Developing and Validating Self-Care Training Package Reducer of Damages of Relation with the Opposite Sex Based on the Theory of Planned Behavior and Its Effectiveness on Cognitive Emotion Regulation of Adolescent Girl Students

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Abstract

Introduction: The prevention of the damages of relation with the opposite sex during adolescence is of great importance because it is at this time that dating behaviors begin, behavioral norms are established, and all kinds of harms following improper relation with the opposite sex begin to appear. This research was conducted with the aim of developing and validating a self-care educational package that reduces the damages of relation with the opposite sex based on the theory of planned behavior and its effectiveness on the cognitive emotion regulation of adolescent girl students.

Method: The statistical sample for the purpose of validating the produced educational package included 12 experts who had expertise in adolescent issues, who were selected in a purposeful way. The statistical sample in the quantitative section consisted of 40 high school girl students in the 20th district of Tehran who were selected by a multi-stage sampling method. The research tool included the Cognitive Emotion Regulation Questionnaire Garnefski & Kraaij. Statistical analysis was done in the quantitative part using covariance analysis in SPSS software.

Findings: The results in the qualitative part showed that the self-care educational package that reduces the damages of relation with the opposite sex based on the theory of planned behavior has good validity. In the quantitative part, the results of the multivariate covariance analysis test showed that the average of cognitive emotion regulation in the students of the self-care training group that reduces the damages of relation with the opposite sex based on the theory of planned behavior was higher than that of the subjects in the control group. (Sig=0.001). Therefore, the educational package of self-care that reduces the damages of relation with the opposite sex based on the theory of planned behavior was effective on the cognitive emotion regulation of adolescent girl students.

Conclusion: The self-care educational package that reduces the damages of relation with the opposite sex, based on the theory of planned behavior, can be a practical tool to improve the

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abilities of adolescents and be effective in improving cognitive emotion regulation in adolescent girls.

Keywords: cognitive emotion regulation, damages of relation with the opposite sex, self-care, theory of planned behavior, validation

Received: 1/ N0vember/ 2023 Accepted: 31/ December/ 2023

Citation: Ghalami Z, Sa dipoor E, Dortaj F, Asadzadeh H, Ebrahimi Qavam S. Developing and Validating Self-Care Training Package Reducer of Damages of Relation with the Opposite Sex Based on the Theory of Planned Behavior and Its Effectiveness on Cognitive Emotion Regulation of Adolescent Girl Students, Family and health, 2023; 13(3): 105-129

Introduction:

The emotional life of adolescents is different from that of children or adults; The patterns of neurodevelopmental imbalance of the adolescent brain show that asynchrony in the evolution of neural circuits within and between different brain networks leads to strong activation of limbic striatum networks in early to mid-adolescence, and as a result, it increases searching for new things, emotional processing and sensation-seeking compared to other age groups (1). Screening for emotional disorders and dysregulation in adolescents should be included in all preventive and intervention programs with the aim of achieving physical and mental health (2). Considering that the areas of the frontal cortex of the brain that are responsible for emotion regulation abilities continue to grow during adolescence, the brain is sensitive to environmental influences, and exposure to adverse experiences during this period may weaken emotion regulation (3). Although the management of stressful events is important in all stages of life, adolescence is a period in which cognitive emotion regulation skills are acquired (4). It seems that adolescence is an important developmental period for studying the interaction between cognitive emotion regulation and emotional problems; In fact, adolescence is probably the period of shaping emotional regulation styles that will continue for a long time in adulthood (5).

Emotion regulation includes all the cognitive and behavioral strategies that a person may use to adjust each of the characteristics of an emotional experience (6). Emotion regulation is related to a wide range of functional areas, including social functioning, mental and physical health, and academic performance (7). Understanding how emotion is regulated during adolescence is important when considering prevention and early intervention goals for mental health problems (8). Cognitive emotion regulation refers to the conscious and cognitive management method of receiving emotionally stimulating information and reflects the cognitive part of coping (9). The cognitive regulation of emotion shows the cognitive reactions related to the emotional involvement of our brain to an event that tries to influence the aroused emotions or the event itself (10). Cognitive emotion regulation strategies refer to a cognitive pattern that changes the amount or type of emotional experience (11). Considering the extensive changes in cognitive capacity that occur

during the transition from childhood to adolescence, cognitive emotion regulation strategies are more important in this period and can also affect disorders (12).

