Prevalence and Predictors of High Sexual Prejudice Among Medical Students From Two Colombian Cities

Ludwing Flórez-Salamanca¹, Edwin Herazo², Heidi Celina Oviedo², and Adalberto Campo-Arias²

Abstract
Around the world, sexual prejudice is still a concerning attitude present in health care providers and institutions. Identification of sexual prejudice during medical training could be an initial strategy to improve health care assistance to this particular population. Despite significant knowledge in the area, almost all previous studies were based on samples from developed countries, and there are no studies evaluating sexual prejudice and its conditionings among Latin American medical students. Objectives of the study were to estimate prevalence and predictors of sexual prejudice among medical students from two large cities in Colombia. This research found that 22.9% of medical students had a high sexual prejudice. Males and individuals with high religiosity were associated with a higher sexual prejudice and may require more sensitization and education in the area. Medical training represents a very good opportunity to approach the problem and decrease sexual prejudice in future physicians.

Keywords
prejudice, students, medical, homosexuality, delivery of health care

Introduction
Homophobia is generally understood as a negative attitude or disposition to homosexual people (Fone, 2008). However, there is controversy about this name, not only about the term itself but also on the dimensions covered by the construct (Ahmad & Bhugra, 2010; Chonody, 2013; Herek, 2000, 2004).

The greatest objection to the name of homophobia lies in the point that this negative attitude toward homosexual people is not really a phobia, but a prejudice (Chonody, 2013; Herek, 2000). According to the American Psychiatric Association (2013) and the World Health Organization (1993), a phobia is a clinical disorder characterized by a marked and persistent fear that is excessive or unreasonable beliefs that trigger an object, event, or situation; in most cases, people presenting these statements recognize the nature of this unfounded and disproportionate fear. However, people showing a negative attitude toward homosexuals do not do so because they perceive that their physical and emotional integrity is compromised, and they also consider their attitudes as justified (Herek, 2000).

Consequently, authors have proposed several nominations for the unfavorable attitude toward homosexual people. First, K. T. Smith (1971) introduced the term *homophobia* in the medical context (Medline) as a “negative,” “repressive,” or “fearful” response toward homosexuality. However, in some academic circles, it is said that Weinberg (1972) coined and first used the term homophobia prior to Smith (Herek, 2000).

Given the etymological and conceptual vagueness of the term homophobia, other names were proposed: homonegativity (Hudson & Ricketts, 1980), homoprejudice (Logan, 1996), heterosexism, and sexual prejudice (Chonody, 2013; Herek, 2000, 2004).

Herek (2000) defined sexual prejudice as having opposing attitudes toward a person because of his or her sexual orientation. Heterosexuals’ aversive attitudes also include homosexual behavior and the community of gay, lesbian, bisexual, transsexual, and transgender people.

In this study, the authors prefer to use the term sexual prejudice rather than homophobia as it is a more neutral term and makes no assumptions about underlying reasons that account for the negative attitudes toward homosexuals (Herek, 2000, 2004).

¹Department of Psychiatry, College of Physicians and Surgeons, New York State Psychiatric Institute, Columbia University, New York, NY, USA.
²Human Behavioral Research Institute, Bogotá, Colombia

Corresponding Author:
Adalberto Campo-Arias, Instituto de Investigación del Comportamiento Humano, Avenida Carrera 15 No. 99-13, Oficina 405, Bogotá 110221, Colombia.
Email: campoarias@comportamientohumano.org
This conceptualization is consistent with the perspective of social psychology that considers that stigma, prejudice, and discrimination are widely interrelated. Then, sexual stigma implies a negative differentiation by non-heterosexual sexual orientation. This point of view translates into negative stereotyping of homosexual people (prejudicial attitudes) that, finally, aims to social exclusion or discriminatory behaviors (Phelan, Link, & Dovido, 2008).

Although recent social and legislative efforts have pursued equality of rights regardless of sexual orientation, sexual prejudice is still a concerning attitude present in health care providers and health care institutions around the world (Brotman, Ryan, Jalbert, & Rowe, 2002; Eliason, 2000; Eliason & Hughes, 2004; Hatzenbuehler, Keyes, & Hasin, 2009; Lane, Mogale, Struthers, McIntyre, & Kegeles, 2008; Rose, 1994; D. M. Smith & Mathews, 2007; Speight, 1995).

Sexual prejudice in health care providers has several negative outcomes for homosexual people (Arnold, Voracek, Musalek, & Springer-Kremser, 2004; Dysart-Gale, 2010; Kan et al., 2009; Klamen, Grossman, & Kopacz, 1999; McGorry, McDowell, & Muskin, 1990; McKelvey, Webb, Baldassar, Robinson, & Riley, 1999; Parker & Bhugra, 2000; Plummer, 1995; Sanchez, Rabatin, Sanchez, Hubbard, & Kalet, 2006; Skinner, Henshaw, & Petrak, 2001; D. M. Smith & Mathews, 2007; Wallick, Cambre, & Townsend, 1993), including feelings of discomfort (Sanchez et al., 2006; Speight, 1995), poor communication (DeHart, 2008), disruption of development of a positive alliance with patients and disregard of specific health and health care needs (Campo-Arias, Herazo, & Cogollo, 2010; Obedin-Maliver et al., 2011; Sinding, Barnoff, & Grassau, 2004; Taylor & Robertson, 1994).

