

Is Sexual Compulsivity General Problem of Young People in Serbia and Bosnia and Herzegovina or It Should Be Linked to Non-Heterosexual Population?

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Abstract – This paper presents the sexual compulsivity prevalence regarding sexual orientation in Serbia and B&H on the university students sample (N=1711; N_S=570; N_{BH}=1141) within the age range 19 to 25. Kalichman's Sexual Compulsivity Scale (SCS) consisted of ten items which are scored on Likert's four degrees scale, was used to determine sexual compulsivity. Subjects who scored more than 32 (two standard deviations above the mean score) were classified in the sexual compulsives group. Internal consistency of the scale was good ($\alpha = .943$). In total, 153 sexual compulsives (N_S=70; N_{BH}=83) were identified. Within sexual orientation, 91.73% of young people in Serbia (N=510) and 92.71% in B&H (N=1036) were self-identified as heterosexual; 4.3% of young people in Serbia (N=24) and 4.2% in B&H (N=46) as bisexual; 3.4% of young people in Serbia (N=19) and 2.1% in B&H (N=24) as homosexual; while 0.5% of young people in Serbia (N=3) and 1% in B&H (N=11) self-identified as asexual. Hi square test showed statistical significant difference between sexual compulsives and non-sexual compulsives in sexual orientation, $\chi^2 (2, n=1696) = 21.779; p = .000$; Kramer's V = 0,113. Kruscal-Wallis test revealed statistical significant difference in levels of sexual compulsivity among three diverse sexual orientation groups, $c^2 [2, n=1696] = 14,88; p = 0,001$.

Index terms – sexual orientation, sexual compulsivity, heterosexuality, bisexuality, homosexuality.



1. Introduction

Sexual orientation refers to the sex (or sexes) that individual is attracted to emotionally, physically, sexually and romantically [1]. Homosexually oriented are those individuals who have a tendency toward partners of the same sex, bisexually oriented feel attracted to men and women, while heterosexually oriented individuals feel attracted to partners of opposite sex [2]. Contemporary theories about sexual orientation are divided into two groups: essentialist and constructionist theories [1]. While essentialists consider that nonheterosexually oriented people are inheritably different from heterosexuals in biological or developmental processes, constructionists suggest that sexual orientation would be the question of social roles which are diversely determined in different cultures and different times [1]. Research showed that the more genetically related brothers and sisters were, the more they tended to the same sexual orientation [3], [4]. Pattatuci [5] revealed the existence of homosexual gene in homosexual men, but no homosexual gene was found in homosexual women. However, new genetic research showed that there is lower frequency of homosexuality among twins than it had been reported earlier [6]. Some research found evidence about the influence of prenatal hormones on the sexual orientation [7], [8], [9], [10], [11]. According

to Green [12], research did not revealed differences in estrogen or testosterone levels between people of different sexual orientations. Some research [13], [14], revealed that homosexual men were later born than their brothers and sisters. Swaab and Hofman [15] found differences in brain functioning between homosexual and heterosexual males, suggesting that in homosexual males specific areas of hypothalamus were bigger or smaller than in heterosexual males, while Jensen [16] in his research, found differences in brain areas that are responsible for structure and functioning of ear and hearing between heterosexual, homosexual and bisexual females. Even some biological differences were found between heterosexually, homosexually and bisexually oriented people, evidences are not consistent and in majority of cases they are very weak [1], so it seems that sexual orientation would be better determined as a combination of genetic, biological and social influences [1].

Developmental theories would belong to the constructionist view of sexual orientation and according to these theories; sexual orientation is explained as a product of social forces. Bailey et al. [17] found that homosexual males were more feminine than heterosexual males, while homosexual females were more masculine than heterosexual females.

Behaviorist theories view sexual orientation as a learned behavior through positive and negative reinforcement [18]. Sociologists emphasize that the concepts of heterosexuality, bisexuality and homosexuality are the products of social imagination and they depend on how society decides to define them [1]. Bem [19] suggested a theory in which biological variables (genetics, hormones and brain neuroanatomy) do not cause specific sexual orientation, but rather they contribute to the development of temperament influencing human preferences of sexually typical or atypical activities.

