



# Bisexuality among a cohort of university students: prevalence and psychological distress

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## Abstract

Sociocultural prejudices and pressures may impair the mental health of bisexual people. We aim to evaluate psychological status according to sexual orientation in a sample of Italian university students, with specific attention to bisexuality and its frequency. Among a recruited sample of 551 university students, we found the following percentages for sexual orientation: heterosexuals 96.9% ( $n = 534$ ), homosexuals 1.1% ( $n = 6$ ), bisexuals 2% ( $n = 11$ ). The cross-sectional analysis for psychological symptoms, with the Symptoms Check List-90 Revised (SCL-90-R), revealed that bisexual subjects have statistically significant higher scores on some symptomatic scales compared to heterosexuals. In particular, obsession-compulsion, paranoid ideation, hostility were significantly higher in bisexuals. Therefore, if heterosexual or homosexual orientation are not specified by particular

psychological symptoms, bisexuality is characterized by a strong link with some facets of psychological distress, which are likely caused by a peculiar double stigma. In conclusion, through a specific psychometric tool, we found an association between bisexuality and various forms of psychological suffering. This evidence should further encourage clinicians to accurately assess the psychological health in young bisexual people.

## Introduction

The psychological wellness of lesbian, gay and bisexual (LGB) people is currently a matter of scientific debate and is influenced by many psychological, social and cultural aspects [1]. In this regard, homosexuals often suffer from many forms of discrimination, such as homonegativity and minority stress [2, 3]. It is well known that coming out is often ostracized because of social factors, and this can generate psychological suffering [4]. However, these aspects have not been completely investigated in bisexual people [5]. In fact, a large part of literature concerning the health of LGB individuals investigates gays, lesbians and bisexuals together and not separately, thus underestimating the distinction between homosexual and bisexual orientation, including in terms of psychological wellness.

A person is defined as homosexual when falling in love and erotic attraction are felt exclusively towards other people of the same sex, which is why the term could be inclusive of lesbian and gay people. Bisexual persons, instead, are potentially attracted sexually and/or romantically to more than one sex, but not necessarily at the same time [6]. According to ISTAT data of 2012, in Italy about one million people declared themselves homosexual or bisexual, omitting once again the behavioral differences among homosexual and bisexual orientation [7].

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On the other hand, a survey in the United States based on a representative sample of the population nationwide, found that 3.1% of adults identify themselves as bisexual, 2.5% as homosexual, and 92.7% as heterosexual. Related to the gender differences, a US epidemiological study found a higher prevalence of women who call themselves bisexual rather than lesbian (3.6% and 0.9%, respectively), while among men only 2.6% have reported being bisexual, compared with 4.2% describing themselves as gay. Another finding of this study detected a greater presence of people who say they are bisexual within the younger population compared to adults [8].

Compared to the latter, a major epidemiological study focused on mental health related to sexual orientation reported two important findings: (i) the age-dependency of bisexuality with a prevalence of bisexual orientation at age 20–24 years of 1.8% in men and 2.7% in women, whereas at age 40–44 years it was 0.8% in men and 0.8% in women; (ii) the major link between mental disorders and bisexuality compared to the other sexual orientations [9]. According to this study, bisexual subjects have more psychological problems than homosexuals and heterosexuals. In fact, it has also been shown that individuals reporting a bisexual orientation have an increased risk of suicidal behaviour (attempts and ideation), substance abuse and dependence than either heterosexual or homosexual people [10, 11]. Another large British study on sexual minority women, for example, also suggests a higher risk for poor mental health and mental distress in bisexual women compared to lesbians [12].

In addition, several studies have found a major rate of depression and anxiety disorders in bisexuals compared to heterosexuals and homosexuals, and eating disorders are also more frequent in bisexual women [13]. In this regard, among the psychological risk factors, it seems that social stress and social exclusion represent the greatest impact for various forms of suffering [14, 15]. Discrimination and victimization related to bisexual orientation, the judgments of peers and rejection by the family, are just some of the behaviors that threaten the health of bisexual people [10]. Among the protective factors, instead, they have included the possibility of coming-out, the acceptance of the family, and parental support [14, 15]. Another study described that bisexuals had significantly higher scores on all measures of suicidal behaviour than homosexuals; higher levels of

depression and despair were reported to mediate the link between sexual orientation and suicidal behaviour [16].