Cognitive emotion regulation strategies are prominent predictors of mental health (13). Some cognitive emotion regulation strategies are more related to mental health than other strategies, for example, these strategies can have different roles in promoting well-being (14), health-promoting behaviors (15), life satisfaction (10), and mental toughness (16). Adaptive strategies (such as acceptance, re-evaluation, and problem-solving) are defined as strategies that have a negative correlation with psychological injuries (12) and a positive relationship with mental health, well-being (17), motivation, initiative, and efficiency (18). On the other hand, maladaptive strategies (such as rumination and suppression) are related to developing and maintaining mental disorders such as anxiety, depression, and risky behaviors (12; 17; 11).

Among the concerns of parents and educational systems, today is the increasing tendency of adolescents to have early relations with the opposite sex, which can cause damage such as kinds of abuse and violence. Dating and Relationship Violence (DRV) includes violence, physical, sexual, and emotional abuse during adolescence, which is associated with a wide range of adverse outcomes, including injuries, sexually transmitted infections, teenage pregnancy, and mental health issues (19). The lack of physical, cognitive, and emotional maturity in adolescents compared to adults can lead to more risks and increase the severity of these consequences for them (20). There are no accurate statistics on relationships with the opposite sex during adolescence, which are constantly increasing. The conducted research shows that 30 to 70 percent of high school girls in Tehran have reported the experience of friendship and relationship with the opposite sex (21) and unfortunately many of these relationships have adverse consequences for adolescents and may even lead to risky behaviors. The findings of Khalajabadi Farahani's research (22) also show that in Tehran, about one-fifth of people of university age and younger had experienced sexual relations before marriage. In general, it can be said that experiencing the trauma of unhealthy relationships during adolescence has consequences for the well-being of adolescents and challenges the ability of adolescents to succeed in several areas, including social interactions inside and outside of school; Damages related to mental health, low academic progress and management of aggressive conflicts are among them (23). Such adverse consequences show the importance of implementing policies that prevent misbehavior and violence in friendship relationships to ensure the well-being of students and support their educational opportunities (24). In fact, comprehensive and primary prevention of such injuries is necessary for young girls and boys, because these behaviors are widespread in both groups and are less reported, and at the same time, access to victims of such injuries is usually challenging (25).

The adverse psychological, physical, and health consequences of communication injuries in adolescence emphasize the existence of preventive programs. Although the number of these prevention programs is limited, the programs that have been experimentally evaluated have shown the capacity to create some changes. For example, several studies have shown that adolescents for whom a school-based prevention program is implemented had more appropriate knowledge and attitudes about violence in relationships (26). Educational interventions based on health education theories are one of the best methods, especially for high-risk groups (27). The Theory of Planned

Behavior (TPB) is a model that is rooted in social psychology and can be useful in analyzing the

damages of a relationship with the opposite sex because it considers the interaction between personal and social factors to explain behavior. Also, this theory can be used in the field of prevention (28). According to the theory of planned behavior, behaviors depend on the individual's intention for a specific behavior (intention), the individual's attitude towards the specific behavior (attitude), the individual's understanding of the social pressure to join the specific behavior or avoid it (subjective norms), a person's view of his ability to perform a specific behavior based on the skills, opportunities, obstacles and available resources (perceived behavioral control) (29). The theory of planned behavior is along the Theory of Reasoned Action (TRA) and links people's beliefs with their behavior. This theory states that behavioral, normative, and control beliefs generally shape the goals and behaviors of a person (30). Considering the predictive power of attitude and behavioral intention in creating a relationship with the opposite sex, using the theory of planned behavior can help prevent unhealthy relationships with the opposite sex for adolescents (31). According to the theory of planned behavior, when people develop positive attitudes towards safe behaviors, understand that unsafe behaviors are controllable, and social supporters encourage them to engage in safe behaviors, they feel that they have control over their behaviors and receive the required information and motivation, they have more intention to show appropriate behaviors. When the intention is determined correctly, the probability of appropriate behavior increases (27). The review of researches in the country indicated that educational packages have been developed in the field of reducing the damages of relationships with the opposite sex, but the lack existence of multi-component, comprehensive, and theory-based packages is felt. In the packages developed in the country, attention is often paid to the prevention of harm, and the necessity of providing training such as help-seeking has been neglected. Also, according to the study of the educational packages developed in the country, it seems that the goal is only general familiarity with traumatic relationships and ultimately prevention of sexual abuse (32, 33, 34) while reducing all types of injuries in relationships (psychological and emotional injuries) and training skills to increase care and attention to yourself and improve individual skills (such as the ability to say no, assertive behavior, emotion regulation, decision-making, etc.) should also be examined in training. Also, the review of foreign research showed that school-based interventions have been developed with the aim of reducing sexual and communication violence among students, which has been effective in reducing sexual abuse, misbehavior, and the experience of communication violence among adolescents (35-40) but considering the cultural differences, the use of these trainings without considering the context of the Iranian society will not have favorable results. Considering the serious harm that early and incorrect relationships cause to students during adolescence, the importance of the role of education in preventing damage caused by relationships with the opposite sex is clear. Providing comprehensive education to students in schools can play