Authors who try to explore scientifically or professionally sexual compulsive behavior use different terms to determine the same phenomenon: sexual compulsivity [20], [21], [22], [23], [24]; sexual addiction [25], [26], [27], [28], [29], [30], [31], [32], sexual impulsivity [33]; hypersexuality [34] [35]; sexual promiscuity [36] or paraphilia related disorders [37], [38], [39], [40]. All authors agree that the manifestation of this clinical syndrome is that sexual behavior cannot be controlled and that this kind of (sexual) behavior persists despite negative consequences [41]. Sussman [32] states that the range of human sexual activity is very variable, so it is difficult to distinguish normal and abnormal sexual behavior in its form or frequency. Sexual compulsivity is not only a measure of frequency of sexual activity, rather it is a form of sexual behavior which is initially pleasurable, but with time it becomes unsatisfying, autodestructive and the individual is no more capable to stop it [32].

Kinsey et al. [42], [43] reported that 37% of males and 13% of females had at least one sexual experience with the same sex person, which had resulted in an orgasm; and that 4% of males and 3% of females were homosexually oriented through all their lives. Laumann et al. [44] reported that 5.5% of women thought about sexual acts with other woman, but only 4% of them reported having sex with other woman until the age of 18, while only 2% of women reported having a sexual act with other woman during the previous year. In the same research, 9% of men reported they had had sex with other man during puberty, around 5% after the age of 18, and only 2% had had sex with other man during the previous year. Assessments of homosexuality "prevalence" rate go from 2% to 4% for males and 1% to 3% for females [45], [46] while bisexuality "prevalence" rate goes

around 3% [47]. National studies in France, Britain, Norway, Denmark and Canada [1] found homosexual behavior in 1% to 3% of cases in males and at a lower percentage in females. Researchers generally agree that between 3% and 4% of males are homosexual, while between 1.5% and 2% of females are homosexual, and around 2% to 5% of people have bisexual orientation [48].

Sexual compulsivity prevalence rate in general population is assessed differently in different researches: 3-6% [25], [26], [27], [28], 5% [21], [22], [23]; 5.6% [49]; 6% [50]; 8% [51]; 8.94% [52]; 10% [53]; 12.5% [41]; 17.8% [54]; 17.9% [55]; 19.6% [56], 21% [57]. In one research [49], nonheterosexually oriented subjects were prone to sexual compulsivity, as well as to more frequent use of internet for sexual purposes. Homosexual and bisexual men who were insertive partners showed higher levels of sexual compulsivity than those who were receptive partners in unprotected sex [58], while in the same research no significant difference in sexual compulsivity levels was found in women referring to their sexual orientation. Among homosexual and bisexual men, those who had the highest scores on sexual compulsivity, showed even more frequent sexual risky behavior with partners of unknown serostatus [58] and only small percentage of heterosexual men belonged to sexual compulsives group in the same research. Males prone to "cruising" behavior on university campus (search for male sex partners) had higher scores on sexual compulsivity than heterosexual males and females [59]. One of the subpopulation of heterosexual males who are eager to develop sexual compulsive behavior patterns are men who have sex with men, but who do not identify themselves as bisexually or homosexually oriented [60], and three components showed the possible correlation to boredom proneness and online sexual compulsivity in this subpopulation of males: internalized homophobia, virtual environment and diversity and tolerance. Sexual orientation had big predictive importance in one research [61], even though in the same research on 508 heterosexual married men, 48% of them self-identified as bisexual, 31% as heterosexual and 21% as homosexual. Results of other research [62] suggested that internet use could contribute to risky behavior proneness of sexually compulsive homosexual and bisexual males. Chaney and Dew [63] reported that all 13 interviewed homosexual and bisexual men, engaged in sexual meeting with other person as a result of their online

sexual activity. Homosexual men showed higher proneness to sexual compulsivity than homosexual women [64]. Moskowitz and Roloff [65] identified one very controversial subculture of males who want to be HIV infected, who showed very high levels of sexual compulsivity. Reece [66] found that a lot of homosexual and bisexual males continue with their sexually compulsive behavior, despite their HIV positive serostatus. Dew and Chaney [67] revealed that internalized homophobia and sexual orientation explained significant variance of sexual compulsivity in homosexual and bisexual males. These authors found the high prevalence of high risky sexual behavior and higher number of sexual partners in sexual compulsive individuals of nonheterosexual orientation.

