).

Measures

In line with the aim of improving HIV prevention interventions for MSM across Europe, the survey contained questions concerning four types of indicators of need: measures of sexual HIV/STI exposure and the presence of transmission facilitators; prevention needs including knowledge and beliefs; perceptions of intervention

accessibility and performance; and measures of HIV stigma. There were also a set of socio-demographic questions.

For this paper, we examined environmental and socio-demographic variables measured in EMIS. The outcome of interest, internalised homonegativity, was measured with the seven item, cross-culturally validated 'Reactions to Homosexuality' additive scale (Box 1), first developed by Ross & Rosser, 1996 and recently revised (Smolenski, Diamond, Ross, & Rosser, 2010). Participants answered each of the statements on a 7-point Likert scale from 'strongly disagree' to 'strongly agree' and the respondents could also check the answer 'does not apply to me'. Respondents answering the latter or skipping any one item were coded as missing cases. The score range was 0–6 with a higher score representing greater homonegative internalisation. Cronbach alpha was $\alpha = .76$.

BOX 1.

The 'Reactions to Homosexuality' scale includes 7 items:

I feel comfortable in gay bars

Social situations with gay men make me feel uncomfortable

I feel comfortable being seen in public with an obviously gay person

I feel comfortable discussing homosexuality in a public situation

I feel comfortable being a homosexual man

Homosexuality is morally acceptable to me

Even if I could change my sexual orientation, I wouldn't.

We assessed country-level influences on homonegative internalisation for both macro- and meso-level variables, hypothesising that internalised homonegativity partially evolves from the stigmatising values expressed in the dominant culture, such that levels of internalised homonegativity are lower in countries with more civil rights equity and countries where societal attitudes towards homosexuality are relatively positive. The measures have several strengths to recommend them, including that they provide a broad sample of the issues that are a staple of contemporary legislation and that they subsume a specific sexual minority focus. We created six macro-level variables which can be considered indices of a country's regulatory commitment to equity for social groups. The World Economic Forum has quantified the magnitude of gender based disparities for countries with a Global Gender Gap Index (Hausmann, Tyson, & Zahidi, 2011). In as much as the Index reflects countries' legal and political equity schemes not just with respect to gender, but across groups, including sexual minorities, it is a reflection of social equity strategies, policies and programs to further the equity of all its citizens. The 2010 gender equity score's theoretical range was 0–1 for each EMIS country where a higher score indicated greater equity. Additionally, each EMIS country's legal environment for sexual minorities was assessed by scoring the presence of five legislative protections of LGB status, or legal discrimination as operationalised by the list of LGB rights by country (http://en.wikipedia.org/wiki/LGBT_rights_by_country_or_territory). These were: recognition of same-sex relationships, possibility of same-sex marriage, possibility of same-sex adoption, opportunity to serve openly as gay in the military, and the presence of a legal framework to address all anti-gay discrimination.

We obtained meso-level variables from the European Values Survey, which is a large-scale and longitudinal survey research programme on human values in European countries (<http://www.europeanvaluesstudy.eu>). It has been ongoing since 1981 in an increasing number of countries. The fourth wave from 2008 was used in this analysis. It included about 70,000 participants in 47 countries. We analysed three variables specific to attitudes and values concerning homosexuality: the proportion (theoretical range 0–100) of respondents in each country who thought homosexuality could be justified, who agreed that homosexual couples should be able to adopt children, and who would not like homosexuals as neighbours. We coded these continuous variables in line with the original such that higher scores on the first two indicated more accepting values and higher score on the latter variable indicated less accepting values towards homosexuals.