Considering the serious harm that early and incorrect relationships cause to students during adolescence, the importance of the role of education in preventing damage caused by relationships with the opposite sex is clear. Providing comprehensive education to students in schools can play an important role in promoting public awareness in order to prevent and reduce such injuries. In the current research, while examining the existing views in the field of interventions related to reducing the damages of relationships with the opposite sex during adolescence, tried to develop an educational package for reducing the damages of relationships with the opposite sex for adolescents based on Iranian culture and at the same time based on the theory and research background. Therefore, the purpose of the present study is to develop and validate a school-based

educational package that reduces the damages of relationships with the opposite sex based on the theory of planned behavior and to investigate its effectiveness on the cognitive emotion regulation of adolescent girl students in Tehran.

Research method:

The general structure of this research is mixed research (mixed quantitative and qualitative) and of an applied type. In the first stage of the research, the descriptive-analytical method with the research synthesis approach and the mixed research synthesis were used to design and develop the educational package. In this method, the findings of various and scattered studies that are related to the specific needs of the research are collected and then, these scattered findings are evaluated, interpreted, and reorganized according to the specific needs of the research and in the form of a specific perceptual framework in such a way that they follow new perspectives or relationships (41). In the quantitative part, a pretest-posttest semi-experimental design with a control group was used.

The intended statistical population for the purpose of validating the produced educational package included all experts, psychologists, and counselors who have expertise in adolescent issues and communication disorders. Sampling was done in a purposeful way, and the sampling continued until saturation and theoretical adequacy (12 people). In the section of determining the effectiveness of the educational package produced, the statistical population of the present study consists of all 10th-grade students of girls' public schools in the 20th district of Tehran who are studying in the 2022-2023 academic year. In order to collect information, a multi-stage sampling method was used. In this method of sampling, people are selected according to a hierarchy of types of community units from the largest to the smallest. In the current research, the first level sampling unit is: girls' high schools in the 20th district of Tehran, the second level sampling unit is: the tenth graders of each high school, and the third level sampling unit is: the students of each class. Based on this, first, the list of girls' high schools in the 20th district was received, then, questionnaires were implemented in 2 high schools, and among the students who met the criteria for entering the research, the experimental and control groups were randomly selected. Since in experimental studies, the minimum sample size for each group is 15 to 30 people (42) and taking into account the possibility of withdrawal and dropping out of participants during the research, therefore, in this study, 20 people were included in the experimental group and 20 people were assigned to the control group. Considering the criteria for entering the research, selecting the appropriate number of students, and completing the questionnaires (including two sections, the first section includes demographic information such as economic status, education level, and age of parents, and the second section includes the cognitive emotion regulation questionnaire) was done. Voluntary participation and written permission from parents, obtaining low and average scores in the cognitive emotion regulation questionnaire, studying in the tenth grade, and not using certain drugs that can affect the research field are among the criteria for entering the present study.