Hence, the presence of numerous mental health problems in bisexuals described in epidemiological studies has further led us to explore the number of subjects who claim to have a bisexual orientation and the related psychological distress—above all among young people—through a psychometric methodology, hypothesizing a major psychological vulnerability in young bisexual people. In this regard, our aims consist of investigating the prevalence of bisexuality and the possible presence of psychological symptoms in bisexual youths with a cross-sectional design in a non-clinical population composed of Italian university students.

## Methods

### Sample recruitment

Through a randomized cross-sectional design, we evaluated 551 young subjects [age mean = 21.95; age SD = 3.4; gender: females = 390 (70.8%); males = 161 (29.2%)] in our University. We recruited young participants in a voluntary manner among our university courses, and we invited them to compile questionnaires.

The 96.9% of them [ $n = 534$ ; females:  $n = 378$  (96.9%); males:  $n = 156$  (96.9%)] was heterosexual; the 1.1% homosexual [ $n = 6$ ; females:  $n = 3$  (0.8%); males:  $n = 3$  (1.9%)] and the 2% bisexual [ $n = 11$ ; females:  $n = 9$  (2.3%); males:  $n = 2$  (1.2%)] (Table 1).

University ethical committee approved the study protocol and all participants signed the informed consent before to begin the study assessment. The study was performed according to 1964 Declaration of Helsinki and its following modifications.

### Assessment

We administered an anonymous, socio-demographic questionnaire exploring the following information: gender, age, relational status, and a self-disclosure on sexual orientation.

The Italian version of well-validated psychometric tool, Symptom Checklist-90-Revised (SCL-90-R), was anonymously administered to evaluate psychological health, considering the following symptomatic scales: somatization

**Table 1** Socio-demographic characteristics of sample Values are reported as mean  $\pm$  SD and frequencies (with percentages of the total sample)

	Total sample 551 (100%)	Heterosexuals 534 (96.9%)	Homosexuals 6 (1.1%)	Bisexuals 11 (2%)
Age	21.95 $\pm$ 1.29	21.97 $\pm$ 3.45	20.5 $\pm$ 0.83	21.90 $\pm$ 1.44
Females	390 (70.8%)	378 (68.6%)	3 (0.5%)	9 (1.6%)
Males	161 (29.2%)	156 (28.3%)	3 (0.5%)	2 (0.4%)

**Table 2** Descriptive statistics of psychological symptoms (as expressed by SCL-90-R scales) in the three sexual orientation groups are reported as mean  $\pm$  SD (and mean rank). Results of Kruskal–Wallis H tests are shown in the last column. Significant Mann–Whitney U post-hoc tests are in the footnotes. SCL-90-R, Symptom Check List-90-R