2. Method

This study aimed to answer the question of sexual compulsivity prevalence in young people in Serbia and B&H referring to the sexual orientation of the participants, that is to answer the question whether there is a significant difference between heterosexually and nonheterosexually oriented in their sexual compulsivity levels in this part of Europe. Dependent variable of the study was sexual compulsivity, while independent variable was sexual orientation. The sample consisted of N=1711 subjects from Serbia and B&H, while total N=12 subjects self-identified as asexual, N=3 subjects did not self-identified their sexual orientation, so the final analysis used results of N=1696 subjects (N_m=646; N_f=1050), students of University in Belgrade and University in Novi Sad (Serbia) and students of University in Sarajevo and University in Tuzla (B&H). Serbian subsample consisted of N=566 (N_m=251; N_f=315), and Bosnian subsample consisted of N=1130 subjects (N_m=395; N_f=735).

Sexual orientation was determined by self-identification of the participants on the proposed answers: heterosexual, bisexual, homosexual. There were also another two answers proposed (which did not indicate sexual orientation): transsexual and asexual. No subjects self-identified as transsexuals. Those who self-identified as asexual and those who did not self-identify their sexual orientation, were excluded from further analysis.

Sexual compulsives were identified by scores on the Sexual Compulsivity Scale [68], created to assess the tendency toward sexual preoccupation and hypersexuality. Ten items (i.e. "My desires for sex have disrupted my everyday life"; "I think about sex more than I would like to"; "I sometimes fail to meet my commitments and responsibilities because of my sexual behaviors") are scored on the four grades Likert scale (1= *never applies to me* to 4= *always applies to me*). The lowest score on the scale is 10, and the highest is 40. Cut off score for sexual compulsivity were two standard deviations above the mean score, meaning that the results above 80th percentile (above the score of 32), that is, subjects who scored 33 and higher on the SCS, were classified into the sexual compulsives group. In the research of psychometric properties of this scale, acceptable internal consistency (alpha= .79) and acceptable construct and criterion validity were found [69]. Cronbach's alpha of this scale in this research showed high reliability of the scale, alpha= .943.

3. Results

Sexual compulsivity prevalence referring to sexual orientation in the whole sample is shown in the table 1.

Table 1: Sexual compulsivity and sexual orientation

		Sexual compulsivity			
			Non-sexual compulsi	Sexual compulsi	Total
			ives	ives	
Sexual orientation	Heterosexual	Frequencies	1448	129	1577
		% within sexual orientation	91,8%	8,2%	100,0%
Sexual orientation	Bisexual	Frequencies	63	13	76
		% within sexual orientation	82,9%	17,1%	100,0%
Sexual orientation	Homosexual	Frequencies	32	11	43
		% within sexual orientation	74,4%	25,6%	100,0%
Total		Frequencies	1543	153	1696
		% within sexual orientation	91,0%	9,0%	100,0%

The highest sexual compulsivity prevalence rate was found in the group of homosexually oriented (25.6%), while the sexual compulsivity prevalence rate in bisexually oriented was also very high (17.2%). Chi square test showed a significant difference in sexual compulsivity prevalence referring to sexual orientation of the whole sample, $\chi^2(2, n=1696) = 21.779$; $p = .000$; Kramer's $V = .113$. Kruskal-Wallis test was performed to determine if these groups differ in sexual compulsivity levels. Results are shown in the next table.

Table 2: Kruskal-Wallis test for sexual compulsivity and sexual orientation

	Sexual orientation	N	Mean rank
SCS score	Heterosexual	1577	836,08
	Bisexual	76	1029,47
	Homosexual	43	984,14
	Total	1696	

Kruskal-Wallis test revealed a significant difference in sexual compulsivity levels for three groups of sexual orientation (Gp1= 1577; heterosexual; Gp2= 76, bisexual; Gp3= 43, homosexual), $c^2(2, n=1696) = 14.88$, $p = .001$. The highest mean was found for subjects who belonged to the bisexually oriented group (Md=17), and subjects who belonged to the group of homosexually oriented had the highest mean score on the Sexual Compulsivity Scale (M=20.60; SD=11.491) than other two groups of sexual orientation. Further Man-Whitney U test revealed significant difference in sexual compulsivity between the heterosexual and bisexual groups, $U=46201$, $p = .001$; $z = -3.399$; $r = .08$.

Kruskal-Wallis test showed no significant difference between male subjects in their sexual compulsivity levels, referring to the different sexual orientation, $c^2(2, n=646) = 4.602$; $p = .100$, but significant difference was found between females of different sexual orientations, $c^2(2, n=1050) = 14.799$; $p = .001$. Further Man-Whitney U test revealed a significant difference in sexual compulsivity level between heterosexual and bisexual female groups, $U=15222$; $p = .000$; $z = .835$; $r = .119$, and there was a significant difference [$p < .05$] between bisexual and homosexual female groups, $U=296$; $p = .041$; $z = -2.045$; $r = .254$.