In order to design and develop the self-care educational package, a descriptive-analytical method with the mixed research synthesis approach was used. In research synthesis, the research literature that solves the conflicts in a certain field is reviewed and the main topics for future research are

identified. For this purpose, in the current research, the research background has been examined inside and outside the country. According to the mentioned contents, first, the main categories and themes were extracted from previous research and studies. Then, according to the objectives of the current research, it found categories were coded so that the main and important categories and contents could be scientifically separated. The stages of mixed research synthesis are: Identifying the need, preliminary search, and clarifying the need; Research in order to recover studies; Selection, refinement, and organization of studies; Determining the perceptual framework and adapting it to the information obtained from the analysis; Editing, combining and interpreting information in the form of tangible products and Presenting the result of the combination (41). After reviewing the studies, a combination of categories was found, and taking into account the previous research and new findings, the self-care training package was designed according to them. The common categories in the research sources are physical and psychological changes and developments during puberty, gender, and related concepts, healthy and unhealthy relationships during adolescence, individual skills that play a role in self-care (self-awareness, courage and assertive behavior, decision-making and emotion regulation) and help-seeking and seeking suitable support sources. Finally, based on the implications of the theory of planned behavior and the conducted research, an educational package was designed and developed.

In designing and developing the educational package, the age and cognitive and cultural status of the students and the opinions and suggestions of the experts and school counselors were taken into account and, in addition to the above points, it was tried to maintain the variety necessary to maintain the student's motivation and the excitement of the educational programs. At the stage of examining the theoretical and research background of reducing the damages of the relationships with the opposite sex and the theory of planned behavior, books, articles, theses and guidelines were studied about the topic of the research. For this purpose, the resources available in the domestic databases of the country (Magiran, IranDoc, Google, Noor Mags, Civilica, and SID) and the resources available in foreign databases (ProQuest, Springer, ScienceDirect, Emerald, EBSCO, Sage, ERIC, Taylor & Francis and Google Scholar) were examined. To search for related resources keywords of self-care, self-care in adolescence, self-care training, self-care educational package, reducing the damages of relationships with the opposite sex, educational package reducing the damages of relationships with the opposite sex, the theory of planned behavior, the application of the theory Planned behavior, training of the theory of planned behavior, training package based on the theory of planned behavior were used. Using purposeful sampling, sources were selected for analysis and review in this research that have suitable theoretical support and are approved by the researchers. The criterion for selecting sources for inclusion in the research population was the presence of one of the keywords in the title or abstract of the research. Also, anonymous and nonscientific sources were excluded from the review. It should be noted that in this review English sources that were published from 2002 to 2022 and Persian sources that were published from 1381 SH to 1401 SH were studied.

Based on the components identified from the theory of planned behavior, the structure of the sessions was developed and designed. In order to validate the designed educational package, the views of 12 experts and researchers were used. After collecting the evaluative opinions of the experts and applying the correct suggestions, the implementation package was finalized. The

general points of the educational package are presented in Tables 1, 2, and 3. Since the purpose of developing this educational package is to provide a comprehensive and multi-component school-based package, along with providing education to students, in order to increase the awareness of parents and school staff, brief training to parents and the school staff in the experimental group were presented with the aim of preventing, identifying and responding to abuse and misbehavior and damages of early communication with the opposite sex. In general, 10 educational sessions for students and four sessions for parents and school staff were conducted by the researcher for 60 minutes. The content of the educational program was organized based on the structures of the theory of planned behavior and educational content was implemented to increase the level of awareness of students, parents, and school staff in the field of health during puberty, healthy relationships, help-seeking, adolescent health and risky behaviors, etc.

Table 1. Content of self-care training sessions (special training for students)

Session	Title	Purpose	The content of the sessions		
First	Introduction and acquaintance with puberty changes	Introduction and getting to know the members of the group Getting to know the self-care training course Familiarity with the physical and psychological changes during puberty in girls	meetings and grouping Getting to know the session process Getting to know the types of puberty (physical, sexual and psychological dimensions of puberty) Familiarity with solutions to better face the challenges of puberty and adolescence		
Second and Third	Gender and related concepts and topics	Familiarity with sex and gender and the distinction between these two Getting to know the gender role, identity, norm and stereotypes	Understanding gender and concepts related to it (gender role, identity, norm and stereotypes) Description of mutual gender roles and norms for boys and girls Description of specific gender norms for girls Understanding how unequal gender stereotypes can contribute to negative health outcomes and describing ways to challenge unequal gender norms		