Sexual prejudice leads to less access and underutilization of the health care services among homosexual people, an unequal treatment, and less quality of care (Bergeron & Senn, 2003; DeHart, 2008; O’Hanlan, Cabaj, Schatz, Lock, & Nemrow, 1997; Saulnier, 2002; Sinding et al., 2004; Willging, Salvador, & Kano, 2006).

Homosexual people are part of a minority with a higher risk for psychiatric disorders (Bolton & Sareen, 2011; Fergusson, Horwood, & Beautrais, 1999; King et al., 2008; McCabe, Hughes, Bostwick, West, & Boyd, 2009; Oswald & Wyatt, 2011), sexually transmitted diseases (Lindley, Nicholson, Kerby, & Lu, 2003; Park & Palefsky, 2010), poorer health outcomes (Cochran & Mays, 2011; Dysart-Gale, 2010), social marginalization (Savin-Williams, 1994; Wexler, DiFluvio, & Burke, 2009), and needs of particular health care (Garofalo & Katz, 2001; Taylor & Robertson, 1994). A health care system may not always fulfill the needs of homosexual patients (Williams & Chapman, 2011). For this reason, the presence of sexual prejudice in health care providers is likely to have a particular negative impact on this minority with public health implications (Plummer, 1995; Speight, 1995). Identifying sexual prejudice in individuals during medical training could be an initial strategy to improve health care assistance to this particular population (Lock, 1998).

High rates of sexual prejudice have been reported for students in different health care careers, including nursing (Campo-Arias et al., 2010; Röndahl, Innala, & Carlsson, 2004; Schlub & Martzolf, 1999) and psychology (Jones, 2000). This finding has also been replicated in medical students from developed countries (Arnold et al., 2004; Kan et al., 2009; Klamen et al., 1999; McGorry et al., 1990; McKelvey et al., 1999; Parker & Bhugra, 2000; Sanchez et al., 2006; Skinner et al., 2001; Wallick et al., 1993).

Rates of sexual prejudice among physicians in training in developed countries range between 15% and 25% (Arnold et al., 2004; Kan et al., 2009; Klamen et al., 1999; McGorry et al., 1990; McKelvey et al., 1999; Parker & Bhugra, 2000; Sanchez et al., 2006; Skinner et al., 2001; Wallick et al., 1993). High sexual prejudice is more frequent in males than in females (Kan et al., 2009; Klamen et al., 1999), highly religious students (Kan et al., 2009; Parker & Bhugra, 2000), and low-income participants (McKelvey et al., 1999).

Despite significant knowledge in the area, previous studies were based on samples from developed countries (Arnold et al., 2004; Kan et al., 2009; Klamen et al., 1999; McGorry et al., 1990; McKelvey et al., 1999; Parker & Bhugra, 2000; Sanchez et al., 2006; Skinner et al., 2001; Wallick et al., 1993). To the best of our knowledge, there are no studies evaluating sexual prejudice and its conditionings among medical students from Latin America or other developing countries. Besides local implications, this is a relevant issue since the majority of migration of health care professionals and physicians in particular occurs from developing to developed countries (Gadit, 2008; Scott, Whelan, Dewdney, & Zwi, 2004). Indeed, about a quarter of board certified doctors in the United States received medical education in a foreign country (National Residency Matching Program, 2011; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, 2009), with a large part of them being from Latin America (Association of American Medical Colleges, Diversity Policy and Programs, 2010).

We hypothesized that sexual prejudice in a sample from medical students in Colombia would be at least as high as in developed countries, with similar predictors as for their counterparts from developed countries. To examine this hypothesis, we designed a study which aimed to estimate the prevalence and predictors of sexual prejudice among medical students from two large Colombian Andean cities.

**Method**

**Participants**

The study sample consisted of 948 medical students above 18 years old from Bogota and Bucaramanga, a large city and a medium-sized city, respectively, in the Colombian Andean
region. Informed consent was provided by all the participants according to Institutional Review Board regulations.

**Procedure**

As part of a cross-sectional study, researchers asked medical school students to take part in a survey regarding their attitudes toward homosexual men and women. Study participation was voluntary, without compensation and under conditions of confidentiality and anonymity. Students received an envelope containing the questionnaires; they completed the questionnaires in a classroom and returned them in a closed envelope. The questionnaire gathered information regarding age, gender, medical school year, religion, and socioeconomic status (SES) according to the city’s classification of neighborhoods’ public service fees. In addition, participants completed the Spanish version of the five-item Francis Scale of Attitude Toward Christianity (Campo-Arias, Oviedo, & Cogollo, 2009; Miranda-Tapia, Cogollo, Herazo, & Campo-Arias, 2010) and the Homophobia Scale by Bouton et al. (1987). All procedures received full ethical review and approval from the Institutional Review Board.

