DYSFUNCTIONAL BELIEFS ABOUT SEXUAL INTERCOURSE: INTERACTION EFFECTS OF SEX AND AGE ON THE BOSNIAN SAMPLE

Samra Šljivo

Sabina Alispahić

University of Sarajevo

Abstract

The aim of this study is to examine the main effects of sex and age, as well as the interaction effect of sex and age in dysfunctional beliefs about sexual intercourse on a sample of the general population in Bosnia and Herzegovina. The sample of this study consisted of 900 volunteers of both sexes from three different age groups (18-29, 30-49, 50-65). Sexual Dysfunctional Beliefs Questionnaire for Men (SDBQ-M) and Sexual Dysfunctional Beliefs Questionnaire for Women (SDBQ-W) were used. Using a two-way Analysis of Variance (ANOVA) on the total scores of SDBQ, a statistically significant main effect of the variable 'Sex' was obtained and no statistically significant main effect of the variable 'Age' was obtained while a statistically significant interaction effect 'Sex*Age' was obtained. Simple main effects of sex indicate that men have a higher prevalence of dysfunctional beliefs about sexual intercourse compared to their female counterparts in all three age groups. Simple main effects of age indicate that men have no statistically significant difference in the prevalence of dysfunctional beliefs about sexual intercourse between all three age groups. This difference however exists amongst women. Statistically significant differences were found between all three age groups, where respondents aged 50 to 65 have the highest prevalence of dysfunctional beliefs about sexual intercourse compared to the remaining two age groups, while respondents from the 18 to 29 age group have the lowest prevalence of such beliefs. The results of this study partially confirm the previous research that was done in different cultural contexts, and they point to the need for further research that will take into account specific characteristics of Bosnian culture.

Key words: sexual beliefs, the interaction effect of sex and age, sexuality

Introduction

There are many reasons why romantic and/or sexual relationships do not last, but most often it is due to poor communication and the discontinuation of intra-relationship flirtation, mistrust, fear of competition and not meeting one's own or one's partner's expectations and needs in regards to the relationship (Barash and Lipton, 1997).

There are many incorrect but well-established beliefs and myths that contribute to disrupting a healthy and mature way of thinking about sex life. The term sexually intelligent refers to a type of intelligence that showcases one's own self-awareness and knowledge of oneself and one's partner, which is closely related to the quality of one's sexual life, and refers to striving towards the fulfilment of a shared sexual potential (Conrad and Milburn, 2004).

The second term - the hidden sexual self - refers to the true consistency of one's own sexuality, more specifically the recognition of the existence of hidden fantasies, attractions, desires that most often leave a feeling of guilt and shame. Although we tend to present ourselves as a person consistent with our sexual attitudes and beliefs, there will always be a part of us that will create an uneasy feeling due to cognitive dissonance, and thereby unintentionally distort our sexual identity (Conrad and Milburn, 2004).

Of the small number of studies that have dealt with the research of sexual dysfunctional beliefs, most were based on correlations with other variables, where the results of the subscales of the clinical and control groups of participants were compared, or they tried to show the influence of education and upbringing on these beliefs. Previous research did not directly compare age groups, instead the participants of both sexes belonged to the general population or were male and female students aged 18 to 30.

In a study by Nobre, Gouveia, and Gomes (2003) conducted in Portugal, a population of women, who did not have any sexual disorders, had a low prevalence of dysfunctional beliefs about sexual intercourse, while men had a mild to moderate prevalence. The results of a study conducted by Yasan, Tamam, Özkan, and Gürgen (2009) on a population of Turkish students indicated that the students of both sexes had a moderate prevalence of dysfunctional beliefs

about sexual intercourse, but men scored higher on average than women. Mutnović (2016) conducted a study on the general population of men and women from the territory of Bosnia and Herzegovina and obtained data that men have a moderate representation of dysfunctional beliefs about sexual intercourse, while women have a low to moderate representation. The results obtained in an American study, in which the participants were American students aged 18 to 30, show that this population has moderately represented dysfunctional beliefs about sexual intercourse, where it is also the case that men achieved a higher average result (Barnett, Hale and Sligar, 2017). In another American study conducted in Florida, female respondents aged 18 to 29 had a low prevalence of dysfunctional beliefs (DePesa and Cassisi, 2017). It is interesting that in another study conducted in Portugal on the male population, the information obtained is different from the previous one for men, namely that they had a low representation of dysfunctional beliefs about sexual intercourse (Carvalho and Nobre, 2011).