			Using worksheets to recognize gender norms and stereotypes
rela	Emotional ationships in dolescence	Getting to know the criteria of healthy and unhealthy relationships during adolescence	Familiarity with rights and responsibilities in interpersonal relationships Familiarity with types of violence, mistreatment and abuse in relationships
			Expressing the criteria and important characteristics of healthy relationships
			Presenting homework: defining your emotional relationships or those around you according to the criteria of healthy and unhealthy relationships
risl	farmful and ky behaviors relationships	Acquaintance with risky behavior and its examples	Types of risky behaviors and their examples that may occur in friendly relationships
		Familiarity with the harms of risky behavior and not paying attention to the consequences of one's behavior during adolescence	Familiarity with transmission, prevention and treatment of various sexually transmitted diseases; Describing the risk levels of sexually transmitted diseases according to different sexual behaviors Using the high-risk behavior detection worksheet
Sixth Se	lf-awareness	Getting to know the concept of self-awareness and its different dimensions	Definition of self-awareness (physical and psychological dimensions of self-awareness)
		Familiarity with the benefits of self-awareness Providing strategies to strengthen self-awareness during adolescence	Getting to know the benefits of self-awareness (self-acceptance, self-esteem and more responsibility in life) Obstacles to self-awareness (pride and arrogance, excessive expectations and demanding too much) Providing homework: identifying practical solutions in daily life in order to

			worksheet to get to know your characteristics
Seventh	Courage and assertive action	Getting to know different communication styles (passive, aggressive and assertive) Getting to know the benefits of courage and assertive action Getting to know the methods and stages of assertive behavior	Identify your personal boundaries Familiarity with assertiveness in different situations (in dealing with peer pressure, in dealing with profit-seeking and dangerous people, etc.) Class exercise in the form of group activity to practice courage and assertive action using role playing
Eighth	Decision- making	Familiarity with the concept of decision-making and the consequences of our various decisions throughout life Getting to know the factors influencing decision-making Familiarity with stages of decision-making	Definition of decision-making and familiarization with different types of decision-making (high-risk decisions and healthy and low-risk decisions) Providing some solutions to make better decisions in life Homework: using the decision-making worksheet (specifying a specific decision that was made in the past week, examining the factors that influenced that decision, specifying the steps and stages that led to making that specific decision)
Ninth	Emotion regulation	Familiarity with emotions Identifying emotional experiences in different situations Familiarity with compatible and incompatible emotion regulation strategies	Definition of emotion and familiarity with intensity and type of emotions, functions of emotion The need to regulate emotion and express its reasons Familiarity with different strategies (positive and negative; cognitive and behavioral) of emotion regulation Homework: using the emotion regulation worksheet (naming the types of emotions

			and expressing their intensity during a week; the reason for the occurrence of intense emotions and using different strategies to manage and regulate intense emotional states)
Tenth	Help-Seeking	Searching and identifying support resources and services	Acquaintance with actions that should be taken when abuse (physical, emotional and sexual) occurs
		related to the prevention of communication violence in society	Challenging violence and abuse in safe ways; Protecting yourself against the experience of violence in relationships
		Self-empowerment	The necessity of consulting knowledgeable people and asking for help
		End of the educational program	from people (parents or legal advisors and psychologists)
			Summary of past sessions and answers to questions

Table 2. The content of self-care training sessions for parents

Session	Title	Purpose	The content of the sessions
First	Introduction and acquaintance with puberty changes	Introduction and getting to know the members of the group Getting to know the self-care training course Familiarity with the physical and psychological changes during	Familiarity with physical and psychological changes during puberty Getting to know the special needs of adolescents (for example, independence)
		puberty in girls The need for parents to understand adolescents during adolescence	Familiarity with strategies for better communication with teenage children
Second	Emotional relationships in adolescence	Getting to know the criteria of healthy and unhealthy relationships during adolescence	violence, mistreatment and