**Measurements**

The five-item Francis Scale of Attitude Toward Christianity is a Likert-type scale that assesses attitudes toward key aspects of religiosity (Campo-Arias et al., 2009; Miranda-Tapia et al., 2010). It allows quantification of intrinsic religiosity in relation to Catholicism and Christianity, which are highly prevalent in Colombia, as well as other Latin American countries (Central Intelligence Agency, Office of Public Affairs, 2012). Each item gives five options measured from 1 to 5, ranging from *strongly disagree* to *strongly agree*. Higher final scores represent higher religiosity. Scores above 16 were considered “high religiosity.” This instrument has been used in previous studies showing high internal consistency and stability (Campo-Arias et al., 2009; Miranda-Tapia et al., 2010).

The original English version of the Homophobia Scale proposed by Bouton et al. (1987) was translated into Spanish by two professionals. In addition, a native speaker back translated into English. Differences between the original and the back-translated English versions were discussed and resolved, resulting in corrections of the initial Spanish translations. The Homophobia Scale is a seven-item scale that assesses attitudes toward homosexuality, including behavior, values, rights, penalty, and contribution to society of nonheterosexual men and women. Scores range from 7 to 35. Higher scores represent less acceptability of homosexuality. We dichotomized scores above 22 as “high sexual prejudice,” after observing score distribution.

**Statistical Data Analyses**

Prevalence of all the covariates and the dependent variables was calculated for the sample. Odds ratios (ORs) with a 95% confidence interval were used to measure the association of the covariates with “high sexual prejudice” as the dependent variable in a simple logistic regression model according to Greenland (1989). Those analyses were followed by a binomial logistic regression model to account for confounders. The Hosmer–Lemeshow test of goodness of fit was obtained for the model (Hosmer, Taber, & Lemeshow, 1991). All the analyses were obtained using SPSS version 19.0 (SPSS Inc., 2010).

**Results**

A total of 779 students (82.2%) completed questionnaires; however, 112 questionnaires (11.8%) with missing data were excluded from the analysis. Then, the study sample consisted of 667 medical students. The overall survey response rate was 70.3%.

According to city, 51.1% of students were from Bogota and 48.9% from Bucaramanga. Regarding their year of education, 407 (61.0%) of the participants were in their first or second year of medical school, while 260 (39.0%) were completing clinical rotations in their third to fifth year.

**Sociodemographic Characteristics, Religious, and Sexual Prejudice in the Sample**

The ages of the respondents ranged between 18 and 31 years, with a mean of 20.1 years (SD = 2.7 years). A total of 361 participants (54.1%) were between 18 and 20 years old and 306 (45.9%) were older than 20; 404 participants (60.6%) were women and 263 (39.4%) were men; and 150 students (22.5%) reported a high SES as opposed to 517 (77.5%) who reported a non-high SES.

A total of 582 students (87.3%) defined themselves as Catholics, whereas 85 (12.7%) were followers of Protestant or evangelical religions; 360 participants (54.0%) reported a high religiosity, whereas 307 (46.0%) reported a low level of religiosity. Internal consistency as estimated by Cronbach’s alpha was excellent (.96).

Scores on the Homophobia Scale ranged from 7 to 34 (M = 17.9, median = 18, mode = 18, SD = 5.5). Data did not show a normal distribution (Shapiro–Francia test, p = .003), so interquartile range (IQR) was taken as a cut-off point (IQR = 14 to 21). Values lower than 14 were categorized as low sexual prejudice; between 14 and 21, medium; and 22 or above, high sexual prejudice. Internal consistency as estimated by Cronbach’s alpha was very good (.79).

A total of 146 students (21.6%) reported low sexual prejudice; 368 (55.2%), medium; and 153 (22.9%), high. So, the group of students who scored low and medium sexual prejudice was as similar as in terms of age, gender, clinical rotation, SES, religious affiliation, and religiosity, and they were taken as one category in the analysis.

**Association of Predictors to “High Sexual Prejudice”**

The associations between the assessed variables and sexual prejudice are presented in Tables 1 and 2. In the bivariate model, male gender, high religiosity, and Protestant religion other than Catholic and other affiliation were significantly
associated with high sexual prejudice. The multivariate model that followed included high religiosity, Protestants other than Christian religion, and male gender, which significantly increased the risk for high sexual prejudice about twofold.

**Discussion**

An estimated 22.9% of medical students from two Colombian cities had a high sexual prejudice. Of several investigated predictors for sexual prejudice in this population, high religiosity, Protestant affiliation more than other affiliations, and male gender were found to be significant and potentially relevant targets of intervention for sensitization of medical students toward sexual prejudice and homosexuality.