Perceived environmental influences measured in EMIS included exposure to gay-related hostility and violence. This was an 8-point scale (not previously validated) from no hostility in the last year to hostile staring, verbal harassment and physical violence. Variables indicating access to sexual health promotion measures were operationalised as exposure to HIV/STI information specific for MSM in the last year, whether men reported that they in the last year wanted a condom but did not have one, and access to STI testing and HIV testing. The latter two questions were worded as: ‘Can you personally get free or affordable HIV testing/STI testing in the country you live in?’ Lastly, we examined the relationship between internalised homonegativity and men’s confidence in being able to access HIV testing in their country of residence (‘How confident are you that you could get an(other) HIV test if you thought you needed it?’) and actual HIV testing in the past year.

Analyses

First, univariable analyses with simple linear regression were conducted to examine the relationship between each independent variable and the criterion measure. Prior to performing multiple regression analyses, we assessed correlation and collinearity by the tolerance level, excluding as per the standard cutoff any predictors that had a tolerance level of $<.01$ (Brace, Kemp, & Snelgar, 2006). A focus of this investigation was the social determinants of homonegativity. Therefore, this theoretical concept assumed causal relations in our model and was tested through three separate multiple regression models. All meso-, macro-, and micro-level variables that were statistically significant in the univariable analyses (and exhibiting statistically acceptable correlation and collinearity) were included in separate simultaneous multiple regressions (enter method whereby all variables are entered at the same time). The dependent variable was formed by the scores on the internalised homonegativity scale. SPSS 18.0 statistical software was used to perform analyses and all tests used a 5% two-tailed significance level.

Results

Full details regarding response rates and the EMIS sample are available in the EMIS European Report (EMIS Network, in press). Demographic characteristics for the analytic sample of men with a valid internalised homonegativity score are presented in Table 1 (83% of full sample of 174,209 respondents). The average age for this sample of 144,177 MSM was 34.2 (SD = 11.11). Men in the sample were predominantly employed full or part-time (72%) and reasonably well-educated. A majority lived in the West and Central-west of Europe in cities with over 100,000 inhabitants and 81% described themselves as gay or homosexual. As shown in Table 2, the country mean of internalised homonegativity varied across

Table 1
Description of the analytic sample ($n = 144,177$).

	<i>n</i>	%
Age (median, range)	32 (13–89)	
Region of residence		
West (be, fr, ie, nl, uk)	33,987	23.6
Northwest (dk, fi, no, se)	7492	5.2
Central-West (at, ch, de, lu)	53,297	37
Southwest (gr, es, it, pt)	30,206	21
Northeast (ee, lt, lv)	1478	1
Central east, EU (cz, hu, pl, si, sk)	6349	4.4
Southeast, EU (bg, cy, mt, ro)	274	1.9
Southeast, nonEU (ba, hr, mk, rs, tr)	2817	2
East (by, md, ru, ua)	2811	4
Settlement size		
≥ 1 million inhabitants	44,499	31.6
500,000–999,999 inhabitants	21,708	15.4
100,000–499,999 inhabitants	30,618	21.7
10,000–99,999 inhabitants	26,913	19.1
$\leq 10,000$ inhabitants	17,082	12.1
Education (ISCED levels ^a)		
High (ISCED 5 & 6)	73,408	51.1
Mid (ISCED 3 & 4)	59,492	41.4
Low (ISCED 1 & 2)	10,869	7.6
Occupation		
Employed full-or part-time	104,011	72.3
Unemployed	8541	5.9
Student	21,689	15.1
Retired	3488	2.4
Long term sick leave/medically retired	1825	1.3
Other	4352	3
Sexual orientation		
Gay or homosexual	116,448	80.9
Bisexual	17,147	11.9
Straight or heterosexual	580	0.4
Any other term	1016	0.7
Don't usually use a term	8672	6

^a ISCED = International Standardised Classification of Educational Degrees.

Europe from a low of 1.220 in the Netherlands, 1.227 in Sweden, 1.259 in Denmark to a high of 2.560 in Bosnia & Herzegovia and 2.579 in Bulgaria.

