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Creating a Sex Education Package and Determining Its Effectiveness on Self-Esteem in Primary School Children

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ABSTRACT

Objective: Development of a healthy identity can significantly affect the formation of other traits, including self-esteem and body image, in individuals. The aim of the study was to develop a sexual education program and evaluate its impact on the self-esteem of elementary school children.

Methods: It was a quasi-experimental study with a pre-test-post-test design, which included a control group. The statistical population consisted of all elementary school girls in Shiraz (Iran) in 2021, and the sampling method was random from the girls' elementary schools in Shiraz. The participants were 30 female students who were randomly assigned to two groups, experimental and control, each with 15 individuals. The Cooper Smith Self-Esteem Inventory (SEI) was used to measure self-esteem.

Results: The multivariate covariance analysis indicated that the F-statistic for personal and social self-esteem variables was significant ($p < 0.001$), but not for the family self-esteem variable.

Conclusions: Therefore, implementing the sexual education program for elementary school children has a positive and significant effect on personal and social self-esteem.

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Introduction

Our society comprises distinct cohorts of individuals, and the well-being of each of these cohorts has an impact on the overall health of the society ([Newland et al., 2014](#)). Children represent one of the most vital and vulnerable cohorts that necessitate specific attention and care. Progressive societies have implemented specialized programs to ensure the well-being of their children, as children are the primary assets of nations ([Fattore et al., 2012](#)). Focusing on their health and education contributes to the growth and advancement of any country. Designing suitable programs to enhance children's health requires both physical and mental awareness. Such programs should aim to promote the flourishing of children while minimizing the potential harm they may face in the contemporary world. One significant harm that affects children's health nowadays is the issue of sexual abuse, which poses a threat to their mental, emotional, and physical well-being, as well as their self-esteem ([Tamarit et al., 2021](#)).

Given that Iran is a youthful nation with 20% of its population being young people, and 27.7% of Iranian young people engage in their first sexual experience at the age of 15, it is crucial to address the issue of sexual education ([Tabatabaie, 2015](#)). Additionally, 68.2% of young people partake in at least one risky sexual activity, including high-risk behaviors such as unprotected sexual intercourse and multiple sexual partners. Notably, high-risk sexual behaviors represent the second primary mode of HIV transmission in Iran. Considering that the development, progress, and continuation of risk-reducing behaviors constitute important goals of sexual education and sexual health, it becomes vital to prioritize this matter ([Farnam et al., 2008](#)). Including sexual education in the educational curriculum of schools is necessary as childhood and adolescence serve as the foundation for establishing healthy families and promoting sexual health in future years of the society ([Mojdeh & Mohamadi, 2013](#)).

Among the essential measures to prevent psychological harm and maintain the well-being of children, many societies today implement educational programs in schools. These programs aim to provide children and their parents with the necessary knowledge about their bodies and how to care for them. Children learn to foster a positive self-image, safeguard their private parts, and cultivate understanding and respect for sexuality. These awareness-raising efforts are an integral aspect of children's education, commonly referred to as sexual education. According to the World Health Organization's definition ([Haberland & Rogow, 2015](#)), sexual education encompasses all

actions undertaken from the inception of human life to foster balanced and appropriate development of sexual instincts. Its objectives include imparting sexual knowledge, facilitating the development of healthy sexual behaviors, ensuring the continuity and survival of future generations, aiding individuals in fulfilling sexual obligations, and promoting overall well-being and harmony ([Yazdani & Sohrabi Shegefty, 2018](#)).

Children who experience sexual abuse suffer a decline in their self-worth and regard for their physical selves. According to [Littleton \(2010\)](#), individuals who have been victimized by rape exhibit diminished self-esteem, as well as increased social anxiety. Self-esteem refers to the assessment that an individual makes regarding their own values and emotions associated with these evaluations ([Rosenberg et al., 1995](#)), while self-respect, which corresponds to the corporeal manifestation of self-esteem, is defined as "an individual's attitudes, appraisals, and sentiments towards their own body" ([Mendelson & White, 1985](#)). Research demonstrates that those who have recently experienced rape or sexual harassment tend to possess lower levels of self-esteem ([Wai & Osman, 2019](#)). Self-esteem, as defined by ([Rosenberg et al., 1995](#)), is a person's evaluation of their own value. More precisely, self-esteem represents the evaluative aspect of one's "self", in which an individual subjectively assesses their abilities, qualities, and aptitudes, subsequently forming an attitude based on their approval or disapproval ([Abdel-Khalek, 2016](#); [Guindon, 2002](#); [Rahimi & Sedaghat Khah, 2022](#)). The construct of self-esteem has been employed in various scales to anticipate and elucidate numerous behavioral phenomena, underscoring its central role in psychological theory and research ([Shahani et al., 1990](#)).