In our study, 22.9% of medical students reported a high sexual prejudice. Ranges of sexual prejudice in previous studies in medical students are from around 15% in samples from the United States and the United Kingdom (McGrory et al., 1990; Parker & Bhugra, 2000; Skinner et al., 2001; Wallick et al., 1993) to 25% in samples from Hong Kong, Austria, and a sample from the Midwest of the United States (Arnold et al., 2004; Dhaliwal, Crane, Valley, & Lowenstein, 2013; Kan et al., 2009; Klamen et al., 1999).

According to our findings, sexual prejudice is highly prevalent among physicians in training in Colombia. Different cultural and societal factors could explain the higher sexual prejudice among Hispanic societies. Stronger male roles, conservatism, and high religiosity could explain part of the difference (Estrada, Rigali-Oiler, Arciniega, & Tracey, 2011; Seltzer, 1992; Torres, Solberg, & Carlstrom, 2002; Quevedo-Gomez et al., 2011).

The lack of association between age and sexual prejudice in the present study is inconsistent with previous research among college students. Jenkins, Lambert, and Baker (2009); Johnson, Brems, and Alford-Keating (1997); and Parker and Bhugra (2000) reported that older age was associated with more positive attitudes toward homosexuality. However, Lambert, Ventura, Hall, and Cluse-Tolar (2006) did not find any association. It is uncertain how chronological age contributes for attitudes toward homosexuality in college students (Lewis, 2003).

In our study, the predictors of high sexual prejudice were male gender and high religiosity. The finding that male medical students had a higher sexual prejudice than women has also been found in previous studies (Kan et al., 2009; Klamen et al., 1999). Given the higher visibility of homosexuality among men compared with women, it could be possible for men to report sexual prejudice more than women. It has also been proposed that males have much more to lose than females by challenges to traditional sex roles (Baker & Fishbein, 1998), and it could be represented as more sexual prejudice (Herek & Gonzalez-Rivera, 2006).

Regarding years of medical training, we did not find any difference between students in preclinical years and students in the clinical stage who had regular contact with all kinds of patients. Similarly, in China, Hon et al. (2005) found no significant differences between attitudes of medical students in the clinical stage and those in their preclinical years. However, Jenkins et al. (2009) observed in college students in the United States that upper-level students showed significantly more positive views toward homosexuality than lower-level students. In the general population, years of education is clearly associated with more positive attitudes toward homosexuality (Lambert et al., 2006; Lemelle & Battle, 2004). Higher education is related to liberal opinion, so these ideas make people more tolerant (Ohlander, Batalova, & Treas, 2005). But, it seems that medical students are more conservative than students of other careers (Kan et al., 2009), and academic training does not strongly affect the opinion about homosexuality. Before starting college, medical students may have more traditional gender attitudes (Baker & Fishbein, 1998; Herek & Gonzalez-Rivera, 2006) due to heterosexism and heteronormative assumptions (Jayakumar, 2009).

In the present research, SES was not related to sexual prejudice in medical students as it was previously shown by Barrientos and Cárdenas (2012) in college students from Chile; SES did not affect scores for attitude toward homosexuality. Nevertheless, McKelvey et al. (1999) in medical students and Teney and Subramanian (2010) in adolescents found that higher SES was associated with more positive attitudes toward homosexuality. It is possible that in Hispanic

---

**Table 1. Variables Associated With High Sexual Prejudice Among Medical Students From Two Colombian Cities.**

| Variable                      | OR   | 95% CI  |
|-------------------------------|------|---------|
| Older than 20 years           | 1.10 | [0.72, 1.79] |
| Male gender                   | 1.61 | [1.12, 2.32] |
| Clinical rotations            | 1.05 | [0.73, 1.52] |
| High socioeconomic status     | 1.03 | [0.67, 1.58] |
| Protestant religion           | 5.55 | [3.35, 9.20] |
| High religiosity              | 2.22 | [1.52, 3.26] |

Note. Hosmer–Lemeshow $\chi^2 = 2.161$; degrees of freedom $= 3$; probability $= .540$.

**Table 2. Binomial Logistic Regression for Predictors of High Sexual Prejudice Among Medical Students From Two Colombian Cities.**

| Variable                      | OR   | 95% CI  |
|-------------------------------|------|---------|
| Protestant religion           | 5.37 | [3.23, 8.92] |
| High religiosity              | 2.15 | [1.44, 3.19] |
| Male gender                   | 1.85 | [1.23, 2.79] |
countries, the misunderstandings and stereotypes of homosexuality may be beliefs that are culturally ingrained, independently of SES (Estrada et al., 2011; Torres et al., 2002).

In our study, other predictors of high sexual prejudice were high religiosity and Protestant affiliation. In accordance with previous studies (Kan et al., 2009; Parker & Bhugra, 2000), we found that high religiosity was a predictor of sexual prejudice among medical students. This association can be explained by two mechanisms: social causation and social selection (Dohrenwend et al., 1992). As some religions do not consider homosexual behavior as acceptable, this idea may be transmitted to their followers. Also, consistent with previous research, it is well accepted that the more fundamentalist religious affiliation, the more aversive attitude toward homosexuality (Francis & Hermans, 2000; Gromer, Campbell, Gomori, & Maynard, 2013; Herek & Gonzalez-Rivera, 2006; M. Smith & Marden, 2013).

