



# The Effectiveness of Sex Education Based on Mindfulness Training and Islamic Teachings in Improving Satisfaction with Sexual Identity Among Male Adolescents in Zahedan, Iran

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## Abstract

**Background:** Sexual identity is an individual's sense of masculinity or femininity that has a positive effect on his/her mental health and well-being.

**Objectives:** The current study aimed at providing sex education based on mindfulness training and Islamic teachings in improving satisfaction with sexual identity among Iranian male adolescents aged 12 - 15 years.

**Methods:** The current quasi-experimental study with a pretest-posttest design and a control group was conducted on a sample of 60 male adolescents selected using a multistage cluster sampling method, and every 20 subjects were randomly assigned to an experimental or a control group. The measurement tool was a researcher-made questionnaire on satisfaction with sexual identity to measure four emotional, perceptual, behavioral, and social subscales. Cronbach's alpha coefficients of the whole questionnaire and the subscales were 0.76 and 0.65, respectively. Its validity was confirmed by internal consistency.

**Results:** Results of analysis of covariance showed that the scores of the groups were significantly different in satisfaction with sexual identity and its perceptual and social subscales. There was a significant difference between the experimental group trained by Islamic teachings and the control group in the emotional subscale. Concerning all of the subscales, the means of the experimental group trained by Islamic teachings were higher than those of the group received mindfulness training.

**Conclusions:** According to the current study results, it can be concluded that sex education based on mindfulness training and Islamic teachings should necessarily be considered in school curriculums developed for adolescents to improve their mental health and prevent them from social harm.

**Keywords:** Sex Education, Islamic Teachings, Mindfulness, Sexual Identity, Adolescents

## 1. Background

Gender and identity are two fundamental elements in individuals' lives that play decisive roles in their actions and beliefs and have attracted a plethora of attention in recent years (1-3). Sexual identity is how an individual thinks of himself/herself as a male or a female; an emotion that creates a sense of masculinity or femininity. Sexual identity can affect adolescents' sexual patterns and tendencies (4). Non-compliance with sexual identity is very high in people with sexual disorders (5). Teaching and educating adolescents can help them create a desirable sexual identity and prevent them from abnormal sexual disorders and behaviors (6). Sex education refers to all the information given from the early stages of human life to help an indi-

vidual to have a balanced development of sexual instinct (7).

According to the study by Santelli et al. (8), concerning teachers' opinions, the most important goal of sex education is to inform students about the responsibility and awareness of the reality of sexual issues. As claimed by Ajay et al., and also by Alevriadou and Sereti, sex education provided to all children and adolescents is a critical qualitative component of contemporary education (9) that prevents high-risk behaviors during adolescence (10). In terms of Islamic teachings, highlighting and teaching psychological and life issues, achieving the quality of various human talents and the relationships of these talents, and understanding the principles and methods of education can lead mankind to develop natural sexual talents and pre-

vent negative consequences such as lust, licentiousness, and the like, and also realize the great goals of sex education. In the Quran, narratives, and moral books, the issue of sex education in different periods of childhood, adolescence, and youth and the role of family were addressed explicitly and implicitly; providing such guidance prevents adolescents from referring to friends and possibly reading texts that usually harm them (11, 12).

According to Kabat-Zinn's definition, mindfulness is a way to address the attention or manage thoughts associated with oriental meditation and is described as maintaining a moment-by-moment awareness of the present experience (13). Teaching mindfulness is a therapeutic method to reduce stress and is a kind of psychotherapy in which the subjective realization of objects existing in one's life that are beyond immediate human control is taught through breathing and thinking. Research shows that mindfulness helps people to modify negative emotional and behavioral patterns and automatic thoughts and regulates positive health-related emotions and behaviors (14, 15) and causes mental happiness (16). Therefore, by teaching this method, adolescents can be aided to control and manage their thoughts and, consequently, prevent their high-risk behaviors (17). In their studies, Achora et al. (6) and Pour Tahmasbi et al. (18) emphasized that sex education should be a part of the school curriculum.

## 2. Objectives

In this regard, for the first time in Iran, the current study aimed at investigating the effect of providing sex education based on Islamic teachings and mindfulness to adolescents on their satisfaction with sexual identity.