	Heterosexuals $n = 534$	Homosexuals $n = 6$	Bisexuals $n = 11$	$\chi^2_2$ ; $p$ ; $CI_{99}$
Somatization	0.64 $\pm$ 0.55 (274.00)	0.80 $\pm$ 0.33 (370.33)	0.77 $\pm$ 0.51 (321.68)	3.110; 0.211; 0.201–0.222
Obsessive-compulsive	0.97 $\pm$ 0.66 (273.31)	0.91 $\pm$ 0.51 (272.83)	1.50 $\pm$ 0.56(408.45)	7.790; 0.020; 0.016–0.023 <sup>a</sup>
Interpersonal sensitivity	0.78 $\pm$ 0.66 (274.17)	0.74 $\pm$ 0.46 (290.42)	1.17 $\pm$ 0.88 (357.18)	2.994; 0.228; 0.217–0.239
Depression	0.81 $\pm$ 0.65 (274.05)	0.63 $\pm$ 0.25 (259.83)	1.36 $\pm$ 0.92(379.41)	4.793; 0.087; 0.080–0.094
Anxiety	0.73 $\pm$ 0.60 (275.15)	0.65 $\pm$ 0.40 (273.17)	1.07 $\pm$ 0.94 (318.91)	0.820; 0.675; 0.662–0.687
Hostility	0.66 $\pm$ 0.61 (273.78)	0.55 $\pm$ 0.43 (262.83)	1.38 $\pm$ 1.11 (390.95)	5.974; 0.050; 0.044–0.056 <sup>b</sup>
Phobic anxiety	0.26 $\pm$ 0.41 (274.83)	0.07 $\pm$ 0.12 (196.92)	1.55 $\pm$ 0.57 (375.82)	6.461; 0.031; 0.027–0.036 <sup>c</sup>
Paranoid ideation	0.89 $\pm$ 0.65 <sup>a</sup> (272.98)	1.00 $\pm$ 0.63 (308.75)	1.54 $\pm$ 0.89 <sup>a</sup> (404.68)	7.689; 0.020; 0.027–0.036 <sup>d</sup>
Psychoticism	0.45 $\pm$ 0.51 (273.49)	0.46 $\pm$ 0.34 (315.75)	0.86 $\pm$ 0.75(376.23)	4.942; 0.082; 0.075–0.089
Global Severity Index	0.70 $\pm$ 0.49 (273.58)	0.66 $\pm$ 0.22 (294.83)	1.11 $\pm$ 0.69(383.36)	5.211; 0.070; 0.063–0.076
Positive Symptom Total	1.61 $\pm$ 0.47 (273.70)	1.44 $\pm$ 0.21 (320.33)	2.00 $\pm$ 0.67(363.55)	3.904; 0.149; 0.140–0.158
Positive Symptom Distress Index	36.67 $\pm$ 18.52 (274.52)	40.66 $\pm$ 11.44 (226.17)	47.18 $\pm$ 17.40 (374.91)	4.880; 0.084; 0.077–0.091

<sup>a</sup>Heterosexuals vs. bisexuals:  $U = 1497.5$ ;  $p = 0.004$ ;  $CI_{99} = 0.003–0.006$

<sup>b</sup>Heterosexuals vs. bisexuals:  $U = 1689.5$ ;  $p = 0.015$ ;  $CI_{99} = 0.012–0.018$

<sup>c</sup>Heterosexuals vs. bisexuals:  $U = 1859.5$ ;  $p = 0.024$ ;  $CI_{99} = 0.020–0.028$ ; Homosexuals vs. bisexuals:  $U = 12.5$ ;  $p = 0.033$ ;  $CI_{99} = 0.028–0.038$ . To note both comparisons did not pass the Bonferroni correction threshold

<sup>d</sup>Heterosexuals vs. bisexuals:  $U = 1535.5$ ;  $p = 0.005$ ;  $CI_{99} = 0.003–0.006$

(SOM), obsessive-compulsive (O-C), interpersonal sensitivity (I-S), depression (DEP), anxiety (ANX), hostility (HOS), phobic anxiety (PHOB), paranoid ideation (PAR), psychoticism (PSY), the Global Severity Index (GSI), Positive Symptom Total (PST), and Positive Symptom Distress Index (PSDI) [17, 18].

## Statistical analysis

Continuous variables were represented statistically as means and standard deviations (SD). Dichotomous variables were represented statistically as absolute and percentage frequencies. On the basis of distribution of sample and related psychometric variables, we performed non-parametric tests to investigate differences in the psychological status among three sexual orientation groups. In particular, separate Kruskal–Wallis H tests were used to reveal differences in SCL-90-R scales between heterosexuals, homosexuals and bisexuals. If a statistical significance emerged with Kruskal–Wallis H test, post-hoc tests were carried out for pairwise comparisons with Mann–Whitney U test in order to define which groups contributed to the significant effect; a comparison was considered significant if its  $p$ -value was lower than the threshold obtained with Bonferroni  $p$ -value correction ( $p < 0.016$ ).