Identifying the predictors of sexual prejudice among medical students is very important as it allows the identification of groups in which the prejudice may be present to facilitate the implementation of preventive programs to decrease it. Education directed at understanding diversity and discussions concerning beliefs associated with this subject may be implemented in males and students with a high religiosity to improve their future patients’ health care (Campo-Arias et al., 2010; Obedin-Maliver et al., 2011).

The finding of this level of sexual prejudice in future physicians is particularly alarming because, if left unchanged, such attitudes are likely to substantially affect patient care in sexual minorities (Klamen et al., 1999). During graduate education, it is important to enable students to realize that their sexual prejudice might affect their clinical judgment and prevent them from delivering optimal care to their patients (Kan et al., 2009). There is a highlight need for addressing sexual prejudice in Colombian medical schools curricula. In other countries, attempts to improve medical education concerning sexual prejudice were promising (Lock, 1998).

Furthermore, discussing homosexuality openly with patients who are willing to do so may not only benefit the patient but also the physician in training to decrease sexual prejudice (Lock, 1998). However, positive attitudes role-modeled by teachers and mentors are essential. To accomplish this, faculty and attending physicians may demonstrate clinical empathy for homosexual patients (Klamen et al., 1999; Lock, 1998; Robb, 1996). The limited knowledge of faculty and staff on homosexuality should also be addressed in similar ways as previously proposed.

Our study could present at least two limitations: First, results were obtained from students of two universities in the Andean region of Colombia, so these results cannot be generalized to the rest of the population of Colombian medical schools due to the sociocultural diversity of the country, and second, its own limitation of a cross-sectional study, which cannot permit inferences making about the causality, causes, and effects of the associations that were observed.

In conclusion, high sexual prejudice is a frequent attitude among medical students. Specific groups like males and individuals with high religiosity may require more sensitization and education in the area. Medical training represents a very good opportunity to approach the problem and implement strategies to decrease sexual prejudice in future physicians. Different strategies mostly involving teaching for sexual stigma, prejudice, and discrimination and reinforcement by the example of faculty and staff are essential to decrease sexual prejudice among medical students.

Declaration of Conflicting Interests
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The author(s) disclosed receipt of the following financial support for the research and/or authorship of this article. This research was supported by Human Behavioral Research Institute, Bogota, Colombia.

References
Ahmad, S., & Bhugra, D. (2010). Homophobia: An updated review of the literature. *Sexual and Relationship Therapy*, 25, 447-455.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: American Psychiatric Publishing.

Arnold, O., Voracek, M., Musalek, M., & Springer-Kremser, M. (2004). Austrian medical students’ attitudes towards male and female homosexuality: A comparative survey. *Wien Klin Wochenschr*, 116, 730-736.

Association of American Medical Colleges, Diversity Policy and Programs. (2010). *Diversity in the physician workforce facts & figures 2010*. Retrieved from http://www.aamc.org/factsandfigures

Baker, J. G., & Fishbein, H. D. (1998). The development of prejudice towards gays and lesbians by adolescents. *Journal of Homosexuality*, 36, 89-100.

Barrientos, J. E., & Cárdenas, M. (2012). A confirmatory factor analysis of the Spanish language version of the Attitudes Toward Lesbians and Gay Men (ATLG) Measure. *Universitas Psychologica*, 11, 579-586.

Bergeron, S., & Senn, C. Y. (2003). Health care utilization in a sample of Canadian lesbian women: Predictors of risk and resilience. *Women & Health*, 37, 19-35.

Bolton, S. L., & Sareen, J. (2011). Sexual orientation and its relation to mental disorders and suicide attempts: Findings from a nationally representative sample. *Canadian Journal of Psychiatry*, 56, 35-43.

Bouton, R. A., Gallaher, P. E., Garlinghouse, P. A., Leal, T., Rosenstein, L. D., & Young, R. K. (1987). Scales for measuring fear of AIDS and homophobia. *Journal of Personality Assessment*, 51, 606-614.

Brotman, S., Ryan, B., Jalbert, Y., & Rowe, B. (2002). The impact of coming out on health and health care access. *Journal of Health & Social Policy*, 15, 1-29.
Eliason, M. J., & Hughes, T. (2004). Treatment counselor’s attitudes toward Christianity among adolescent students. *Journal of Social Psychology, 149*, 258-262.

Central Intelligence Agency, Office of Public Affairs. (2012). *The world factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/fields/2122.html

Chonody, J. (2013). Measuring sexual prejudice against gay men and lesbian women: Development of the Sexual Prejudice Scale (SPS). *Journal of Homosexuality, 60*, 895-926.

Cochran, S. D., & Mays, V. M. (2011). Sexual orientation and health: Lesbian, gay, bisexual, transgender, intersexed, and queer youth in Canada. *Journal of Child and Adolescent Psychiatric Nursing, 23*, 23-28.

