Original Article

The Effectiveness of Choice Theory Training on the Mental Health of Adolescent Girls

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Abstract

Purposes: The purpose of the present study was to investigate the effectiveness of choice theory on the mental health of students. **Materials and Methods:** The present study followed a quasi-experimental method with pretest-posttest design with a control group. The statistical population included the entire female students in Grade 2 of high schools in Isfahan city in the 2017–2018 academic years. The sample comprised fifty high-school female students selected by a multistage cluster sampling method and assigned randomly and alike into two experimental and control groups. The experimental group weekly received choice theory training for 8, 90 min sessions. The control group was also on a waiting list. The employed instrument was Goldberg's General Health Questionnaire. The data were analyzed by the analysis of covariance test. **Results:** The findings revealed that the effect of choice theory training on increasing mental health and its components (insomnia, social function, and somatic symptoms) were statistically significant ($P < 0.001$); however, the effect of this method on depression was not effective ($P = 0.078$). **Conclusion:** In light of the findings drawn from this study, it seems that we can employ choice theory training as an effective approach to improve the mental health of adolescent girls in schools.

Keywords: Adolescents, mental health, reality therapy

INTRODUCTION

Adolescence is a chief period of transition at which individuals can acquire some skills, attitudes, and competencies they require in adulthood. Hence, they need proper mental health. Given there are more than 15 million adolescent and young people in the country who are regarded as the dynamic and driving force of society, it is notable to pay specific attention to the mental health problem of this community since noticing their problems is synonymous with noticing the main national capitals of the country.[1]

Today, the mental health of adolescents is reckoned as the main problem in behavioral sciences. From the Huber *et al*., perspective,[2] health is defined as enjoying the full somatic, mental, and social tranquility, rather than mere lack of disease and disability.

Concerning this definition, health is a multidimensional problem. Nowadays, in addition to somatic, mental, and social dimensions, the spiritual dimension is even considered, as well. We should note that different dimensions of health or disease interact with and are influenced by one another such that somatic problems interact with an individual's mentality, and mental problems interact with his/her soma. Thus, the steps taken to enhance health should concern the whole aspects of personal health (somatic, mental, and spiritual), as well as the general health of society.[3]

Mental health is considered as a criterion determining the general health of individuals. It is defined as feeling fine, as well as trusting self-efficacy, self-dependence, competition

Access this article online

Quick Response Code:

Website:
http://iahs.kaums.ac.ir

DOI:
10.4103/iahs.iahs_4_20

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How to cite this article: Zare F, Namdarpour F. The effectiveness of choice theory training on the mental health of adolescent girls. Int Arch Health Sci 2020;7:131-6.

capability, intergenerational bonding, and the self-actualization of potential mental, emotional, etc., abilities.[4]

Mental health is a significant part of human health dimensions; therefore, it informs individuals on their cognitive and emotional aspects, as well as their abilities in establishing relationships with others. A man with mental health can better overcome life forces and stresses, and make his/her daily activities more productive and effective. Evidence show that students face some problems including the evaluations of them by teachers, their efforts to reach academic goals and get higher scores, the presence of abundant homework, some stressful relationships with their friends and school members, adjustment with school climate, future career prospects, sleep duration, obesity, bullying victimization, social problems governing schools, etc.[5-9]

These problems decrease the internal control and mental health of students. Mental health plays a crucial role in guaranteeing the dynamicity and efficacy of every society. Various therapeutic approaches have been experimented to improve the mental health of individuals. However, adolescents are one of the most sensitive communities of a society who are concerned with the mental health problem. This study applies the reality therapy approach or choice theory which seems to be more appropriate and understandable for adolescents. The choice theory was founded by Glasser in 1998[10] (by developing his primary work on control therapy). This theory highlights five basic needs of man (survival, love and belonging, power, freedom, and fun) from which the motivation for all his/her behaviors originates. These needs are internal, universal, and consistent with one another. The choice theory believes that we are provoked to satisfy our needs by establishing the specific "Quality World" of ours. The "quality world" involves our beloved ones, ideas, and "desires." Accomplishment means all behaviors we perform and these performances are usually purposeful. However, if there is a perceived difference between what we have acquired and what we desire, we attempt to minimize or eliminate this "failure" by approaching the satisfaction of our needs and reaching our desires.[11] Parish[12] deals with the theory application and indicates that choice theory trains individuals how to set goals to satisfy their personal needs in accord with reality. The design and execution of conscious planning to reach long-term and short-term goals lead to the development of self-regulation and emotion management strategies.