Macro-level analyses. With regards to the univariable analyses, all were significant predictors of internalised homonegativity ($p < .05$), but the equity variable was highly correlated with the other independent variables ($r = .44-.98$) and omitted from the model (the correlation with internalised homonegativity was $r = -.61$). Thus, the multiple regression model for macro-level influences included five predictors. A significant model emerged ($F_{5, 32} = 17.61, p < .001$). The results of the analysis (Table 3) supported our hypothesis and we note that the model accounted for 69% (adjusted R^2) explained variance. Predictors at the structure of rule-systems that remained significantly associated with internalised homonegativity in the context of the other macro-level variables were the presence of laws recognising same-sex relationships and same-sex adoption ($\beta = -.709$ and $\beta = -.394$).

Meso-level analyses. A significant model emerged for the meso-level influences ($F_{3, 34} = 66.51, p < .001$). As shown in Table 4, the model accounted for 84% (adjusted R^2) explained variance. In respect of community norms in a country, greater proportions of the population expressing that they would not like to have homosexuals as neighbours predicted higher internalised homonegativity, with a standardised regression coefficient of .610. The variable ‘homosexual couples should be able to adopt’ was borderline significant ($p = .05$).

Micro-level analyses. The five-variable multiple regression model was significant ($F_{5, 128,462} = 807.95, p < .001$) with an adjusted R^2 of 3%. As shown in Table 5, all of the variables remained significantly associated with internalised homonegativity in the

Table 2
Internalised homonegativity scores for 38 countries.

Country	IH score	SD	n
.at Austria	1.318	1.152	3421
.ba Bosnia & Herzegovina	2.560	1.489	105
.be Belgium	1.361	1.131	3446
.gb Bulgaria	2.579	1.263	777
.by Belarus	2.262	1.282	299
.ch Switzerland	1.365	1.179	4272
.cy Cyprus	2.255	1.325	219
.cz Czech Republic	1.556	1.145	1937
.de Germany	1.293	1.185	45,371
.dk Denmark	1.259	1.212	1455
.ee Estonia	1.697	1.163	500
.es Spain	1.397	1.242	11,083
.fi Finland	1.573	1.155	1739
.fr France	1.460	1.150	9614
.gr Greece	1.985	1.356	2337
.hr Croatia	2.104	1.191	422
.hu Hungary	1.683	1.194	1576
.ie Republic of Ireland	1.604	1.310	1899
.it Italy	1.757	1.229	12,675
.lt Lithuania	2.060	1.234	433
.lu Luxembourg	1.403	1.281	233
.lv Latvia	2.118	1.216	545
.md Moldova	2.497	1.186	88
.mk Macadonia	2.243	1.319	90
.mt Malta	1.917	1.313	100
.nl Netherlands	1.220	1.101	3328
.no Norway	1.322	1.134	1749
.pl Poland	1.992	1.293	1698
.pt Portugal	1.783	1.234	4111
.ro Romania	2.216	1.283	1644
.rs Serbia	2.246	1.276	842
.ru Russia	2.067	1.082	4080
.se Sweden	1.227	1.118	2549
.si Slovenia	1.994	1.335	701
.sk Slovakia	1.706	1.220	437
.tr Turkey	2.392	1.338	1358
.ua Ukraine	2.184	1.108	1344
.uk United Kingdom	1.394	1.209	15,700

context of the other variables. Men who were exposed to HIV/STI information for MSM in the past year and who believed that access to HIV- and STI testing was free scored lower on the internalised homonegativity scale ($\beta = -.099$; $\beta = -.073$; $\beta = -.068$, respectively). Also as hypothesised, respondents who had wanted a condom in the last year, but did not have one scored higher on internalised homonegativity ($\beta = -.033$). Conversely, gay-related hostility and violence was negatively associated with internalised homonegativity ($\beta = -.029$).

Finally, respondents who were confident that they could get an (other) HIV test scored lower on internalised homonegativity (Pearson's $r = -.137$, $p < .001$) and having tested for HIV in the past year was negatively associated with internalised homonegativity (Pearson's $r = -.114$, $p < .001$).