Elias, J. M. (2000). Substance abuse counselor’s attitudes regarding lesbian, gay, bisexual, and transgendered clients. *Journal of Substance Abuse, 12*, 311-328.

Elias, J. M., & Hughes, T. (2004). Treatment counselor’s attitudes about lesbian, gay, bisexual, and transgendered clients: Urban vs. rural settings. *Substance Use & Misuse, 39*, 625-644.

Dysart-Gale, D. (2010). Social justice and social determinants of health: Lesbian, gay, bisexual, transgendered, intersexed, and queer youth in Canada. *Journal of Child and Adolescent Psychiatric Nursing, 23*, 23-28.

Dysart-Gale, D. (2010). Social justice and social determinants of health: Lesbian, gay, bisexual, transgendered, intersexed, and queer youth in Canada. *Journal of Child and Adolescent Psychiatric Nursing, 23*, 23-28.

Dysart-Gale, D. (2010). Social justice and social determinants of health: Lesbian, gay, bisexual, transgendered, intersexed, and queer youth in Canada. *Journal of Child and Adolescent Psychiatric Nursing, 23*, 23-28.

Dysart-Gale, D. (2010). Social justice and social determinants of health: Lesbian, gay, bisexual, transgendered, intersexed, and queer youth in Canada. *Journal of Child and Adolescent Psychiatric Nursing, 23*, 23-28.

Elias, J. M. (2000). Substance abuse counselor’s attitudes regarding lesbian, gay, bisexual, and transgendered clients. *Journal of Substance Abuse, 12*, 311-328.

Elias, J. M., & Hughes, T. (2004). Treatment counselor’s attitudes about lesbian, gay, bisexual, and transgendered clients: Urban vs. rural settings. *Substance Use & Misuse, 39*, 625-644.

Estrada, F., Rigali-Oiler, M., Arciniega, G. M., & Tracey, T. J. (2011). Machismo and Mexican American men: An empirical understanding using a gay sample. *Journal of Counseling Psychology, 58*, 358-367.

Fergusson, D. M., Horwood, L. J., & Beautrais, A. L. (1999). Is sexual orientation related to mental health problems and suicidality in young people? *Archives of General Psychiatry, 56*, 876-880.

Fone, B. (2008). *Homophobia: A history*. Mexico: Oceano, Mexico.

Francis, L. J., & Hermans, C. A. (2000). Internal consistency reliability and construct validity of the Dutch translation of the Francis Scale of Attitude Toward Christianity among adolescents. *Psychological Reports, 86*, 301-307.

Gadit, A. A. (2008). International migration of doctors from developing countries: Need to follow the Commonwealth Code. *Journal of Medical Ethics, 34*, 67-68.

Garofalo, R., & Katz, E. (2001). Health care issues of gay and lesbian youth. *Current Opinion in Pediatrics, 13*, 298-302.

Greenland, S. (1989). Modeling and variable selection in epidemiologic analysis. *American Journal of Public Health, 79*, 340-349.

Gromer, J., Campbell, M., Gomori, T., & Maynard, D. (2013). Sexual prejudice among Barbadian University students. *Journal of Gay & Lesbian Social Services, 25*, 399-419.

Hatzenbuehler, M. L., Keyes, K. M., & Hasin, D. S. (2009). State-level policies and psychiatric morbidity in lesbian, gay, and bisexual populations. *American Journal of Public Health, 99*, 2275-2281.

Herek, G. M. (2000). The psychology of sexual prejudice. *Current Directions in Psychological Science, 9*, 19-22.

Herek, G. M. (2004). Beyond “homophobia”: Thinking about sexual prejudice and stigma in the twenty-first century. *Sexuality Research and Social Policy, 1*, 6-24.

Herek, G. M., & Gonzalez-Rivera, M. (2006). Attitudes toward homosexuality among US residents of Mexican descent. *Journal of Sex Research, 43*, 122-135.

Hon, K. L. E., Leung, T. F., Yau, A. P. Y., Wu, S. M., Wan, M., Chan, H. Y., & Fok, T. F. (2005). A survey of attitudes toward homosexuality in Hong Kong Chinese medical students. *Teaching and Learning in Medicine, 17*, 344-348.

Hosmer, D. W., Taber, S., & Lemeshow, S. (1991). The importance of assessing the fit of logistic regression models: A case study. *American Journal of Public Health, 81*, 1630-1635.

Hudson, W. W., & Ricketts, W. A. (1980). Strategy for measurement of homophobia. *Journal of Homosexuality, 5*, 357-372.

Jayakumar, U. M. (2009). The invisible rainbow in diversity: Factors influencing sexual prejudice among college students. *Journal of Homosexuality, 56*, 675-700.

Jenkins, M., Lambert, E. G., & Baker, D. N. (2009). The attitudes of Black and White college students toward gays and lesbians. *Journal of Black Studies, 39*, 589-613.

Johnson, M. E., Brems, C., & Alford-Keating, P. (1997). Personality correlates of homophobia. *Journal of Homosexuality, 34*, 57-69.