## 3. Methods

The current quasi-experimental study with a pretest-posttest design and a control group was conducted in Zahedan, Iran in 2018 on a statistical population including all male adolescents of 12 - 15 years old studying in District 2 of Zahedan selected using a multistage cluster sampling method. Initially, an educational district was randomly selected from the two educational districts in Zahedan and among six junior high schools for males in this district, one school was selected. This school had nine classes, out of which three classes were randomly selected. The sample size was determined less than 10 using the Cochran's formula and the experimental research method; however, considering the authors' viewpoints, 60 individuals were regarded as the sample to maintain the validity and reliability of the study. The subjects were matched for age,

parents' levels of education, academic background, and social-cultural context of the family. Then, every 20 subjects were randomly assigned to an experimental or a control group. Before the intervention, the groups were tested for satisfaction with sexual identity. Results of the pretest obtained using a researcher-made questionnaire on satisfaction with sexual identity indicated a moderate level of satisfaction in the subjects. Afterwards, the mindfulness-based experimental group took part in eight 90-minute sessions of mindfulness training held according to the Kabat-Zinn mindfulness protocol and the other experimental group was simultaneously trained using a protocol of Islamic teachings developed and prepared based on Muslim scholars' viewpoints (19). To maintain the proportionality and coordination with the mindfulness-based experimental group, the numbers and durations of the training sessions were the same for the two groups. The validity of the two protocols was assessed using content validity and was approved by four professors. All the pieces of training were shared by the first author and one of the leading educational advisers thoroughly and precisely with the subjects; ethical principles were also observed. It should be noted that all the pieces of training were held after obtaining the informed consent from participants. These sessions focused on the past and future misconceptions and it was sought to emphasize emotions and thoughts by considering relaxation, self-awareness, and training breathing, driving it to all parts of the body, and meditation. During the training sessions, the adolescents learnt how to control disturbing thoughts related to their sexuality and puberty that might involve their minds in different situations and could attract their attention to the present and keep their minds away from engaging in disturbing thoughts. The second group was also trained by religious teachings. Educational contents of sex education for adolescents were developed based on the topics proposed by several Muslim scholars (e.g., Avicenna, Ghazali, Motahari, Falsafi, Naraghi, and Khajeh Nasir) aimed at informing adolescents by discussing the issues and characteristics of puberty, duties, and gender roles, the purpose of family formation, the manners to control sexual desire, the consequences of licentiousness, and religious rules during this period. However, the control group did not receive any training. The measurement tool was a researcher-made questionnaire on satisfaction with sexual identity developed based on sexual dysfunction questionnaire (DSM-IV-TR) and implemented by Bayani et al. in a study entitled *Sexual identity disorders* (20). Its validity and reliability were reported desirable (the reliability of all the subscales was > 0.65). A part of this questionnaire was modified and some items were scored reversely. This questionnaire includes

27 items and measures four emotional, perceptual, behavioral, and social subscales. The emotional subscale deals with positive tendencies and orientations towards the opposite sex or negative tendencies towards the same sex. The perceptual subscale represents the active perceptions and cognitive views towards the same or opposite sex. The behavioral subscale includes a set of active gender behaviors and sexual tendencies in line with an individual's gender. The social subscale encompasses the process of an adolescent's socialization that involves learning behavior patterns and social ways to accept gender roles and improve satisfaction with sexual identity. In the current study, using the Cronbach's alpha coefficient, the reliability of the questionnaire was 0.76 for satisfaction with sexual identity and 0.87, 0.84, 0.72, and 0.75 for emotional, perceptual, behavioral, and social subscales, respectively. The validity of the questionnaire was also confirmed by examining the internal consistency of the subscales with the whole questionnaire and each subscale with other ones. The research hypotheses were as follows:

- Providing sex education based on mindfulness training is effective in improving satisfaction with sexual identity and its' subscales among Iranian male adolescents aged 12 - 15 years.
- Providing sex education based on Islamic teachings is effective in improving satisfaction with sexual identity and its' subscales among Iranian male adolescents aged 12 - 15 years.

#### 4. Results

In case of a two-level independent variable and multiple dependent variables, the best method for data analysis was a multivariate analysis of covariance (MANCOVA). Therefore, first the presumptions of this method were studied. To evaluate the normal distribution, the Kolmogorov-Smirnov and Shapiro-Wilk tests were used,  $P > 0.05$  was considered the level of significance. The null hypothesis was confirmed, indicating that the data were normally distributed. To test the homogeneity of variances, the Levene test was performed,  $P > 0.05$  was also considered the level of significance. The results of the Box M test (Box M = 23.72;  $P = 0.15$ ) confirmed the homogeneity of variance-covariance matrices. To prove the homogeneity, the slope of the regression line was  $F = 1.7$  and  $P < 0.05$ . Regarding the slope of the regression, the linearity of the data was  $F = 4.9$  and  $P < 0.05$ . After confirming the presumptions, the results of MANCOVA showed significant effects of the independent variables in the groups (Table 1), and a significant difference between the scores of satisfaction with sexual identity and its subscales among the groups. The

effect size also demonstrated that 30% of the variances in satisfaction with sexual identity were due to the intervention, which indicated a very large effect size according to Cohen's general guidelines (small = 0.01, moderate = 0.06, and large = 0.14). The test power also showed the adequacy of the sample size to generalize the results and verify or reject the research hypothesis.