Table 3
Multiple regression on internalised homonegativity: macro-level model.

	B (SE)	β	95% CI	
Recognition of same-sex relationships	-.584 (.094)	-.709	-.775 to -.392	**
Same-sex marriage	.014 (.154)	.012	-.300 to .327	
Same-sex adoption	-.418 (.153)	-.394	-.730 to -.107	*
Gays can serve openly in the military	-.216 (.146)	-.142	-.514 to .082	
Anti-discrimination law for sexual orientation	.217 (.109)	.254	-.005 to .439	
Adj. R^2	.69			

Entries are results of a simultaneous multiple regression with the internalised homonegativity scale as dependent variable. Sources: EMIS, list of LGBT rights ($n = 38$ countries). * $p < .01$; ** $p < .001$.

Table 4
Multiple regression on internalised homonegativity: meso-level model.

	B (SE)	β	95% CI	
Justify homosexuality	-.003 (.003)	-.132	-.009 to .004	
Don't like homosexuals as neighbours	.011 (.002)	.610	.006–.015	**
Homosexual couples should be able to adopt	-.007 (.003)	-.252	-.014 to .000	
Adj. R^2	.84			

Entries are results of a simultaneous multiple regression with the internalised homonegativity scale as dependent variable. Sources: EMIS, European Values Survey ($n = 38$ countries). ** $p < .001$.

Discussion

Our research in identifying and understanding structural and environmental factors associated with internalised homonegativity represents an important examination to disentangle the multiple influences of social determinants on homonegative internalisations. We found that state laws related to same-sex relationships and adoption rights for homosexuals affect MSM's level of homonegative internalisation. The display of anti-gay sentiments through populations' dislike for homosexuals as neighbours is a continuation of homonegativity in legislation and represents a further environmental factor that indexes community climate for gay and bisexual people and that affects their well-being. Our results show that one insidious consequence of society's stigma towards homosexuals is the internalisation of that stigma by gay and bisexual men themselves, thus, drawing attention to the importance of promoting social equity for self-acceptance around gay identity in building a positive sense of self.

Encouragingly, the discussion paper leading to the Rio Political Declaration on Social Determinants of Health, adopted in October 2011, expressly mentioned discrimination of sexual minorities as a structural determinant of health (WHO, 2011). Researchers like Wilkinson (1997) have long argued, and thoroughly shown, that a person's health is sensitive to his or her social position. For example, Wilkinson presents ample evidence that racial discrimination has direct health effects. Our research, however, is among the first to produce empirical evidence showing that gay well-being is moulded in the context of legal and social stigma towards gays. The results add credence to pioneering research by Rosser et al. (2011), who compared eight pro-gay policy cities in the USA with eight anti-gay policy cities. The researchers identified that MSM in anti-gay cities experienced more violence, less support, and poorer mental health. Less community gay tolerance, in turn, predicted higher internalised homonegativity. As evident in Table 2, and shown in another analysis of EMIS data (Ross et al., submitted for publication), across Europe, countries form a regional pattern of liberal northern and western countries, moderately gay-friendly

Table 5
Multiple regression on internalised homonegativity: Micro-level model.

	B (SE)	β	95% CI	
Exposed to gay-related hostility/violence	-.009 (.001)	-.029	-.011 to -.008	***
Exposed to HIV/STI info for MSM last year	-.326 (.009)	-.099	-.344 to -.308	***
Access to HIV testing	-.293 (.014)	-.073	-.320 to -.267	***
Access to STI testing	-.232 (.012)	-.068	-.255 to -.209	***
Access to condoms last year	-.100 (.009)	-.033	-.117 to -.084	***
Adj. R^2	.03			

Entries are results of a simultaneous multiple regression with the internalised homonegativity scale as dependent variable. Source: EMIS ($n = 144,177$ men). *** $p < .001$.