Jones, L. S. (2000). Attitudes of psychologists and psychologists-in-training to homosexual women and men: An Australian study. *Journal of Homosexuality, 39*, 113-132.

Kan, R., Au, K., Chan, W., Cheung, L., Lam, C., Liu, H., . . . Wong, W. (2009). Homophobia in medical students of the University of Hong Kong. *Sex Education, 9*, 65-80.

King, M., Semlyen, J., Tai, S. S., Killaspy, H., Osborn, D., Popelyuk, D., & Nazareth, I. (2008). A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people. *BMC Psychiatry, 8*, Article 70.

Klaman, D. L., Grossman, L. S., & Kopacz, D. R. (1999). Medical student homophobia. *Journal of Homosexuality, 37*, 53-63.

Lambert, E. G., Ventura, L. A., Hall, D. E., & Cluse-Tolar, T. (2009). Does education make a difference? *Journal of Homosexuality, 50*, 1-30.

Lane, T., Mogale, T., Struthers, H., McIntyre, J., & Kegeles, S. M. (2008). They see you as a different thing: The experiences of men who have sex with men with healthcare workers in South African township communities. *Sexually Transmitted Infections, 84*, 430-433.

Lemelle, A. J., Jr., & Battle, J. (2004). Black masculinity matters in attitudes toward gay males. *Journal of Homosexuality, 47*, 39-51.

Lewis, G. B. (2003). Black-White differences in attitudes toward homosexuality and gay rights. *Public Opinion Quarterly, 67*, 59-78.
Lindley, L. L., Nicholson, T. J., Kerby, M. B., & Lu, N. (2003). HIV/STI associated risk behaviors among self-identified lesbian, gay, bisexual, and transgender college students in the United States. *AIDS Education and Prevention, 15,* 413-429.

Lock, J. (1998). Strategies for reducing homophobia during medical training. *Journal of the Gay and Lesbian Medical Association, 2,* 167-174.

Logan, C. R. (1996). Homophobia? No homoprejudice. *Journal of Homosexuality,* 31, 31-53.

McCabe, S. E., Hughes, T. L., Bostwick, W. B., West, B. T., & Boyd, C. J. (2009). Sexual orientation, substance use behaviors and substance dependence in the United States. *Addiction, 104,* 1333-1345.

McGrory, B. J., McDowell, D. M., & Muskin, P. R. (1990). Medical students' attitudes toward AIDS, homosexual, and intravenous drug-abusing patients: A re-evaluation in New York City. *Psychosomatics,* 31, 426-433.

McKelvey, R. S., Webb, J. A., Baldassar, L. V., Robinson, S. M., & Riley, G. (1999). Sex knowledge and sexual attitudes among medical and nursing students. *Australian and New Zealand Journal of Psychiatry,* 33, 260-266.

Miranda-Tapia, G. A., Cogollo, Z., Herazo, E., & Campo-Arias, A. (2010). Stability of the Spanish version of the five-item Francis Scale of Attitude Toward Christianity. *Psychological Reports,* 107, 949-952.

National Residency Matching Program. (2011). Results and data 2011 main residency match. Retrieved from http://www.nrmp.org/wp-content/uploads/2013/08/resultsanddata2011.pdf

Obiden-Maliver, J., Goldsmith, E. S., Stewart, L., White, W., Tran, E., Brennan, S., & Lunn, M. R. (2011). Lesbian, gay, bisexual, and transgender-related content in undergraduate medical education. *The Journal of the American Medical Association, 306,* 971-977.

O’Hanlan, K. A., Cabaj, R. P., Schatz, B., Lock, J., & Nemrow, P. (1997). A review of the medical consequences of homophobia with suggestions for resolution. *Journal of the Gay and Lesbian Medical Association, 1,* 25-39.

Ohlander, J., Batalova, J., & Treas, J. (2005). Explaining educational influences on attitudes toward homosexual relations. *Social Science Research, 34,* 781-799.

Oswalt, S. B., & Wyatt, T. J. (2011). Sexual orientation and differences in mental health, stress, and academic performance in a national sample of U.S. College students. *Journal of Homosexuality,* 58, 1255-1280.

Park, I. U., & Palefsky, J. M. (2010). Evaluation and management of anal intraepithelial neoplasia in HIV-negative and HIV-positive men who have sex with men. *Current Infectious Disease Reports, 12,* 126-133.

Parker, A., & Bhugra, D. (2000). Attitudes of British medical students towards male homosexuality. *Sexual and Relationship Therapy,* 15, 141-149.

Phelan, J. C., Link, B. G., & Dovido, J. F. (2008). Stigma and prejudice: One animal or two? *Social Science & Medicine, 67,* 358-367.

Plummer, D. (1995). Homophobia and health: Unjust, anti-social, harmful and endemic. *Health Care Analysis, 3,* 150-156.

Quevedo-Gomez, M. C., Krumiche, A., Abadia-Barrero, C. E., Pastrana-Salcedo, E., & van den Borne, H. (2011). Machismo, public health and sexuality-related stigma in Cartagena. *Culture, Health & Sexuality,* 14, 223-235.