[Ferris et al. \(2015\)](#) assert that certain studies indicate that sexual violence exerts the most significant impact on self-esteem. Meanwhile, [Littleton \(2010\)](#) asserts that rape victims experience lower self-confidence, diminished estimation power, and heightened social anxiety. In their investigation, [Khodabandeh et al. \(2018\)](#) directed their attention towards adverse childhood experiences as risk factors for a range of consequences stemming from violence in adulthood. They expound that children who encounter adverse experiences during childhood tend to exhibit poor communication skills, self-assurance, and self-esteem, consequently increasing the likelihood of interpersonal difficulties and physical violence in adulthood. [Krahé and Berger \(2017\)](#) posit that childhood sexual abuse indirectly elevates the probability of becoming a sexual victim among

women and engaging in sexual violence among men. Risky sexual behavior serves as the pathway connecting childhood sexual abuse to victimization. Additionally, [Janković \(2021\)](#) states that adolescents who were not subjected to sexual or physical abuse during childhood, nor were they bullied or cyberbullied, display a higher degree of self-esteem compared to their victimized counterparts.

Drawing on the studies conducted in the realm of sex education efficacy, the researcher has made the decision to develop a comprehensive and scientifically grounded sex education program. Subsequently, the effectiveness of this program will be evaluated in terms of its impact on the self-esteem of elementary school children.

Materials and Methods

The current investigation was conducted as an experimental endeavor utilizing a pre-test-post-test design featuring a control group. The statistical population for this particular study encompassed all young female individuals attending primary schools within the vicinity of Shiraz during the 2021 academic year. The sampling methodology employed in this research was of a random nature, selecting among the various primary schools catering to girls in Shiraz. The total sample size consisted of 30 female students who were enrolled in elementary school during the academic year of 2021, with 15 participants assigned to the experimental group and an additional 15 assigned to the control group, in a random manner.

At first, a letter was given by the office of the Islamic Azad University, Maroudasht Branch, to introduce the researcher to the Education Research Institute. After going through the administrative procedures at the General Directorate of Education of Fars, the researcher succeeded in obtaining a permit to conduct research in elementary schools. Then 30 primary school girls were selected randomly. It should be noted that the placement of students in each group was done by random assignment and the pre-test, which included the self-esteem questionnaire, was performed on the sample group under the same conditions in the school. Considering the young age of the children and their lack of understanding about some questions, each question was read separately and then they were asked to mark the relevant answer after giving the necessary explanations. After conducting the pre-test on all the samples, training was conducted on the experimental group during 10 sessions and for 45 minutes in each session, taking into account

moral principles and Iranian culture, as well as the age level and level of curiosity of the children. After the completion of the training sessions, both experimental and control groups were evaluated again in the same conditions and using the mentioned scale, and the results were analyzed with the help of SPSS-19 software. The compilation package of the researcher in the field of sex education includes the following sessions (Table 1).

Table 1. Summary of sex education program sessions

Session	Content
1	<ul style="list-style-type: none"> -Getting to know the students and talking with them -Creating a friendly and trusting environment -Conducting the pre-test -Familiarity with body parts in general and their hygiene and naming
2	<ul style="list-style-type: none"> -Getting to know the genitals in general and their hygiene and naming -Getting to know the concept of public and private body in general -Complete a number of worksheets with children -Reviewing the contents of the previous sessions and answering the children's possible questions -Getting to know the differences between humans in general and the differences between girls and boys
3	<ul style="list-style-type: none"> -Encouragement to love yourself as a girl -Talking and telling stories about some heroic women and girls, athletes and elites, using photos, pictures and videos, and reading their life stories. -Reviewing the contents of the previous sessions and answering the children's possible questions
4	<ul style="list-style-type: none"> -Continuity of touches -Inevitable touches -Red flag, green flag game -We all need nice touches
5	<ul style="list-style-type: none"> -Secret law -Reading the book Touch Good Touch Bad -Reviewing the contents of the previous sessions and answering the children's possible questions -Teaching the skill of saying no/the skill of assertiveness/along with the performance of the game with Poppy doll -Leaving the place/best reaction -Report to an elder/ask for help -Reading the book I can say out loud no! -Reviewing the contents of the previous sessions and answering the children's possible questions
6	<ul style="list-style-type: none"> -Self-esteem skills -Positive mental image of the body -Value and respect for the privacy of oneself and others and increase physical self-esteem -Find your abilities game and worksheet and I can, they can -Reading the book you are unique. -You are responsible for your own body -Reviewing the contents of the previous sessions and answering the children's possible questions
8	<ul style="list-style-type: none"> -Recognizing one's own and others' feelings -Trust your feelings -Playing and telling stories with the help of emotions -Reviewing the contents of the previous sessions and answering the children's possible questions
9	<ul style="list-style-type: none"> -Reviewing the contents of the previous sessions and answering the children's possible questions -The ways in which children are threatened or seduced -Reading Topoli book: Don't touch my body!
10	Post test