Given that research on this topic is almost non-existent in our country, the goal of our study was to examine sex and age differences and the interaction effect of sex and age in dysfunctional beliefs about sexual intercourse in the Bosnian sample. The aim of this paper is to examine the main effects of sex, age and the interaction effects of sex and age in dysfunctional beliefs about sexual intercourse.

Method

Participants

The collected data represent the answers of adult, heterosexual men and women from Bosnia and Herzegovina, who were sexually active in the previous six months. Convenience sampling was the method used in this study and it consists of volunteers of both sexes from three age groups: from 18 to 29 years old (N = 348, 38.7%), from 30 to 49 years old (N = 324, 36%), and from 50 to 65 years old (N = 228, 25.3%). A total of 900 participants took part in this study. Of these 900 participants, 554 were women (61.6%) and 346 were men (38.4%). In the sample of women, there were 221 (24.6%) aged from 18 to 29, in the age group of 30- to 49-year-olds there were: N = 207 (23%), and in the age group of 50- to 65-year-olds there were: N = 126 (14%). In the

sample of men: 18-29 years old (N = 127, 14.1%), 30-49 years old (N = 117, 13%), 50-65 years old (N = 102, 11.3%). The study was conducted in full compliance with ethical standards, and it also took into account data privacy and the voluntary nature of participation of the respondents in the study.

Instruments

The Sexual Dysfunctional Beliefs Questionnaire (SDBQ) was used in this study. Two versions of the questionnaire were applied: The Sexual Dysfunctional Beliefs Questionnaire for Men (SDBQ-M, α = 0.89) and the Sexual Dysfunctional Beliefs Questionnaire for Women (SDBQ-W, α = 0.87). These two versions are validated measures to assess dysfunctional beliefs and attitudes about sexual intercourse held by both men and women. The SDBQ-M and SDBQ-W results range from 40 to 100 and both have 40 five-level rating scales, where the selected responses range from 'Strongly Disagree' to 'Strongly Agree'. The interpretation that a higher obtained total score indicates that a person (regardless of sex) has more dysfunctional beliefs about sexual intercourse is applied with both scales. It is important to emphasise that the versions used in this study were translated into Bosnian by Mutnović (2016), and the original questionnaire was created by Nobre, Gouveia, & Gomes (2003).

Procedure

Data were collected using printed instruments as well as online through a Google form. In both cases, the participants were given extensive written instructions and an explanation of the research objective as part of the questionnaire. It was also emphasized that filling in the questionnaire is completely anonymous. Data collection took almost two months. People who agreed to be part of the study were asked to forward the link with the questionnaires to their acquaintances and friends, so that the number of potential respondents could be increased using the snowball sampling technique.

Statistical Analyses

A two-way Analysis of Variance was conducted to examine the main effects and interaction effects for SDBQ. Levene's Test for Equality of Variances was not met (p < 0.05) and therefore the level of significance was increased from 95% to 99% in order to preserve statistical power.

Results

The following tables show descriptive statistics for SDBQ-M, SDBQ-F and SDBQ total scores categorized according to the independent variables 'Sex' (table 1), 'Age' (table 2) and 'Sex*Age' (table 3). Although the SDBQ-M version of the questionnaire intended for men is different in content from the SDBQ-F version intended for women, during their interpretation it is important to emphasise that both of these scales fall under the umbrella term SDBQ. For this reason, it was not possible to compare the subscales and their results, but only the total scores, which are treated identically in both versions (Nobre, Gouveia, & Gomes, 2003).

Table 1

Descriptive statistics for the SDBQ-M and SDBQ-F scores categorized by 'Sex'

Dependent variable	N	Min	Max	M	SD	Skew	Kurt
SDBQ-M Total Score	346	41	150	93.72	21.60	-.149	-.494
SDBQ-F Total Score	554	44	121	70.44	14.55	.676	.135

Table 2

Descriptive statistics for the SDBQ total score categorized by 'Age'

Dependent variable	Age group	N	Min	Max	M	SD	Skew	Kurt
SDBQ Total Score	18-29	348	45	138	77.29	21.09	.609	-.523
	30-49	324	41	150	78.82	20.96	.639	-.170
	50-65	228	49	147	83.39	20.13	.335	-.383