			Expressing the criteria and important characteristics of healthy relationships
Third	Familiarity with harmful and risky behaviors in relationships with the opposite sex	Acquaintance with adolescent's behaviors that are considered risky	Getting to know the types of risky behaviors and their examples that may occur in friendly relationships
Forth	Help-Seeking	Acquainting parents with the actions they should take when problems such as harassment and abuse occur Searching and identifying support resources and services related to the prevention of communication violence in society End of the educational program	Acquaintance with actions that should be taken by parents when abuse (physical, emotional and sexual) occurs Challenging violence and abuse in safe ways; Supporting the victim against the experience of violence The necessity of consulting knowledgeable people and asking for help from people (legal consultants and psychologists) Summary of past sessions and answers to parents' questions

Table 3. Content of self-care training sessions for school staff

Session	Title	Purpose	The content of the sessions
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First	Introduction and acquaintance with puberty changes	Introduction and getting to know the members of the group	Familiarity with physical and psychological changes during puberty
		Getting to know the self-care training course	Getting to know the special needs of adolescents Familiarity with strategies for better communication with teenagers at
		Familiarity with the physical and psychological changes during puberty in girls	school
		The need for teachers and school staff to understand teenagers during adolescence	
Second	Emotional relationships in adolescence	Getting to know the criteria of healthy and unhealthy	Familiarity with types of violence, mistreatment and abuse in relationships
		relationships during adolescence	Expressing the criteria and important characteristics of healthy relationships
Third	Familiarity with harmful and risky behaviors in relationships with the opposite sex	Acquaintance with teenage behaviors that are considered risky	Getting to know the types of risky behaviors and their examples that may occur in friendly relationships
Forth	Help-seeking	Acquainting teachers and school staff with the actions they should take when problems	Acquaintance with the actions that should be taken by the school and school staff when abuse (physical, emotional and sexual) occurs
		such as harassment and abuse occur	Challenging violence and harassment in safe ways (especially
		Searching and identifying support resources and services related to the prevention of	if the prevailing culture of the school and educational environment has caused harm); Supporting the victim against the experience of violence

communication	The necessity of consulting
violence in society	knowledgeable people and asking
	for help from people (collaboration
End of the educational	with parents of students, legal
program	advisors and psychologists)
	Summary of past sessions and
	answers to questions

The following tool was used in this research:

Cognitive Emotion Regulation Questionnaire: The Cognitive Emotion Regulation Questionnaire (CERQ) was developed by Garnefski and Kraaij (43). This questionnaire is an 18-item tool and measures the strategies of cognitive regulation of emotions in response to threatening and stressful life events in a five-degree spectrum from never (1) to always (5) according to 9 subscales describing self-blame; focus on thinking/rumination; other-blame; catastrophizing (catastrophic thinking); underestimating; acceptance; positive reappraisal, positive refocusing, and refocusing on planning. The minimum and maximum scores in each subscale are 6 and 10, respectively, and a higher score indicates a person's greater use of that cognitive strategy (44). The content validity of the cognitive emotion regulation questionnaire was examined and confirmed based on the judgment of ten psychological experts. Cronbach's alpha coefficient of the cognitive emotion regulation questionnaire was calculated as 0.87 for all questions (45).

Findings:

In the current research, it was tried to examine the content of the developed self-care program. Therefore, this program was reviewed by 12 researchers and experts in the field of youth issues, and after studying the program, these experts provided their feedback to the researcher in the form of responding to the review of the validity of the content of the educational package or in the form of free expression and point-by-point. Then, based on the Content Validity Ratio (CVR) of Lawshe (1975), the validity of the educational package was obtained as 0.858.

In the descriptive part, using frequency indices and frequency percentages, the two studied groups were described in terms of demographic variables, the results of which are presented in Table 4.

Table 4. Frequency and frequency percentage indices of demographic variables

Group	Variable	frequency	frequency	Group	Variable	Frequency	frequency
			percentage				percentage