The significance for Chi-Square test, Kruskal–Wallis H tests and Mann–Whitney U tests was calculated through Monte Carlo 2-tailed  $p$ -value (and its 99% confidence interval,  $CI_{99}$ ). Except for Mann–Whitney U tests (see

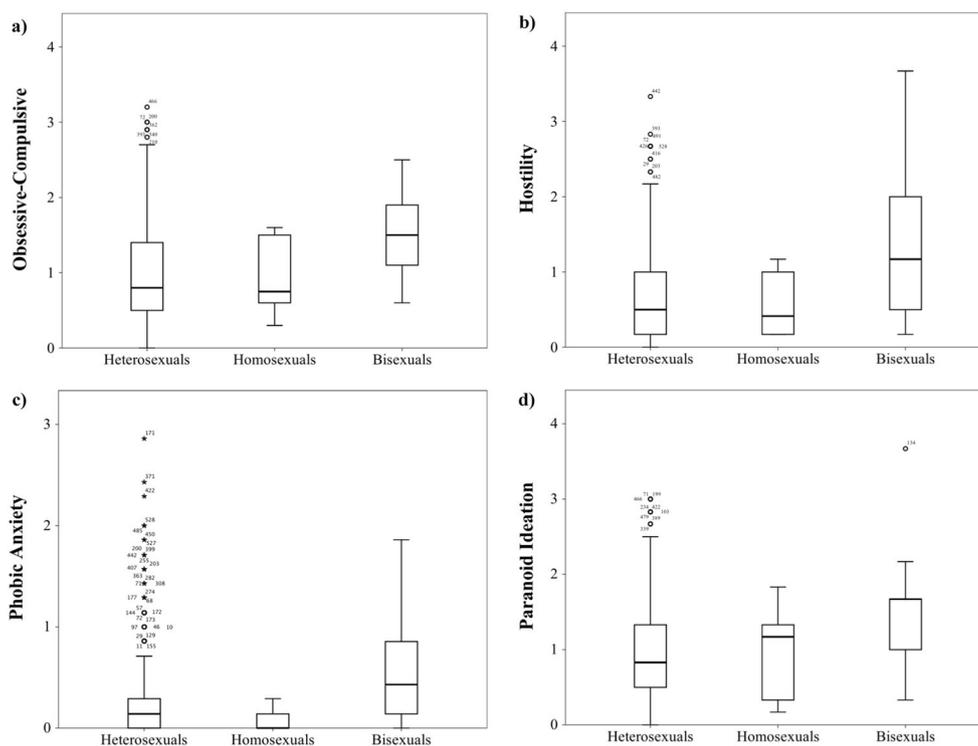
above), the statistical significance threshold was set at an alpha error of 5%; all  $p$ -values were reported as two-tailed.

The software IBM® SPSS® Statistics (version 20) was used for all the statistical analyses.

## Results

Socio-demographic characteristics of whole sample are reported in Table 1. Females and males did not differ for age distribution (respectively,  $21.94 \pm 3.36$  and  $22.00 \pm 3.53$ ; independent sample  $t$ -test:  $t_{549} = -1.185$ ,  $p = 0.854$ ); three sexual orientation groups had also no difference in age (Kruskal–Wallis H test:  $\chi^2_2 = 3.320$ ,  $p = 0.186$ ,  $CI_{99} = 0.176–0.196$ , with a mean rank age of 275.87 for heterosexuals, 186.42 for homosexuals and 331.05 for Bisexuals). No significant association between gender (females and males) and three sexual orientation groups (heterosexuals, homosexuals and bisexuals) emerged ( $\chi^2_2 = 1.901$ ,  $p = 0.396$ ,  $CI_{99} = 0.384–0.409$ ).

Descriptive statistics of SCL-90-R scales in the three sexual orientation groups are reported in Table 2. The Kruskal–Wallis H tests revealed that heterosexuals, homosexuals and bisexuals differed in obsessive-compulsive, hostility, phobic anxiety and paranoid ideation SCL-90-R scales (Table 2). The Mann–Whitney U tests showed that the bisexuals have significantly higher scores than heterosexuals in obsessive-compulsive, hostility, and paranoid (Table 2 and Fig. 1). Phobic anxiety scores were higher in



**Fig. 1** Box plots for obsessive-compulsive (a), hostility (b), phobic anxiety (c) and paranoid ideation (d) SCL-90-R scales. See the text and Table 2 for details. SCL-90-R Symptom Check List-90-R

bisexuals respect to other two groups, but both comparisons did not pass the Bonferroni correction threshold. No differences between heterosexuals and homosexuals for SCL-90-R scores were found.