Studies indicate that the choice theory approach has effects on students' mental health,[13] self-esteem,[14] concentration,[15] development and perception,[16] treatment of bullying behaviors,[17] decreasing internet addiction,[18] and improving the motor coordination of teenagers with Down syndrome.[19] However, the presence of deficits such as nonrandomized selection, small sample size, and different cultural contexts in the similar studies conducted earlier in Iran motivated researchers to replicate this research in the schools of Isfahan as a metropolis of Iran. Thus, the purpose of the present study was to investigate the effectiveness of choice theory training on the mental health of female students in Grade 2 of high school in Isfahan city in the 2017–2018 academic years.

MATERIALS AND METHODS

The present study is operational in terms of its purpose and methodologically quasi-experimental with pretest-posttest design with a control group. The statistical population included the entire female students studying in Grade two of high school in Isfahan city in the 2017–2018 academic years. Among them, we selected a sample with fifty individuals by a multistage cluster sampling method. Hence, a district was randomly selected from all-girls high schools in the six-fold districts of Isfahan and a high school was randomly selected from this district. Fifty students possessing inclusion (age 13–18, ability to speak, general health, and ability to involve in intervention sessions, having physical health and psychological health) and exclusion (absence in intervention more than two sessions and no filling consent form) criteria were randomly selected from the students of this high school and assigned into experimental and control groups (25 students in each group). The inclusion criteria included not suffering from acute mental illness, not suffering from acute physical illness, being in the age range of 14–18, and having an inclination to participate in the training sessions. The exclusion criteria also included: dissatisfaction to participate in the study and absence in more than two sessions of the training.

General Health Questionnaire-28

The main form of this questionnaire was constructed by Goldberg and Hillier,[20] and its validity and reliability have been examined many a time. The main version of this test comprises 60 items; however, its short forms include 12, 28, and 30 items. This scale has four subscales, including somatic symptoms, anxiety and insomnia, social dysfunction, and depression. This questionnaire was translated into Persian by Taghavi[21] employing the translate-retranslate method. The test-retest reliability of the questionnaire was 0.72 for the total score of the questionnaire and 0.6, 0.68, 0.57, and 0.58, respectively, for the subscales of somatic symptoms, anxiety and insomnia, social dysfunction, and depression. Similarly, the internal consistency of the scale achieved by the Cronbach alpha coefficient was 0.90 for the total score and 0.76, 0.84, 0.61, and 0.88, respectively, for the subscales of somatic symptoms, anxiety, and insomnia, social dysfunction, and depression. Estimating the correlation of this questionnaire with the Middlesex Hospital Questionnaire, Taghavi[21] obtained the concurrent validity of this questionnaire. The results revealed that these two questionnaires had a positive significant correlation with each other. Similarly, the construct validity of this questionnaire achieved through exploratory factor analysis with Varimax rotation shows that this scale has a 4-factor structure with an Eigenvalue larger than 1. The reliability of the scale in this study 0.75 obtained.

To gathering the data, among the entire female students studying in grade two of high school in Isfahan city in the

2017–2018, academic years were selected a sample with fifty subjects by a multistage cluster sampling method. All students fill the consent form before recruitment. Subject randomly assigned in two experimental and control groups (25 students in each group). The control group was in waiting list and after conducting the study, received intervention and experimental group receive Choice Theory training intervention. The intervention of choice theory training was executed weekly in the experimental group for 8, 90 min sessions. The control group was also on the waiting list. Before the intervention, both the experimental group and control group filled out the General Health Questionnaire as the pretest. After the intervention, both groups also filled out this questionnaire as the posttest. In the following, the outline of the training sessions of the choice theory approach is presented in Table 1.