Table 3

*Descriptive statistics for the SDBQ total score categorized by 'Sex*Age'*

Dependent variable	Sex	Age group	N	Min	Max	M	SD	Skew	Kurt
SDBQ Total Score	Male	18-29	127	54	138	95.11	20.14	-.219	-.710
		30-49	117	41	150	92.85	23.59	-.067	-.693
		50-65	102	49	147	92.97	21.08	-.136	-.012
	Female	18-29	221	45	120	67.05	13.43	-.952	1.283
		30-49	207	44	115	70.88	14.15	.546	-.092
		50-65	126	52	121	75.63	15.55	.481	.428

Table 4

The results of the two-way Analysis of Variance, a presentation of the main effects and interaction effects for SDBQ

Dependent variable	Predictor	SS	Df	MS	F	p	partial η²
SDBQ total	Intercept	67046.846	1	67046.846	73991.792	.000	.988
	Sex	306.088	1	306.088	337.793	.000	.274
	Age	5.150	2	2.575	2.842	.059	.006
	Sex*Age	13.340	2	6.670	7.361	.001	.016
	Error	810.088	894	.906			

Table 5

The results of the simple main effects analysis for the SDBQ total at the levels of the independent variable 'Age'

Dependent variable	Age		SS	df	MS	F	p	partial η²
SDBQ total	18-29	Contrast	192.654	1	192.654	212.609	.000	.192
		Error	810.088	894	.906			
	30-49	Contrast	103.702	1	103.702	114.444	.000	.113
		Error	810.088	894	.906			
	50-65	Contrast	48.364	1	48.364	53.374	.000	.056
		Error	810.088	894	.906			

Table 6

A comparison of the results of simple main effects for SDBQ of the independent variable 'Sex' at three levels of the independent variable 'Age'

Dependent variable	Age	Sex (I)	Sex (J)	MD (I-J)	SE	*p*
	18-29	Male	Female	1.546	.106	.000
		Female	Male	-1.546	.106	.000
SDBQ total	30-49	Male	Female	1.178	.110	.000
		Female	Male	-1.178	.110	.000
	50-65	Male	Female	.926	.127	.000
		Female	Male	-.926	.127	.000

Table 7

The results of the simple main effects analysis for the SDBQ total at the levels of the independent variable 'Sex'

Dependent variable	Sex		SS	*df*	MS	*F*	*p*	partial η²
	Male	Contrast	1.362	2	.681	.751	.472	.002
SDBQ total		Error	810.088	894	.906			
	Female	Contrast	20.513	2	10.256	11.319	.000	.025
		Error	810.088	894	.906			

Table 8

A comparison of the results of simple main effects for SDBQ of the independent variable 'Age' at both levels of the independent variable 'Sex'

Dependent variable	Sex	Age (I)	Age (J)	MD (I-J)	SE	*p*
	Male	18-29	30-49	.139	.122	.254
			50-65	.117	.127	.355
		30-49	18-29	-.139	.122	.245
			50-65	-.022	.129	.864
		50-65	18-29	-.117	.127	.355
SDBQ total			30-49	.022	.129	.864
	Female	18-29	30-49	-.229	.092	.013
			50-65	-.502	.106	.000
		30-49	18-29	.229	.092	.013
			50-65	-.274	.108	.011
		50-65	18-29	.502	.106	.000
			30-49	.274	.108	.011

Looking at the results of table 4, we can say that there is a statistically significant main effect of the variable 'Sex' ($F(1,894) = 337.793$, $p = 0.000$, partial $\eta^2 = 0.27$), there is no statistically significant effect of the variable 'Age' ($F(2,894) = 2.842$, $p = 0.059$, partial $\eta^2 = 0.06$) and there is a statistically significant interaction effect of 'Sex*Age' ($F(2,894) = 6.670$, $p = 0.001$, partial $\eta^2 = 0.016$). Although no statistically significant effect of the 'Age' variable was obtained, Tukey's Honest Significant Difference (HSD) test for multiple comparisons showed statistically significant differences in the total scores at the following levels: between the age group of 18- to 29-year-olds (M = 77.29, SD = 21.09) and the age group of 50- to 65-year-olds (M = 83.39, SD = 20.13, $p = 0.000$), and between the age groups of 50- to 65-year-olds and 30- to 49-year-olds (M = 78.82, SD = 20.96, $p = 0.004$). Given the statistically significant interaction effect, simple main effects were further performed to establish at which levels a statistically significant difference occurred, and for this reason the main effects were not considered further.