## Discussion

Our results have revealed, as largely expected, the major prevalence of heterosexuality, compared to homosexuality and bisexuality among youth. However, the prevalence of homosexual and bisexual orientations was in line with other investigations, with a major percentage of declared bisexuality compared to homosexuality [9]. Moreover, it is possible to hypothesize, according to some of the literature, that some young bisexual subjects will change their sexual orientation in the future, to heterosexuality or homosexuality as the dominant choice for sexual behaviour. In fact, in some cases, bisexuality is a transitory condition due to the difficulty of choosing the sexual object [19]. In this regard, recent articles have discussed the phenomenon of changing sexual orientation, highlighting the possible hypotheses focused on cultural factors [20].

We also found another consolidated aspect related to gender difference, with bisexual orientation more frequent in females compared to males [21], and also, in this case, our data are in line with the previous literature regarding the

young population [8, 9]. In this regard, it is known that women are mostly predisposed to a sexual fluidity, as revealed from some longitudinal investigations on female bisexuality, highlighting the changes of sexual orientation in bisexual women over time [22, 23].

On the other hand, our most interesting finding is represented by the relationship between bisexuality and some psychological symptoms assessed with a specific psychometric tool.

In fact, more high levels of psychological symptoms in bisexual subjects were found. In particular, obsessive-compulsive symptoms, hostility, and paranoid ideation were significantly higher in bisexuals than in heterosexuals. However, no differences between homosexuals and heterosexuals in psychological symptoms were found, suggesting that a more definite sexual orientation is not characterized by the psychological symptoms studied here [24, 25].

The most important differences between bisexual orientation and homosexuality and heterosexuality lead us to some considerations. We did not find a relationship between psychopathology and homosexuality, and we found a similar psychological status between homosexuals and heterosexuals. This aspect definitively reinforced the idea that homosexuality is not related to psychopathologic traits, and that homosexual and heterosexual people live with the same risks of psychological symptoms.

Although the social stigma for homosexuals is still largely diffused and is specified by many socio-cultural aspects [4, 26, 27], the lesbian and gay communities promote many prevention campaigns against homophobia, which rarely take the phenomenon of biphobia into consideration [28]. Biphobia is considered a form of double discrimination that bisexual subjects receive from heterosexual people and also from homosexuals [29]. Hence, on the basis of our results, biphobia could be considered a possible explanation for the high psychological vulnerability related to bisexuality.

In fact, in line with other research [9, 30, 31], we confirmed the major presence of psychological symptoms among bisexuals, probably due to environmental factors, that may affect the poor mental health of bisexual people. For example, the presence of many negative stereotypes about bisexuals, such as considering bisexuals as promiscuous or not monogamous, or confusion about their sexual orientation, which promotes the stigma and discrimination against these people by heterosexual, but also gay and lesbian people [30]. In particular, we found that bisexuals had more severe obsessive-compulsive, hostility, paranoid symptoms compared to heterosexuals. Thus, bisexuals were more neurotic and had more unwanted intrusive thoughts that bother them, were more anger prone, with mistrust of others and the feelings of being subjected to injustices. This clinical presentation is consistent with one suffering the stigma. Furthermore, personal factors, such as a possible internalized homophobia are related to fewer sexual orientation disclosures, a lower connection with the LGB communities, and therefore, to major psychological symptoms [32]. In fact, some studies have demonstrated that the nondisclosure of sexual orientation is related to poor mental health [33], while ties with the LGB community and with the bisexual community, are considered factors that are protective of psychological well-being [30].

Therefore, our evidence regarding higher psychological vulnerability, in hostility, paranoia, and obsessive-compulsive symptoms together among bisexuals, should alert physicians, clinicians and educators about the mental health risks for young bisexual people.