In this research, Cooper Smith's (1967) self-esteem scale was used to measure self-esteem. This scale includes 25 items and 3 components (personal self-esteem, social self-esteem, family self-esteem). This test is answered with a two-part scale "like me" and "not like me". Reliability The reliability of the test by [Lane et al. \(2002\)](#) using Kuder-Richardson's method on 600 students in the fifth, ninth and twelfth grades was more than 0.8. The reliability of the test in [Jamil \(2006\)](#) was obtained using the Coder-Richardson method, 0.74 for men and 0.71 for women.

The scores of the answers are as follows:

1 = like me, 0 = not like me

Questions related to the main test components: Personal self-esteem: 1, 2, 3, 4, 7, 10, 12, 13, 15, 18, 24, Social self-esteem: 5, 8, 14, 17, 19, 21, 23, 25, Self-esteem of the family: 6, 9, 11, 16, 20, 22. The total score of the test: it is obtained from the total score of 25 questions. In the present study, Cronbach's alpha coefficient for this scale was calculated as follows:

The general variable of self-esteem is 0.462

Personal self-esteem 0.705

Social self-esteem 0.763

Family self-esteem 0.407

The inclusion criteria include; Studying in one of the primary girls' schools in Shiraz city, no history of physical illness, desire and consent to participate in the study, no use of psychiatric drugs, no other psychological treatment methods during the implementation of the research, and no occurrence of tension incidents like a divorce or the death of a loved one in the last six months. Exclusion criteria include non-participation in the schedule of training sessions, absence of more than two sessions in the schedule of sessions, failure to complete and correct questionnaires at each stage of the research, occurrence of an incident affecting the subject's personal life so that he was unable to continue participating in the sessions, and taking drugs had an effect on the research results. Also, the ethical issues observed in the research include obtaining voluntary consent from the subjects, the subjects were allowed to refuse to continue participating in the program whenever they were not able to continue in the intervention program, and the information about the subjects was kept completely confidential.

Results

Table 2 shows the mean and standard deviation of the self-esteem variable and its components in the experimental and control groups.

Table 2. The mean and standard deviation of the self-esteem variable and its components in the experimental and control groups

Phase		Pretest		Post-test	
Group	Variable	Mean	SD	Mean	SD
Control	Self-esteem	8.80	2.42	10.86	1.99
	Personal S.	3.46	1.24	4.53	0.99
	Social S.	3	1.13	3.53	1.24
	Family S.	2.33	1.04	2.80	1.08
Experimental	Self-esteem	9.33	2.76	16.53	1.24
	Personal S.	3.40	1.35	7.40	1.18
	Social S.	3.42	1.37	5.80	0.67
	Family S.	2.53	1.12	3.33	0.97

According to Table 2, the post-test average of all variables has increased significantly compared to their pre-test average in the experimental group. However, no such changes were observed in the control group. This issue can confirm to some extent the effectiveness of the educational package in the research. Analysis of covariance test was used to check the significance of the observed differences. In order to use the mentioned test, presuppositions must be observed, which are briefly stated below.

The Kolmogorov-Smirnov test was used to check the normality of the data. Since the Kolmogorov-Smirnov test values were not significant in any of the steps ($p > 0.05$), it can be concluded that the distribution of scores is normal. Levine's test was also used to check the homogeneity of variances. According to the results, Levin's test statistic was not statistically significant ($p > 0.05$) and thus the assumption of equality of variances was confirmed. The research data did not question the assumption of homogeneity of variance-covariance matrices (Box-M); Therefore, this assumption has also been met ($p > 0.05$). The significance level of the interaction between the group and the pre-test was greater than 0.05, and this indicated the homogeneity of the slope of the regression line. Considering that the presuppositions of using multivariate analysis of variance have been met, this statistical test can be used. Table 3 shows the results of multivariate analysis of variance.