experimenta l	Mother's age	30-35	4	10	experimental	Education of mothers	illiterate	6	15
1	age	36-40	8	20	_	of mothers .	under diploma	5	12.5
		41-45	5	12.5	_	-	diploma	7	17.5
		41-43	3				dipionia	/	17.3
		46-50	2	5	_	-	bachelor	2	5
		over	1	2.5					
		50							
control	Mother's	30-35	5	12.5	control	Education of mothers	illiterate	6	15
	age	36-40	8	20		of momers -	under	6	15
					_	-	diploma		
		41-45	3	7.5			diploma	6	15
		46-50	2	5			bachelor	2	5
		over	2	5					
		50							
experimenta l	Father's age	30-35	1	2.5	experimental	Education of fathers	illiterate	6	15
		36-40	3	7.5			under	8	20
							diploma		
		41-45	8	20			diploma	4	10
		46-50	5	12.5			bachelor	1	2.5
		over	2	5					
		50							
control	Father's age	30-35	1	2.5	control	Education of fathers	illiterate	7	17.5
		36-40	4	10		or ramers .	under	8	20
							diploma		
		41-45	7	17.5	_	-	diploma	3	7.5
		46-50	5	12.5		-	bachelor	2	5
		over	3	7.5					
		50							

^{*}The father of one of the participants in the experimental group had passed away

Table 5. Analysis of research variables based on descriptive indicators

Variable	Crouns	Measurement	Mean	Standard
Variable	Groups	steps		deviation



	Experimental	Pre-test	48.95	4.86
Cognitive Emotion - Regulation	group	Post-test	63.10	6.42
	Control group	Pre-test	52.50	5.72
	Control group	Post-test	53.25	6.95

Based on Table 5, the mean and standard deviation of the research variable were calculated separately in the two experimental and control groups, based on which, the mean of cognitive emotion regulation of the participants in the experimental group in the pre-test and post-test stages, respectively, was 48.95 and 63.10 and in the control group it was equal to 52.50 and 53.25.

In the inferential part, in order to test the research hypotheses, the assumptions of covariance analysis were first checked and then, using this test, the amount of changes in the cognitive emotion regulation in the post-test compared to the pre-test in the two experimental and control groups was checked. In connection with the assumption of normality of the data, the Kolmogorov-Smirnov test was used; because the significance level of cognitive emotion regulation in the pre-test and post-test stage was greater than 0.05, the normality of the data was confirmed (in the pre-test and post-test with a statistical value equal to 0.161 and 0.133 at the significance level of 0.22 and 0.43). Also, the homogeneity of the variance of cognitive emotion regulation was confirmed based on Levene's test, because its statistic was equal to 0.256 and the significance level of cognitive emotion regulation was equal to 0.61.

Table 6. Examining the significance of the results of the multivariate covariance analysis test

Depended Variables	Sum of Squares	df	F	Significance level	Effect size
Cognitive emotion regulation post-test	542.524	1	17.31	0.001	0.54
Group	1370.420	1	43.74		
Error	1159.026	37			
Total	138045	40			

Based on Table 6, the results of the covariance analysis are stated. Based on this, in the post-test, the mean of cognitive emotion regulation in the students of the self-care training group that reduces the damages of relationships with the opposite sex based on the theory of planned behavior was higher than the participants in the control group (sig= 0.001, df = 1, 40, f = 43.74). Therefore, after implementing the self-care training method that reduces the damages of relationships with the opposite sex based on the theory of planned behavior, in the post-test, the participants in the

experimental group had more cognitive emotion regulation than the control group. Based on this, the general hypothesis of this research was accepted.

Discussion and conclusion:

The present study was conducted with the aim of developing and validating a self-care educational package that reduces the damages of relationships with the opposite sex based on the theory of planned behavior and its effectiveness on the cognitive emotion regulation of adolescent girl students. The results of this research showed that the educational package of self-care that reduces the damages of relationships with the opposite sex based on the theory of planned behavior was effective on the cognitive emotion regulation of adolescent girl students.

The results obtained in this research using multivariate covariance analysis, show that the self-care educational package that reduces the damages of relationships with the opposite sex, based on the theory of planned behavior, is significantly effective on the cognitive emotion regulation of students. In this regard, the findings of the present research are consistent with the findings of research of Vivolo-Kantor et al. (40); Ravi, Black, Mitschke, and Pearson (46); Rizzo et al. (39); Sosa-Rubi et al. (38); Trieu (37); Taylor et al. (35) and Mathews et al. (36). Based on this, it can be said that teaching communication skills and healthy relationships with the opposite sex has an effect on mental health indicators, i.e. on reducing anxiety, depression, hostility, interpersonal sensitivity and paranoia (47) and promoting appropriate attitudes towards violence. In relationships, increasing communication skills and conflict resolution (48) is effective, and in general, the implementation of such interventions is very important in the social and emotional development of young people (49).