The next table shows sexual compulsivity prevalence among different sexual orientation groups in Serbia and Bosnia and Herzegovina.

Table 3: Sexually compulsives in reference to different sexual orientation in Serbia and B&H

			Sexual orientation			Total
			heterosexual	bisexual	homosexual	
S	Serbia	Frequencies	57	6	7	70
		% within sex.orient.	11.18%	25%	36.84%	
e	&H	Frequencies	72	7	4	83
		% within sex.orient.	6.95%	15.21%	16.67%	
Total	Frequencies		129	13	11	153
	% within sex.orient.		8.2%	17.2%	25.58%	

Chi-square test showed no significant difference in sexual compulsivity among different sexual orientation groups in Serbia and B&H, $\chi^2(2, n=153) = 1.546$; $p > .05$, $\phi = 0.101$. Sexual compulsivity prevalence rate referring to sexual orientation in Serbia and B&H was higher in all three sexual orientation groups in Serbia (11.18% for heterosexual; 25% for bisexual and 36.84% for homosexual group) than in B&H (6.95% for heterosexual, 15.21% for bisexual and 16.67% for homosexual group). The highest mean scores on the SCS showed homosexually oriented (M= 26.21; SD= 12.244) in males, and bisexually oriented (M= 17.87; SD=8.232) in females.

4. Discussion

Referring to sexual orientation of the total sample, the highest sexual compulsivity prevalence rate was found in homosexually oriented subjects (25.6%), then bisexually oriented (17.2%) and then heterosexually oriented (8.2%). The highest sexual compulsivity prevalence rate was found in homosexually oriented in both countries, Serbia (36.84%) and B&H (16.67%), but subsamples of nonheterosexually oriented subjects were small. The highest mean scores in sexual compulsivity were found in homosexually oriented males and bisexually oriented females. This means that sexual orientation could contribute significantly in determination of sexual compulsivity, which is not congruent with some research findings [58], [61], but it is congruent with the findings of Chaney and Chang [60] who reported that men who have sex with men are proner

to sexual compulsivity. Reason for this kind of result could be found in sex structure of sexual compulsives nonheterosexually oriented subjects. Homosexually oriented subjects in this research who self-identified as sexual compulsives were all males, while only 3 female subjects who self-identified as bisexually oriented belonged to the sexual compulsives group. This result is similar to the findings in other research [49], [58], [59], [60], [63], [64], [67] where there was found that nonheterosexually oriented males were prone to sexual compulsivity than females. Several authors [51], [58], [70] found that males were prone to sexual compulsivity than females in general. Missildine et al. [64] found that homosexual males were prone to sexual compulsivity than homosexual females. Findings of our research suggest that nonheterosexual orientation could be a significant factor in developing sexual compulsivity and that higher sexual compulsivity prevalence rate could be expected among individuals whose sexual orientation is bisexual or homosexual, especially in male population. These results could influence creating preventive programs about suppressing of sexual compulsivity behavior among nonheterosexually oriented groups which are more vulnerable for developing sexually compulsive behavior patterns.

Possible explanation of such findings could be seen in the orientation of men and women in their close relationships. In some research [71] it was proven that men want to have sex earlier than women, which is the reason why higher prevalence of sexual promiscuous behavior among men can be expected, because, on the other hand, men want to have more sexual partners during their life course than women [71]. Women were shown as less prone to sexual promiscuous behavior, while men were less selective in sexual partner choice [72]. This can be referred especially to the homosexually and bisexually oriented males who search for partners by internet [60], [63], covering their identity, that is, they remain anonymous. Internet chat of homosexually or bisexually oriented males, in search for sex partners could lead to sexually compulsive behavior, because sexual encounters become usually only "one night stands", so males prone to this kind of search for partners rarely become involved in deeper and long-term emotional relationships, which is not the case in homosexual females [49], [60], [63]. Sometimes, bisexually or even homosexually oriented males have one stable emotional relationship that is socially

acceptable (usually heterosexual), while in the same time, they lead a kind of double lives, engaging in sexual relations with other men and women, which can cause danger to the heterosexual relationship: undesired pregnancies, sexually transmitted diseases and the like [64]. Similar situation is found among men who have sex with men (known as MSM), who do not identify as homosexual or bisexual (so their sexual orientation can be heterosexual), but they engage anyway in same sex relationships [64].