RESULTS

At first, we report the descriptive results by using mean and standard deviation statistics. Thereafter, inferential results and the test of hypotheses are posed. Table 2 presents the means and standard deviations of the mental health variable and its subscales.

Table 2 illustrates that the mean scores of somatic symptoms, insomnia, and social function have increased in the experimental group; however, they have not changed significantly in the control group. To investigate these differences and remove the effect of the pretest, we employed the analysis of covariance (ANCOVA) and multivariate analysis of covariance (MANCOVA) tests. The results of investigating these assumptions revealed that all assumptions have been observed.

Table 3 illustrates the results of the univariate ANCOVA for the total score of the mental health variable.

To investigate the significance level of the difference between the experimental and control groups in the subscales of the mental health variable, we employed the MANCOVA test. The results of Wilk's Lambda showed that the groups were different, at least, in one of the subscales. Thus, we used the ANCOVA test in the MANCOVA context. The results of this test are illustrated in Table 4.

As illustrated in Table 4, after the adjustment of the pretest scores of students in the mental health components, there were significant differences between the experimental group and control group in the somatic symptoms, insomnia, and social function components ($P < 0.05$). However, the two groups were not statistically significantly different in the depression component ($P = 0.078$). In other words, choice theory training was effective in decreasing insomnia, social dysfunction, and somatic symptoms. However, it was not effective in decreasing depression.

DISCUSSION

This study aimed to investigate the effectiveness of choice theory training on the mental health of female students studying in Grade 2 of high school in Isfahan. The results showed that this approach is effective in increasing mental health, as well as its subscales among high school female students. The results are in line with those of similar studies conducted earlier.[14-19,22,23]

To explain the results, we can pose that the use of choice theory as an intervention increases internal control and accountability so that individuals can satisfy their needs in such an effective way that others' needs are not injured.

The choice theory trains the individuals to increase the accountability rate for their behaviors. According to this perspective, a human's control over his/her behavior is a conscious control such that a person chooses the "general behavior" and is responsible for his/her choices. Humans choose their desires, expectations, thoughts, ideas, and actions in such a way that they can establish the best and most pleasing state for themselves. Behavior is the result of human choice; thus, choice theory training increases the source of internal control and accountability feeling in individuals so that they consider themselves accountable for their somatic and mental health.[24]

Particularly, the choice theory trainer centralizes his/her entire effort on behavior, takes actions responsibly to establish an active and private relationship, and concerns the present time constantly, especially the present behavior of students, to reach success. The trainer never spends time playing the role of a detective or researcher and listening to students' excuses and pretexts. Rather, she/he attempts to establish the preliminaries of responsible behaviors and successful identity through paying careful attention to the present behavior of a person and avoiding threatening cases. Hereby, through decreasing anxiety and worriment, s/he reinforces the preliminaries of mental health enjoyment.

Similarly, since choice theory and reality therapy care and highlight the basic needs of humans, especially the two needs of love and kindness exchange, and feeling worthy, we try to involve them in the therapy process; hence, this issue can have a main effect on mental health. Since a person feels worthy and significant; in addition s/he is loved by others, this need of her/his is satisfied; thus, s/he feels happier and more delighted.

Besides, the emphasis on freedom and responsibility component in choice theory allows individuals to accept unpleasant internal experiences without attempting to control them. This causes that the experiences seem less threatening, have less effect on individuals' lives and; thus, less harm their mental health.