In the explanation of the present research, it can be stated that in order to establish a healthy relationship, people must acquire sufficient knowledge and information and then take steps to change their attitudes and beliefs, which occurs with practice and repetition and after awareness and understanding of this change. In fact, people's knowledge is completed as a result of training in correct and healthy relationships, and they are equipped to provide appropriate solutions to the problems that arise in relation to the opposite sex (50). Most of the participants who participate in training courses in which information about healthy relationships is provided, after completing the course, are able to correctly define the types of relationships and communication styles, and this indicates the appropriate effectiveness of this course (37). In addition, education on healthy relationships for adolescents as part of their required health curriculum, reduces violence and risky behaviors in relationships (51).

Friendship with the opposite sex can be a source of pleasure, new experiences, and satisfaction of needs, and at the same time a source of stress and emotional changes affected by cognition. Cognition basically affects emotions and beliefs because changes in cognition can lead to changes in emotions. In other words, emotions are strongly influenced by a person's perception of reality or situation, and finally, a person is affected by his beliefs in establishing a relationship (50). In relationships with the opposite sex, girls often turn a blind eye to the psychological, emotional, social, educational, and family consequences of inappropriate relationships. This highlights the need to focus on therapeutic and educational interventions for girls involved in inappropriate relationships with the opposite sex (47). Adolescents' attitudes about gender roles and violence in

friendships can be changed if relationship education is provided, and the changes in these beliefs are related to each other (52). Interventions that provide participants with new information that weakens their inconsistent beliefs and attitudes about relationships can lead to changes in inappropriate attitudes and beliefs (48). In fact, the purpose of providing training on healthy relationships with the opposite sex is to address the beliefs of unhealthy and defective relationships in an effort to influence future beliefs and behaviors because beliefs and behaviors are usually related to each other (52).

In the present research, first of all, it was emphasized on changing and creating a realistic attitude towards relationships and improving the level of awareness about the consequences and complications of harmful relationships. This raising the level of awareness and realistic attitude towards harmful relationships is one of the mechanisms that provide the ground for improving mental health and changing and improving the attitude towards harmful relationships in various fields. It seems that the effectiveness of the self-care intervention to reduce the damages of relationships with the opposite sex on the cognitive emotion regulation of girls can be due to the provision of regular and organized information and the acquisition of the necessary skills to deal with the consequences of traumatic relationships, and this can provide a basis for improving their mental health. On the other hand, it seems that because this intervention is a comprehensive intervention that not only emphasizes providing education to adolescents, and parents and school staff have also received training in order to reduce and prevent the damage of relationships with the opposite sex, it can improve the performance of adolescents in psychological and social areas.

Research limitations

This study, like other scientific research, has limitations; the first limitation is that this study was conducted on girl students at the high school level, and the structure of this educational package was developed only for girls, and therefore it is necessary to include some changes in the development of the self-care educational package for boy students. Also, one of the limitations of this research was the lack of follow-up; therefore, it is suggested to evaluate the long-term effects of this intervention by adding a follow-up evaluation in future studies.

Application of research

Considering that the results of the present study show the effectiveness of the self-care training package for reducing the damages of the relationship with the opposite sex based on the theory of planned behavior on the cognitive emotion regulation of adolescent girls, it is suggested to psychologists and counselors to use this educational package to reduce the damages caused by inappropriate relationships with the opposite sex during adolescence and to help teenage girls who are damaged by such relationships as an educational and therapeutic method that has a scientific foundation and is based on the conditions and cultural background of Iran. Psychologists and counselors working in education are aware that in Iran, there is no coherent scientific and native educational package and intervention that is multilateral and does not focus solely on providing education to students, and this study is useful from this point of view.

Acknowledgment

This research is a part of Ph.D. dissertation in the field of educational psychology at Allameh Tabataba'i University, which was carried out in accordance with the basic principles of the

Declaration of Helsinki (1964) and without receiving any financial aid from any organization or institution. The authors hereby express their gratitude to all the participants in this research and declare that there is no conflict of interest in this research.

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