According to Table 2, the posttest scores in all subscales were higher than those of the pretest.

Regarding significant main effects of the groups, the analysis of covariance (ANCOVA) was performed on each of the dependent variables as a pot hoc MANCOVA. To reduce the type I error, the Bonferroni correction was used. Therefore, by dividing the significant level (0.05) by the number of the dependent variables, the acceptable level was 0.05. According to Table 3, there is a significant difference between groups in all dependent variables. Except for the behavioral subscale. ( $P < 0.05$ ). Comparing the means of the groups (Table 2) also demonstrated that considering all the dependent variables, the means of the experimental group trained by Islamic teachings (115, 24, 22, 33) were higher than those of the other two groups, and the means of the mindfulness-based experimental group (111.6, 21, 20, 32) were higher than those of the control group (96.6, 18.8, 18, 27). Accordingly, the research hypothesis was confirmed, i.e., providing sex education based on mindfulness training and Islamic teachings is effective in improving satisfaction with sexual identity and its subscales. The results of MANCOVA and pairwise comparison of the means (Table 4) also indicated that the means of the experimental groups received Islamic teachings or mindfulness training in satisfaction with sexual identity and its subscales, except for the behavioral subscale, had a significant difference with those of the control group. Regarding the emotional subscale, there was a significant difference between the experimental group trained by Islamic teachings and the control group. Although in all of the subscales, the means of the experimental group trained by Islamic teachings were higher, there was no significant difference between the two experimental groups, i.e., mindfulness training and Islamic teachings. Hence, based on the results of the study, research hypothesis was confirmed.

#### 5. Discussion

The results of ANCOVA showed that the scores of the groups in all the dependent variables, except for the behavioral subscale, were significantly different. Comparison of the means of these groups also indicated that the means of the mindfulness-based experimental group were

**Table 1.** Results of MANCOVA of Pillai's Trace and Wilks' Lambda

Effect	Value	F	df	Error df	Effect Size	P Value
Pillai's trace	0.89	6.26	5	92	0.30	0.000
Wilks' lambda	0.28	6.6	5	90	0.50	0.000

**Table 2.** Comparing the Mean Scores of Satisfaction with Sexual Identity and Its Subscales Between the Pretest and Posttest Using ANCOVA

Group	Satisfaction with Sexual Identity		Emotional Subscale		Perceptual Subscale		Behavioral Subscale		Social Subscale		N
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
<b>Mindfulness training</b>											
Pretest	92.9	7.2	18	2.39	18	2.9	33	6.4	28	5.3	20
Posttest	111.6	17	21.4	3.5	20	2.8	29	5.9	32	5.7	20
<b>Islamic teachings</b>											
Pretest	90	7.7	17	2.2	17	2.3	34	4	26	6	20
Posttest	115	7	24	2	22	2.6	29	4.8	33	3.2	20
<b>Control group</b>											
Pretest	90	9.6	17.8	2	17	2.5	31	7.6	25	3.8	20
Posttest	96.6	11	18.8	4.5	18	2.1	26	4.4	27	4	20

**Table 3.** Results of ANCOVA Post Hoc Test for Satisfaction with Sexual Identity and Its Subscales

Variable	Sum of Squares	Mean Squares	df	f	P Value
Satisfaction with sexual identity	2590	1295	2	8.9	0.001
Emotional subscale	203.3	101.6	2	9	0.000
Perceptual subscale	160	80	2	11.5	0.000
Behavioral subscale	54.1	27	2	1.3	0.280
Social subscale	326	163	2	8.4	0.001