On the other hand, high levels of psychological symptoms that we assessed are conventionally considered as predictive factors of possible exacerbation for more severe psychopathologies [34, 35].

## Limitation

Our results are limited by the small sample of participants due to the cross-sectional design of the present study, which should be considered as a pilot study, but our results should

encourage the implementation of future research focused on the health of bisexuals. Moreover, more social, cultural, and psychological variables that could interact with psychological wellness might be considered for more specific descriptions of our results. Also a gender perspective concerning psychological symptoms and sexual orientations due to social stigma could be an object of a future study, together to an extensive survey among general population.

## Conclusion

In conclusion, young bisexual people suffer from some psychological symptoms; these results highlight once again a high psychological vulnerability related to bisexuality. In Italian young people, bisexuality is mostly diffuse compared to homosexuality, and our study is the first to demonstrate, with a well-validated psychometric tool, the association between some psychological symptoms and bisexuality. This evidence highlights the preventive necessity to safeguard the mental health among young bisexuals. Physicians, clinical psychologists, mental health services, and social policies should take the psychological vulnerability related to bisexuality seriously into consideration.

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## Compliance with ethical standards

**Conflict of interest** Professor Jannini is consultant or paid speaker for Bayer, GSK, Ibsa, Menarini, Otsuka, Pfizer, and Shionogi. Dr. Limoncin has been paid speaker for Menarini.

## References

1. Chakraborty A, McManus S, Brugha TS, Bebbington P, King M. Mental health of the non-heterosexual population of England. *Br J Psychiatry* 2011;198:143–8.
2. Ciocca G, Tuziak B, Limoncin E, Mollaioli D, Capuano N, Martini A, et al. Psychoticism, immature defense mechanisms and a fearful attachment style are associated with a higher homophobic attitude. *J Sex Med*. 2015;12:1953–60.
3. Lingiardi V, Nardelli N, Drescher J. New Italian lesbian, gay and bisexual psychotherapy guidelines: a review. *Int Rev Psychiatry*. 2015;27:405–15.
4. Lingiardi V, Nardelli N, Ioverno S, Falanga S, Di Cacchio C, Tanzilli A, Baiocco R. Homonegativity in Italy: cultural issues, personality characteristics, and demographic correlates with negative attitudes toward lesbians and gay men. *Sex Res Soc Policy*. 2015;12:na.
5. Bostwick W. Assessing bisexual stigma and mental health status: a brief report. *J Bisex*. 2012;12:214–22.
6. Ochs R. Selected Quotes by Robyn Ochs. <http://robynochs.com/quotes/>, 2014.
7. ISTAT. La popolazione omosessuale nella società italiana. 2012.