Robb, N (1996). Medical schools seek to overcome ‘invisibility’ of gay patients, gay issues in curriculum. *Canadian Medical Association Journal, 155,* 765-770.

Röndahl, G., Innala, S., & Carlsson, M. (2004). Nursing staff and nursing students’ emotions towards homosexual patients and their wish to refrain from nursing, if the option existed. *Scandinavian Journal of Caring Sciences, 18,* 19-26.

Rose, L. (1994). Homophobia among doctors. *British Medical Journal, 308,* 586-587.

Sanchez, N. F., Rabatin, J., Sanchez, J. P., Hubbard, S., & Kalet, A. (2006). Medical students’ ability to care for lesbian, gay, bisexual, and transgendered patients. *Family Medicine,* 38, 21-27.

Saulnier, C. F. (2002). Deciding who to see: Lesbians discuss their preferences in health and mental health care providers. *Social Work,* 47, 355-365.

Savin-Williams, R. C. (1994). Verbal and physical abuse as stressors in the lives of lesbian, gay male, and bisexual youths: Associations with school problems, running away, substance abuse, prostitution, and suicide. *Journal of Consulting and Clinical Psychology, 62,* 261-269.

Schlub, S. M., & Martosol, D. S. (1999). Orthodox Christian beliefs and homophobia in baccalaureate nursing students. *Nursing Forum,* 34, 15-22.

Scott, M. L., Whelan, A., Dewdney, J., & Zwi, A. B. (2004). “Brain drain” or ethical recruitment? *Medical Journal of Australia,* 180, 174-176.

Seltzer, R. (1992). The social location of those holding antihomosexual attitudes. *Sex Roles,* 26, 391-398.

Sinding, C., Barnoff, L., & Grassau, P. (2004). Homophobia and heterosexism in cancer care: The experiences of lesbians. *Canadian Journal of Nursing Research,* 36, 170-188.

Skinner, C., Henshaw, P., & Petrak, J. (2001). Attitudes to lesbians and homosexual men: Medical students care. *Sexually Transmitted Infections,* 77, 147-148.

Smith, D. M., & Mathews, W. C. (2007). Physicians’ attitudes toward homosexuality and HIV. *Journal of Homosexuality,* 52, 1-9.

Smith, K. T. (1971). Homophobia: A tentative personality profile. *Psychological Reports,* 29, 1091-1094.

Smith, M., & Marden, P. (2013). Capturing the religious spirit: A challenge for the secular state. *Journal of Church & State,* 55, 23-49.

Speight, K. (1995). Homophobia is a health issue. *Health Care Analysis,* 3, 143-148.

SPSS Inc. (2010). SPSS (Version 19) [Computer software]. Chicago, IL: Author.

Taylor, I., & Robertson, A. (1994). The health needs of gay men: A discussion of the literature and implications for nursing. *Journal of Advanced Nursing,* 20, 560-566.

Teney, C., & Subramanian, S. V. (2010). Attitudes toward homosexuals among youth in multiethnic Brussels. *Cross-Cultural Research,* 44, 151-173.

Torres, J. B., Solberg, V. S., & Carlstrom, A. H. (2002). The myth of sameness among Latino men and their machismo. *American Journal of Orthopsychiatry,* 72, 163-181.

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. (2009). *Role of international medical graduates providing office-based medical care: United States, 2005-2006*
Wallick, M. M., Cambre, K. M., & Townsend, M. H. (1993). Freshman students’ attitudes toward homosexuality. *Academic Medicine*, 68, 357-358.

Weinberg, G. (1972). *Society and the healthy homosexual*. New York, NY: St. Martins Press.

Wexler, L. M., DiFluvio, G., & Burke, T. K. (2009). Resilience and marginalized youth: Making a case for personal and collective meaning-making as part of resilience research in public health. *Social Science & Medicine*, 69, 565-570.

Willging, C. E., Salvador, M., & Kano, M. (2006). Unequal treatment: Mental health care for sexual and gender minority groups in a rural state. *Psychiatric Services*, 57, 867-870.

Williams, K. A., & Chapman, M. V. (2011). Comparing health and mental health needs, service use, and barriers to services among sexual minority youths and their peers. *Health & Social Work*, 36, 197-206.

World Health Organization. (1993). *International statistical classification of diseases and related health problems, 10th revision*. Geneva, Switzerland: Author.

**Author Biographies**

**Ludwing Flórez-Salamanca**, MD Department of Psychiatry, College of Physicians and Surgeons, New York State Psychiatric Institute, Columbia University, New York, NY, USA.

**Edwin Herazo**, MD, MSc, student of PhD in public Health at the Colombian National University and Director of the Human Behavioral Research Institute, Bogota, Colombia.

**Heidi Celina Oviedo** MD, MSc, is a member of the Human Behavioral Research Group and associate professor at the Autonomous University of Bucaramanga, Colombia.

**Adalberto Campo-Arias**, MD, MSc is the research director of the Human Behavioral Research, Institute in Bogotá, Colombia.