southern and eastern countries, and largely gay-hostile south-eastern and post-Soviet-Union European countries with regards to prejudice against homosexuals. Our results and examination of this pattern indicate that cultural values expressive of homonegativity are associated with legal protection for gays specific to a given country. Previous studies investigating the influence of macro-level determinants of attitudes towards homosexuality in Europe found that more modernised, urbanised, post-materialistically-oriented countries with less religious influence tended to exhibit more accepting attitudes towards homosexuality (Gerhards, 2010; Inglehart, 1997; Stulhofer & Rimac, 2009). Our results fit well with these previous findings. Further, we note that the gender equity variable was strongly associated with the other macro-level variables, and that it's the more modernised countries, with less rigid gender norms, that have enacted progressive policies for LGB individuals. Ostensibly, a failure to pass policies for sexual minorities is linked with inflexible and inequitable gender norms. In essence, homonegativism and sexism may be aspect of the same problem, which has implications for many aspects of MSM's health, including HIV (AIDSTAR-One, 2012). The intersection of gender inequity, (internalised) homonegativism, and HIV should be examined in future research, through for example inclusion of the Gender-Equitable Men Scale (Popcouncil, n.d.).

We not only found that social marginalisation at the societal structure of rule-systems and communities' expressed values were precursors to internalised homonegativity among European MSM, but also marginalisation in terms of a lack of sexual health promotion measures for MSM in their local environments. The model's explanatory power was considerably smaller than for the macro- and meso-level models, suggesting that the impact of such measures on men's internalised homonegativity is limited. Nonetheless, when access to sexual health promotion was restricted in their environment – access to HIV testing in particular – MSM exhibited higher levels of internalised homonegativity. While countries' investment in HIV-related prevention measures for MSM may not be an expression of levels of gay bias, men's limited access to health care services and its effect on internalised homonegativity may exacerbate their vulnerability to HIV. Others (Huebner, Davis, Nemeroff, & Aiken, 2002) have reported that awareness of HIV prevention programming was negatively related to internalised homonegativity.

Finally, in separate univariable analyses, we identified that internalised homonegativity had a strong association with both confidence in being able to get an HIV test and actually testing for HIV. This is not surprising, given much stigma associated with HIV/AIDS has derived from its association with homosexuality (Herek & Capitanio, 1999). Following the reflections above, we stress that HIV continues to exact an enormous toll on society and to disproportionately affect gay and bisexual men and other MSM. The fact that internalised homonegativity appears to discourage HIV-testing has serious implications, given the relevance of testing to curbing the spread of HIV as well as timely treatment and care efforts. In a recent study among racially and ethnically diverse MSM, high internalised homonegativity emerged as a strong predictor of undiagnosed HIV infection (Young, Shoptaw, Weiss, Munjas, & Gorbach, 2011), providing supporting evidence that stigma may reduce MSM's willingness to test for a disease that remains stigmatised in many communities, including gay communities (Courtenay-Quirk, Wolitski, Parsons, & Gomez, 2006). Similarly, a study examining the impact of internalised homonegativity on MSM's engagement with HIV prevention programmes concluded that high self-stigma was a barrier to community-based HIV prevention efforts. Internalised homonegativity was negatively associated with awareness of services and comfort with a group-structured HIV prevention intervention (Huebner et al., 2002). It

is likely that initiatives aiming to lower MSM's sense of self-stigma would help increase engagement with sexual health promotion services, including HIV prevention programmes.

Contrary to our hypothesis, the findings showed that greater experiences of gay-related harassment was negatively associated with internalised homonegativity. This association may be related to the possibility that those men who have low internalised homonegativity also are more 'out' about being gay, and therefore experience more harassment. In a related paper, we established that being younger and 'closeted' as MSM were associated with higher scores on the internalised homonegativity scale (Berg, Weatherburn, Ross, & Schmidt, submitted for publication), which is in line with previous research (Cox, van den Berghe, Dewaele, & Vincke, 2010; Cox, Dewaele, van Houtte, & Vincke, 2011).