Homosexual males relationships, even though they are usually based on the search for love, are usually of short duration, because of anonymity and tendency not to discover their sexual identity and/or orientation, which could expose nonheterosexually oriented males to social environmental judgements [63], [64]. Searching for love, nonheterosexually oriented males could actually use sex as a coping strategy to deal with everyday stressors linked to their "coming out" process and homosexual or bisexual identity. When an individual uses sex as a coping mechanism to deal with stressful situations, it could then lead him/her to develop some patterns or characteristics of sexually compulsive behavior. Some authors [68] state that sexual compulsivity would be linked to low self-esteem and self-confidence levels, and to the resistance of using strategies to reduce risky sexual behaviors. This resistance can be found among homosexual males, who permanently search for love, being at the same time afraid to reveal their love to self and others, so they accept their sexual behavior as a kind of rationalization of their acts, which could become compulsive in their sexual behavior repertoire [63]. As nonheterosexual orientation in women is somehow more socially acceptable than in men, it is more characteristic for women to engage in deeper emotional relationships with other women, so they are rarely sexual compulsive, which does not mean that sexual compulsivity does not exist among homosexually and bisexually oriented women. Results of this study showed somewhat bigger tendency of bisexually oriented women, than those who are homosexually oriented, to develop sexual compulsivity; that is, a higher sexual compulsivity prevalence rate was found in bisexual than in homosexual females. However, the highest sexual compulsivity prevalence rate referring to sexual orientation in females was found in those who self-identified as heterosexually oriented. Totally opposite situation was obtained in males. The highest sexual

compulsivity prevalence rate was found in those self-identified as nonheterosexually oriented (homosexuals or bisexuals), and homosexually oriented males showed higher levels of sexual compulsivity than bisexually oriented males. We must consider several possible limitations in self-identifying as nonheterosexual in any research, especially among male population. Some male subjects might self-identify as bisexual even if their sexual behavior is homosexual (i.e. they self-identify as bisexual, but then they discover having and/or fantasizing only about male partners). It might be that for some male subjects it would be more adequate or (socially) acceptable if they declare themselves as bisexuals, even if they are homosexuals by nature. This is due to so called bisexual diffusion that might last longer in some individuals with nonheterosexual orientation, since it is a characteristic of an adolescent life stage and it is partially due to their identity confusion according to Erikson's psychosocial theory [73]. In this research we obtained pretty similar "prevalence" of nonheterosexual orientation as it was obtained in other research [44], [48] but these data might be interpreted always with caution, since they do not show the real percentage of nonheterosexually oriented. It is very possible that some of those who self-identify as heterosexuals, are homosexuals or bisexuals, but they give socially more acceptable answers because of the possible judgments of social environment, so they do not want to admit openly that they have other sexual orientation than heterosexual one.

Nonheterosexual orientation was shown as significant in sexual compulsivity prevalence, but only for male subjects, while heterosexual orientation in females was more significant than nonheterosexual orientation. It might be that these results were obtained because of generally better acceptance of female nonheterosexual orientation in social environment, so women who are not heterosexually oriented do not have to be so anonymous and afraid of being discovered, as that kind of behavior is less socially acceptable [49], [53], [60], [63] and can lead to risky sexual behaviors, permanent search for adequate partner and frequent partners change.

5. Conclusion

Somewhat higher percentage of subjects self-identify as nonheterosexual in Serbia, than in B&H. No significant difference was found in sexual compulsivity prevalence of different sexual orientations between young people in Serbia and their counterparts in B&H. Nonheterosexually oriented young people in Serbia, as well as in B&H, show higher sexual compulsivity prevalence rate than their heterosexually oriented counterparts. The highest sexual compulsivity rate was found in homosexually oriented males, than bisexually and heterosexually oriented, respectively. Sexual compulsives who are nonheterosexually oriented in B&H scored higher on sexual compulsivity than nonheterosexually oriented in Serbia, but this difference was not significant. All sexual compulsives homosexually oriented were males, while sexual compulsivity was found in bisexual males, as well as in bisexual females. The biggest proneness to the development of sexual compulsivity was in a group of homosexually oriented males. These findings suggest that the prevalence and suppression of sexual compulsivity and risky sexual behavior might be directed with stronger intensity toward groups who show nonheterosexual orientation; so that the negative consequences that this kind of sexual behavior could have on everyday functioning could be reduced or minimized. Further research is needed to develop strategies to solve these problems, but it would be necessary to raise the consciousness about the presence of nonheterosexual orientation among young people, especially about the presence of sexual compulsivity in nonheterosexually oriented young people.

6. References

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