The data from the Tables 3, 5 and 6 show that there are statistically significant sex differences in the average scores for SDBQ at all age group levels, where men always achieve a higher average score compared to women at all three age group levels ($F(1,894) = 212.609$, $p = 0.000$, partial $\eta^2 = 0.192$; $F(1,894) = 114.444$, $p = 0.000$, partial $\eta^2 = 0.113$; $F(1,894) = 53.374$, $p = 0.000$, partial $\eta^2 = 0.056$), which indicates a higher prevalence of dysfunctional beliefs about sexual intercourse in men compared to women when respondents aged 18 to 29, 30 to 49 and 50 to 65 are looked at separately. The average SDBQ score for men is the highest in the age group where the respondents were aged 18 to 29, while for women it is in the age group where the respondents were aged 50 to 65.

There was no statistically significant difference in the results for SDBQ between the three age groups at the level 'Male' (tables 7 and 8), but there was a statistically significant difference in the results for SDBQ between all three age groups at the level 'Female' ($F(2, 894) = 11.319$, $p = 0.000$, partial $\eta^2 = 0.025$), where the respondents aged 50 to 65 achieved the statistically highest average results, while the respondents aged 18 to 29 achieved the statistically lowest results (table 3, 7 and 8). This tells us that amongst women the level of representation of such beliefs

significantly changes statistically speaking - depending on which age group we look at, while this is not the case amongst men.

Discussion

The study aimed to investigate the impact of sex and age, as well as the interaction between these factors, on dysfunctional beliefs about sexual intercourse in the general population of Bosnia and Herzegovina. The analysis of the data using the two-way Analysis of Variance (ANOVA) revealed significant findings. Firstly, there was a statistically significant main effect related to the variable 'Sex,' indicating that men demonstrated a higher prevalence of dysfunctional beliefs about sexual intercourse compared to women, across all age groups. Secondly, there was no statistically significant main effect associated with the variable 'Age.'

Descriptive data for the main effects in this study show that men on average have a higher prevalence of dysfunctional beliefs about sexual intercourse compared to women, and that they are more prevalent amongst participants in the age group of 50- to 65-year-olds compared to the participants in both remaining age groups (18 to 29 and 30 to 49). Given the statistical significance of the interaction effect, the results of simple main effects are interesting. Simple main effects of sex show that men hold higher levels of dysfunctional beliefs about sexual intercourse than women in all three age groups. In men of all three age groups, looking at the simple main effect of age, the results show that there are no significant differences in the representation of dysfunctional beliefs about sexual intercourse, while amongst women, it is evident that there is a difference between all three age groups, where each subsequent older age group indicates a higher score compared to the previous one, which we can most likely attribute to the cohort effect, where each group shares the characteristic time in which the respondents have lived.

The results obtained for sex and age differences in dysfunctional beliefs about sexual intercourse are partially consistent with previous research that used the average total score for the SDBQ. In other studies (Nobre, Gouveia, and Gomes, 2003; Yasan, Tamam, Özkan, and Gürgen, 2009) the results almost always indicate that men on average achieve a higher average total score for the SDBQ compared to women, but that the results achieved vary depending on the country in which

the research was conducted. Also, in previous research, the participants most often belonged to the general population or were students aged 18 to 30, and therefore it was not possible to make a comparison with other age groups.

For example, in a study done in Portugal, Nobre, Gouveia, & Gomes (2003) found that men from the general population have an almost identical level of representation of dysfunctional beliefs about sexual intercourse as men from our study. On the other hand, women from the general population of their study have a lower representation of such beliefs compared to women from our study. Yasan et al. (2009) obtained slightly different results. In a study conducted on the student population in Turkey, the student population had a higher prevalence of dysfunctional beliefs about sexual intercourse compared to both male and female participants of our study that belong in the age group of 18- to 29-year-olds. The results of our study coincide with the results obtained by Mutnović (2016) on the general population of Bosnia and Herzegovina. The results reiterate that men have a higher prevalence of dysfunctional beliefs about sexual intercourse than women. The total scores are almost identical in both our and Mutnović's study.

Barnett et al. (2017) in a study in America, which was conducted on a student population aged 18 to 30, obtained data that this population has more dysfunctional beliefs about sexual intercourse compared to the respondents in our study who are aged 18 to 29. But looking separately at the results from male and female respondents, the male students of that study achieved almost identical results as the male respondents in our study who are aged 18 to 29, while the women in our study of that same age group had a lower representation of dysfunctional beliefs about sexual intercourse compared to the female students of the American study.