The findings canvassed above have implications for national policy, HIV prevention among MSM, and future research initiatives. A key policy implication of our results, highlighting that the provision of equal rights for LGB people in the form of legal instruments such as recognition of same-sex relationships and adoption can positively influence their self-stigma, is to encourage policy makers to introduce these legal frameworks. Importantly, we stress that although much research has documented the mental health effects and other negative sequelae of internalised homonegativity (e.g., Cochran, 2001; Cox et al., 2010; D'Augelli, 2006; Kuyper & Fokkema, 2011; Mays & Cochran, 2001; Rosser et al., 2008; Van den Berghe, Dewaele, Cox, & Vincke, 2010), and the construct itself can be viewed as an aspect of chronic mental stress (Meyer, 1995; 2003, 2007), compromised health among LGB people is irrelevant to whether sexual minorities should have equal rights, such as the right to assembly and adoption. Denial of equal rights for gay and bisexual people is injustice in and of itself, regardless of whether it has detrimental health effects. However, one reason for the low priority given to equity for LGB communities in some countries is likely the dearth of evidence on the ways in which the structural and social environment affect gay and bisexual individuals' vulnerability and our research is one of the first to address these lacunae.

Laws are important in that they can be effective vehicles for advancing rights and they signal political commitment towards minority groups whose rights are at risk. Legal decisions, in turn, can have important effects on policies, which are powerful means for organising the values and general strategies of governments to reduce inequity (Gloppen & Roseman, 2011). Wilkinson and Marmot (2003) similarly posit that social policies can play an important role in shaping the structural and social environment in ways conducive to better health. Our results indicate advantages in creating affirmative legal and policy environments as well as improving the community climate for LGB persons in European countries through initiatives which aim to create more equitable and supportive milieus for LGB communities. Structural and societal prejudice against gays is deeply embedded within some political and social norms, but our research shows that it is not static. Rather, prejudice is constructed – culturally, historically and otherwise – and thus vulnerable to political pressure.

Legal rights and affirmative policies are obviously not the only social determinants of health and well-being – efforts to change the environment for gays must proceed at multiple fronts simultaneously – but the provision of such legal protections and rights have been shown also to affect community values (Bunch, 1995). Nondiscrimination provisions send a signal to all that homosexuals are valued citizens and that heterosexism is not acceptable. Anderssen and Slåtten (2008) write that increased acceptance of non-heterosexual expressions are most often explained by incremental changes combined with increased visibility in a range of social arenas. Our suggestions are what Fenton and Imrie (2005)

call 'upstream factors' for creating healthier sexual lives for MSM and in line with Coleman (2007; 2011) who argues that sexual rights is a mechanism to improve sexual health, which can be helpful also in improving access to HIV prevention interventions among MSM. In addition to a chief focus on primary prevention aimed at changing gay prejudice in the structural and social environment, to affect homonegative internalisations and thus HIV preventive behaviours among MSM, a need for increased access to sexual health promotion measures for MSM is indicated. One possible strategy towards HIV prevention among MSM is environmental interventions that aim to increase the visibility of LGB people and issues.

As the recent World Conference on Social Determinants of Health illustrates (<http://www.who.int/sdhconference/en/>), interest in the social determinants of health is gaining momentum, and there is a strong case at this time for concentrating on this issue for more specific and comprehensive examinations of the effects of structural and social arrangements on the lives of MSM and other gay and bisexual individuals. These issues have yet to gain real traction within empirical research, thus the range of evidence on the different ways in which prejudiced environments affect LGB individuals' health is needed. Research into the protective mediators of internalised homonegativity would be helpful as would analyses of factors that might mitigate it throughout the life trajectory. As our research shows, the degree to which MSM are exposed to homonegativity and then internalise those beliefs is highly contextual, but longitudinal research is needed to examine the extent to which and under what conditions internalised homonegativity vary across time (Szymanski, Kashubeck-West, & Meyer, 2008). Research into the 'outcomes' of internalised homonegativity such as sexual dissatisfaction, substance use, and related health behaviours must continue. Ultimately, evaluations of various initiatives for circumventing homonegative internalisations should be initiated.