**Table 4.** The Results of ANCOVA for the Pairwise Comparison of the Means

Variable	Group		Mean Difference	Std. Error	P Value
Satisfaction with sexual identity	Mindfulness training	Islamic teachings	2.6	4.1	1
		Control group	13	4	0.006
	Islamic teachings	Control group	15.7	4	0.001
Emotional subscale	Mindfulness training	Islamic teachings	2.4	1.1	0.1
		Control group	2.3	1.1	0.13
	Islamic teachings	Control group	4.7	1.1	0.000
Perceptual subscale	Mindfulness training	Islamic teachings	1.7	0.9	0.16
		Control group	2.4	0.8	0.02
	Islamic teachings	Control group	4.2	0.8	0.000
Behavioral subscale	Mindfulness training	Islamic teachings	29	1.5	1
		Control group	1.9	1.5	0.61
	Islamic teachings	Control group	2.2	1.5	0.43
Social subscale	Mindfulness training	Islamic teachings	2.62	1.5	1
		Control group	5.3	1.5	0.002
	Islamic teachings	Control group	5	1.5	0.003

higher than those of the control group. Therefore, the research hypothesis was confirmed. Based on this finding, it can be deduced that by using this training, adolescents' attention can be distracted from disturbing thoughts and future concerns related to sexual issues and can be focused

on the present. Moreover, they can be taught to get rid of mental preoccupations during adolescence through accepting their sexual identity and improving their satisfaction with sexual identity. Feeling valuable sometimes helps adolescents to reduce identity disorders and sexual

disturbances and decrease social harm. The results of a study (21) suggested that the lack of attention to sexual identity was a big gap in the design of health programs for adolescents; the results of studies conducted by Chadi et al. (22), which also confirmed the effect of mindfulness training on adolescents' mental health and well-being, and the results of Lovell et al., indicating the positive effect of mindfulness training on adolescents' physical anxiety and moderating relationships with peers (23) were consistent with those of the current study. Moreover, comparing the means of these groups demonstrated that considering all the dependent variables, the means of the experimental group trained by Islamic teachings were higher than those of the other two groups, the mindfulness-based experimental group and the control group. Therefore, the research hypothesis was confirmed. It can be concluded that sex education had a positive effect on informing adolescents about different aspects of sexual identity; i.e., emotional, perceptual, behavioral, and social. By providing appropriate and timely training, it is possible to coordinate the cognitive, social, and cultural developments of adolescents with their sexual growth, adoption of sexual identity, and self-worth during adolescence, which leads them to achieve sexual morality. This result was consistent with those of a research conducted by Bayani et al. stating that individuals with a sexual identity disorder face problems such as rejection, isolation, lack of social communication, and inconsistency and emphasized the need for developing training programs for satisfaction with sexual identity (20). When examining these findings, it was demonstrated that although the two modes of intervention had positive effects on improving satisfaction with sexual identity among the adolescents, the intervention based on Islamic teachings gained a greater share than the mindfulness-based training. No relevant studies were found in this field. The results of MANCOVA and pairwise comparison of the means also indicated that the means of the experimental groups received Islamic teachings or mindfulness trainings in improving satisfaction with sexual identity and its perceptual, emotional, and social subscales, had significant differences with those of the control group. Only concerning the emotional subscale, there was a significant difference between the experimental group trained by Islamic teachings and the control group. It can be deduced that sex education based on Islamic teachings, due to considering human dignity and paying attention to emotional characteristics, provides a sense of satisfaction and goodness in human beings. Therefore, based on the current study results, sex education based on mindfulness training and especially Islamic teachings can be regarded in the school curriculums as an effective step towards in-

forming adolescents, increasing their self-awareness, and respecting and paying attention to adolescents' characteristics to prevent social harm. The present study was performed to indicate the necessity of incorporating sex education in school curriculum, which is of particular importance based on several studies (6-10). Healthy sexual identity has direct relationships with mental health (24), sexual behaviors, and prevention of high-risk sexual behaviors and substance abuse (25). Research shows that people with a healthy sexual identity have a better mental health than the ones with a sexual identity disorder (3). In the same line, the study by Aleman-Diaz et al. emphasized children's and adolescents' mental health in national and state policies (26). Even some studies examined sexual identity (27) and emphasized the importance of juvenile sexual orientation at school. The results of studies conducted by Davaei and Benissi (28) also indicated the necessity of providing sex education to children and adolescents at schools.

### 5.1. Conclusions

Based on the results of the current study, sex education based on mindfulness training and especially Islamic teachings can be incorporated in school curriculums as an effective step towards informing adolescents, increasing their self-awareness, and respecting and paying attention to their characteristics to prevent social harm.

### Supplementary Material

Supplementary material(s) is available [here](#) [To read supplementary materials, please refer to the journal website and open PDF/HTML].

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### Footnotes

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