8. Herbenick D, Reece M, Schick V, Sanders SA, Dodge B, Fortenberry JD. Sexual behavior in the United States: results from a national probability sample of men and women aged 14–94. *J Sex Med.* 2010;7:255–65.
9. Jorm AF, Korten AE, Rodgers B, Jacomb PA, Christensen H. Sexual orientation and mental health: results from a community survey of young and middle-aged adults. *Brit J Psychiat.* 2002;180:423–7.
10. Pompili M, Lester D, Forte A, Seretti ME, Erbutto D, Lamis DA, et al. Bisexuality and suicide: a systematic review of the current literature. *J Sex Med.* 2014;11:1903–13.
11. King M, Semlyen J, Tai SS, Killaspy H, Osborn D, Popelyuk D et al. A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people. *BMC Psychiatry* 2008;8:70.
12. Colledge L, Hickson F, Reid D, Weatherburn P. Poorer mental health in UK bisexual women than lesbians: evidence from the UK 2007 Stonewall Women's Health Survey. *J Public Health-UK.* 2015;37:427–37.
13. Koh AS, Ross LK. Mental health issues: a comparison of lesbian, bisexual and heterosexual women. *J Homosex.* 2006;51:33–57.
14. Needham BL, Austin EL. Sexual orientation, parental support, and health during the transition to young adulthood. *J Youth Adolesc.* 2010;39:1189–98.
15. Juster RP, Smith NG, Ouellet E, Sindi S, Lupien SJ. Sexual orientation and disclosure in relation to psychiatric symptoms, diurnal cortisol, and allostatic load. *Psychosom Med.* 2013;75:103–16.
16. Langhinrichsen-Rohling J, Lamis DA, Malone PS. Sexual attraction status and adolescent suicide proneness: the roles of hopelessness, depression, and social support. *J Homosex.* 2011;58:52–82.
17. Derogatis L. SCL-90-R; administration, scoring and procedure manual-II. In: Towson MD: Clinical Psychometric Research. 1992.
18. Conti L. Repertorio delle scale di valutazione in psichiatria- Self-Report Symptom Inventory - Revised (SCL-90-R). In: S.E.E. (ed): Firenze, 1999, pp 341–350.
19. Stokes JP, Damon W, McKirnan DJ. Predictors of movement toward homosexuality: a longitudinal study of bisexual men. *J Sex Res.* 1997;34:304–12.
20. Beres-Deak R. "I've Also Lived as a Heterosexual"—Identity Narratives of Formerly Married Middle-Aged Gays and Lesbians in Hungary. *J Bisex.* 2016;16:81–98.
21. Breyer BN, Smith JF, Eisenberg ML, Ando KA, Rowen TS, Shindel AW. The impact of sexual orientation on sexuality and sexual practices in North American medical students. *J Sex Med.* 2010;7:2391–400.
22. Diamond LM. Female bisexuality from adolescence to adulthood: results from a 10-year longitudinal study. *Dev Psychol.* 2008;44:5–14.
23. Diamond LM. A new view of lesbian subtypes: stable versus fluid identity trajectories over an 8-year period. *Psychol Women Quart.* 2005;29:119–28.
24. Jannini EA, Blanchard R, Camperio-Ciani A, Bancroft J. Male homosexuality: nature or culture? *J Sex Med.* 2010;7:3245–53.
25. Kim TH, Kim GW, Kim SK, Jeong GW. Brain activation-based sexual orientation in female-to-male transsexuals. *Int J Impot Res.* 2016;28:31–8.
26. Lingardi V, Falanga S, D'Augelli AR. The evaluation of homophobia in an Italian sample. *Arch Sex Behav.* 2005;34:81–93.
27. Lau JTF, Kim JH, Tsui HY. Prevalence and factors of sexual problems in Chinese males and females having sex with the same-sex partner in Hong Kong: a population-based study. *Int J Impot Res.* 2006;18:130–40.
28. Eliason MJ. The prevalence and nature of biphobia in heterosexual undergraduate students. *Arch Sex Behav.* 1997;26:317–26.
29. Mulick PS, Wright LW, Jr, PSMLWW. Examining the existence of biphobia in the heterosexual and homosexual populations. *J Bisex.* 2002;2:45–64.
30. Persson TJ, Pfaus JG. Bisexuality and mental health: future research directions. *J Bisex.* 2015;15:82–98.
31. Shindel AW, Breyer BN, Smith JF. Associations of desire for change in sexual life amongst female medical students in North America. *Int J Impot Res.* 2013;25:74–9.
32. Lingardi V, Baiocco R, Nardelli N. Measure of internalized sexual stigma for lesbians and gay men: a new scale. *J Homosex.* 2012;59:1191–210.
33. Durso LE, Meyer IH. Patterns and predictors of disclosure of sexual orientation to healthcare providers among lesbians, gay men, and bisexuals. *Sex Res Social Policy.* 2013;10:35–42.
34. Cassano GB, Pini S, Saettoni M, Dell'Osso L. Multiple anxiety disorder comorbidity in patients with mood spectrum disorders with psychotic features. *Am J Psychiatry.* 1999;156:474–6.
35. Rossler W, Hengartner MP, Ajdacic-Gross V, Haker H, Angst J. Deconstructing sub-clinical psychosis into latent-state and trait variables over a 30-year time span. *Schizophr Res.* 2013;150:197–204.