A strength of our research is the focus on the structures of inequity and prejudice while placing the issue of internalised homonegativity in a health context. The innovation of our analysis is a framework with varied sources of data for understanding the effects of societal structures and aspects of the environment on the well-being of MSM, which heeds former US Surgeon General Satcher's (2010) call to elevate the profile of structural determinants in public health.

By using Internet-based survey methodology, EMIS was able to recruit the world's largest sample of MSM, including almost 180,000 MSM from 38 countries. The range of MSM milieus is therefore likely good, despite being recruited through the Internet. Such samples tend to be more urban, younger, single, and have higher education (Ross, Månsson, Daneback, Cooper, & Tikkanen, 2005, Ross, Tikkanen, & Månsson, 2000). Consensual sex between adult males is legal in all included countries and the level of homonegative internalisations, and consequent health effects, are likely to be higher in countries where it is illegal. We also acknowledge the limitation concerning the smaller proportions of respondents from Eastern European countries, and the fact that potentially important socio-demographic characteristics, such as ethnicity and religious affiliation, were not measured. It is also likely that men who have negative attitudes towards their own sexual orientation are less likely to visit gay websites and volunteer for research about MSM. The recruitment strategy may therefore have influenced the results in that it underestimates levels of internalised homonegativity, suppresses the potential to find large effects, and limits the generalisability of findings to MSM who use gay websites and select to participate in a study on MSM. Future studies using diverse recruitment methods are needed to expand our research to the effects on specific MSM, such as more closeted MSM. Given the self-report nature of the study we also cannot rule

out response bias. Self-reporting of internalised homonegativity is affected by social desirability (Shidlo, 1994), thus men may have underreported their feelings of self-stigma, as has been suspected in related studies (Huebner et al., 2002). Lastly, the study's cross-sectional design precludes assessment of the causal direction of associations between presumed predictors and internalised homonegativity. Nonetheless, the theoretical explanations of associations found in our study can inform further research with longitudinal designs.

This is the largest and certainly most geographically diverse study to date to examine not just the levels but predictors of internalised homonegativity among MSM in European countries. Our results show that in countries where there is legal recognition of same-sex relationships, legal recognition of same-sex adoption and where smaller proportions of the population prefer not to have homosexuals as neighbours, MSM exhibited lower levels of homonegative internalisation. In addition to highlighting the macrosocial aspects of the issue, the results show that at the more localised level, perceived inaccessibility of sexual health services were associated with higher internalised homonegativity. Greater homonegative internalisations, in turn, predicted not testing for HIV. This research represents an important first step in empirically investigating the way social determinants at national and local levels can impact the well-being of MSM.

Acknowledgements

The EMIS Network thanks the more than 180,000 men who responded to the survey, the more than 235 websites that promoted the survey, and particularly those that sent individual messages to their users: PlanetRomeo, Gaydar, Manhunt, Qruiser, and Qguys. We also thank all NGOs that promoted our survey. Without this help, EMIS's success would not have been possible. We are grateful for being granted permission to use European Values Survey data and the statistical expertise provided by Jan Odgaard-Jensen. EMIS was funded by: Executive Agency for Health and Consumers (EAHC); Centre d'Estudis Epidemiològics sobre les ITS/HIV/SIDA de Catalunya (CEEISCat); Terrence Higgins Trust for the CHAPS partnership (England); Regione de Veneto; Robert Koch Institute; Maastricht University; German Ministry of Health; Finnish Ministry of Health; Norwegian Institute of Public Health; and the Swedish Board of Health and Welfare.

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