Younger women aged 18 to 28, who participated as respondents in a study conducted in Florida (DePesa and Cassisi, 2017), have lower dysfunctional beliefs about sexual intercourse compared to the younger group in our study who are aged 18 to 29. An interesting data obtained in another study conducted in Portugal (Carvahlo and Nobre, 2011) shows that men from the general population achieved lower average total score results compared to the men in our study.

We believe that it would be interesting to conduct a longitudinal study in order to be able to obtain more reliable results on whether a person changes their sexual beliefs as they age. In

future research, minors and the elderly should be taken into account. Almost 50% of adolescents had their first sexual relationship before graduating from high school (Meier, 2007), and data show that seniors (65+ years) are sexually active and have regular sexual intercourse (Hinchliff, Tetley, Lee, & Nazroo, 2018).

Conclusion

The aim of this study was to examine the main effects of sex and age, as well as the interaction effect of sex and age in dysfunctional beliefs about sexual intercourse. Using the two-way Analysis of Variance (ANOVA), a statistically significant main effect of the variable 'Sex' was obtained, which confirmed the first hypothesis, but no statistically significant effect of the variable 'Age' was obtained, which refuted the second hypothesis. Ultimately, what the researchers were most interested in was whether a statistically significant interaction effect of these two variables was obtained. The obtained data for the 'Sex*Age' interaction are in accordance with the expectations of the study, and it can be said that the third hypothesis has been confirmed.

Simple main effects of sex indicate that men achieve a higher average total score compared to women in all three age groups. Simple main effects of age show that amongst men there is no statistically significant difference in the average total scores between the three age groups, while amongst women a statistically significant difference was found in the average total scores between all three age groups. Looking at the data for simple main effects of age at the 'Female Sex' level, respondents aged 50 to 65 have higher average total scores compared to respondents aged 30 to 49, as well as respondents aged 18 to 29, who scored the lowest average total scores compared to the remaining two age groups.

The reactions of potential participants to a socially sensitive topic are divided, and are manifested in a number of different behaviours, from curiosity about the topic and the outcome of the study, to refusing to participate and offering resistance to the researcher, recognizing that the study deals with sensitive issues, which resulted in them being fearful that their own privacy could be revealed.

We can say that the topic of human sexuality is such that usually its mention does not go without a reaction. Any public mention of human sexuality still seems to be socially desirable only in the context of humorous portrayals or focusing on gender stereotyping. The results of this study point to the fact that the topic of sexuality is still taboo in our society and that more attention should be paid to the education of the population from an early age.

References

Barash, D., & Lipton, J. E. (1997). *Making sense of sex: how genes and gender influence our relationships*. Washington: Island Press.

Barnett, M. D., Hale, T. M., & Sligar, K. B. (2017). Masculinity, femininity, sexual dysfunctional beliefs, and rape myth acceptance among heterosexual college men and women. *Sexuality & Culture*, *21*(3), 741-753.

Carvalho, J., & Nobre, P. (2011). Predictors of men's sexual desire: The role of psychological, cognitive-emotional, relational, and medical factors. *Journal of Sex Research*, *48*(2-3), 254-262.

Conrad, S., & Milburn, M. (2004). *Seksualna inteligencija.* Zagreb: V.B.Z. studio.

DePesa, N. S., & Cassisi, J. E. (2017). Affective and autonomic responses to erotic images: evidence of disgust-based mechanisms in Female Sexual Interest/Arousal Disorder. *The Journal of Sex Research*, *54*(7), 877-886.

Hinchliff, S., Tetley, J., Lee, D., & Nazroo, J. (2018). Older adults' experiences of sexual difficulties: qualitative findings from the English Longitudinal Study on Ageing (ELSA). *The Journal of Sex Research*, *55*(2), 152-163.

Meier, A. M. (2007). Adolescent first sex and subsequent mental health. *American Journal of Sociology*, *112*(6), 1811-1847.

Mutnović, M. (2016). *Povezanost uvjerenja o seksu i seksualne funkcionalnosti kod žena i muškaraca iz opće populacije*. Magistarski rad. Univerzitet u Sarajevu: Filozofski fakultet.

Nobre, P., Gouveia, J. P., & Gomes, F. A. (2003). Sexual dysfunctional beliefs questionnaire: An instrument to assess sexual dysfunctional beliefs as vulnerability factors to sexual problems. *Sexual and Relationship Therapy*, *18*(2), 171-204.

Yasan, A., Tamam, L., Özkan, M., & Gürgen, F. (2009). Premarital sexual attitudes and experiences in university students. *Anatolian Journal of Clinical Investigation*, *3*(3).