Table 3. The results of multivariate variance analysis tests

Test	Value	F	DF	p
Pillai's trace	0.748	22.80	23	0.001
Wilks' lambda	0.252	22.80	23	0.001
Hotelling's trace	2.97	22.80	23	0.001
Roy's largest root	2.97	22.80	23	0.001

Table 3 shows that the value of F is significant at the level of 0.001 in the four tests of Manova. Therefore, the effect of the independent variable on the dependent variable (self-esteem components) shows that there is a significant difference, so it is concluded that there is a significant difference in at least one of the self-esteem components. To clarify the significance of the difference for each of the components of self-esteem, the results of univariate variance analysis are reported in Table 4.

Table 4. Results of univariate analysis of variance

Effect	Variable	SS	DF	MS	F	p
Group	Personal S.	41.61	1	41.61	39.62	0.001
	Social S.	27.84	1	27.84	38.14	0.001
	Family S.	1.15	1	1.15	2.45	0.152

According to Table 4, F value was significant for the variable of personal self-esteem and social self-esteem at the level of 0.001, but this statistic was not significant for the variable of family self-esteem. From this finding, it can be concluded that the implementation of the sex education package for primary school children has had a positive and significant effect on personal and social self-esteem.

Discussion

According to the findings of the multivariate covariance analysis, it was observed that the introduction of sex education had a positive and significant impact on the various dimensions of self-esteem. The results of this study align with previous research conducted by [Khodabandeh et al. \(2018\)](#), [Krahé and Berger \(2017\)](#), [Janković \(2021\)](#) and [Yazdani and Sohrabi Shegefty \(2018\)](#), all of which have consistently demonstrated the effectiveness of sex education on psychological indicators such as self-esteem and self-confidence.

In line with these studies, it can be argued that individuals who have experienced sexual trauma and violence during childhood tend to have lower levels of self-esteem ([Ostrowsky, 2010](#)), higher rates of depression ([Ouellet-Morin et al., 2015](#)), and increased social anxiety compared to those

who have not experienced such abuse ([Littleton, 2010](#)). Consequently, the lack of sexual awareness and knowledge among children regarding topics such as puberty and the boundaries of appropriate touching and sexual harassment can have severe detrimental effects on their well-being. UNESCO reports have highlighted the prevalence of sexual abuse through the Internet and other media, as well as the vulnerability of adolescents to abuse and exploitation. Therefore, the implementation of sex education programs is essential in addressing these issues ([Yankah, 2015](#)). Considering that children are the future assets of society and their well-being is crucial for the overall health of societies, it is imperative to prioritize sexual education programs that aim to enhance children's awareness and self-esteem in order to prevent harm. [Rudolph and Zimmer-Gembeck \(2018\)](#) suggest that parents play a significant role in supporting their children through two approaches: firstly, by creating strong external barriers through parental supervision, monitoring, and involvement; and secondly, by promoting children's self-efficacy, skills, well-being, and self-confidence, as these factors contribute to reducing the likelihood of abuse and enable children to respond appropriately and disclose instances of abuse. [Morton and Montgomery \(2013\)](#) emphasize the importance of enhancing children's self-esteem within sex education programs to address the high rates of violence and prevent child abuse.

During the course of this research, the following limitations were encountered:

- Lack of cooperation from educational institutions and relevant organizations in implementing sex education programs comprehensively and in accordance with established principles, possibly due to sensitivities surrounding the term "sex."
- Misunderstandings among certain officials and parents regarding the nature of sex education programs, often equating them solely with sexual education.
- Limited availability of similar research studies to establish a solid foundation for this research.

Moreover, in order to conduct more targeted and effective future research, the following suggestions are proposed:

- Sexual education programs should be made accessible to children from the pre-primary stage onwards, regardless of cultural and political biases, while considering age-appropriate content and a gradual approach.

- Radio and television platforms should engage experts and filmmakers who possess a deep understanding of children's and teenagers' developmental stages and needs, ensuring the creation of animated content and related programs that foster necessary awareness.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University. The patients/participants provided their written informed consent to participate in this study.

Author contributions

H.Z, A.M., N.S and M.Z contributed to the study conception and design, material preparation, data collection and analysis. The authors contributed to the article and approved the submitted version.

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