Employing the concepts of choice theory, as well as informing individuals on choices and the way they are satisfied, we help them better control their lives and choose other effective behaviors. This perspective tells individuals that they themselves have chosen the unfavorable conditions they are positioned since humans choose any cases of their lives. By training the concept of general behavior, we can show the

Table 1: Choice theory instruction sessions

Session title	Topic	Objectives
First: Introduction	Familiarity with topic and group members	Greeting and introducing our work
		Introducing the topic, generally defining mental health, and specifically defining the choice theory
		Determining the objectives of holding the sessions for the group members and their effects
		Explaining the rules and contracting, the closed or openness of the group, members' commitments to one another, and secrecy
		Executing the pretest
		Introducing members to one another
		Members' personal aims for participating (special) in the group and; then, collective or collaborative aims
Second: Choice theory	Listed introductory familiarity with the theoretician and the basic concepts of the theory	Greeting and reviewing the previous session
		Familiarizing members with the theoretician and his biography
		Familiarizing members with the psychological concept of personal freedom (internal control and external control)
		Familiarizing members with the basic concepts of choice theory (needs, desirable world, perceived world, and machine-behavior)
		Presenting tasks and justifying them
Third: Needs	Explaining five basic needs of all humans and stating examples respecting differences in the rate of individuals' needs	Examining the tasks, reviewing the previous subjects and responding to the questions
		Introducing the five basic needs and investigating it in relation to others
		Drawing the profile of the needs (the capacity size of the needs)
		The filling rate of needs' capacity (satisfaction from 0 to 10)
		Needs' rules (group's familiarity with differences in the rate of humans' needs, and having healthy and effective relationships with the members of family, teachers, and friends)
		Presenting tasks (needs' table, weekly practice)
Fourth: Desirable world 1	Explaining the concept of the desirable world, how it develops, and its relationship with five basic needs	Examining the tasks, reviewing the previous subjects, and responding to the questions
		Familiarizing the group members with the concept of "quality world" and its relationship with five basic needs
		Introducing the desirable world, three components (people, things or places, beliefs, and opinions)
		Presenting tasks (filling out the table of the desirable world)
Fifth: Desirable world 2	explaining the concept of the desirable world, how it develops, and its relationship with five basic needs	Examining the tasks, reviewing the previous subjects, and responding to the questions
		The components of the desirable world and album
		The relationship between the desirable world and needs
		The rules of the desirable world (we cannot reproach another desirable world)
		Does the road you are moving along make you reach where you like? Stating and explaining how to move towards our desires
		Is the picture of your quality world and what you desire in life realistic? Look at your mental album in which you have pictures of your desired life and objectives and check whether they are accessible or not. The participants should notice what decisions are good to satisfy their desires. Helping members to take practical steps towards their desires
		Presenting tasks: Filling out the table of the desirable world
Sixth: Machine-behavior	Explaining its general concept and behavior, four components, its effects on individuals' relationships, and the changes in the four components of the general behavior	Summarizing and reviewing the subjects in the previous session, examining the tasks, and discussing and conferring
		Introducing machine-behavior, stating its general concept, behavior, and four components
		The components of the machine-behavior
		The relationship of behavior to a desirable world and needs (how to fill the desirable world in our needs capacity
		Asking the members who the driver of their machine-behavior is. Helping the members to understand that they themselves are responsible for their machine-behavior and they should accept life responsibilities
		Do we have a road map with ourselves for moving in life road? (There must be a design and plan to move towards desires and consider whether our desires are accessible or not)
		Presenting tasks to be examined during the week (mind, action, feeling, physiology)

Contd...

Table 1: Contd...

Session title	Topic	Objectives
Seventh: Perceived world	Explaining the concept of conflict, the difference of false conflict in the quality world, and how to identify conflicts	Summarizing the subjects of the previous session, responding to the questions, and examining the tasks
		Introducing the perceived world
		Familiarizing members with the concepts of three filters (five-fold senses, raw data, and valuation system)
		Playing with pictures (visual senses, seeing a picture for a moment and describing what they have seen, differences in perspectives)
		Values card (they choose ten cards among many cards and write. Next, they choose three cards among ten cards. Later, they choose one card among three cards. They specify their values in life)
Eighth: Interpersonal relationships and conflicts	Explaining the concept of interpersonal conflicts through needs, desirable world, perceived world, and ten principles of choice theory	Summarizing the subjects of the previous session
		Examining the tasks and discussing
		Familiarizing the group with seven destructive behaviors and seven kind behaviors in relation to others, and presenting examples in this respect
		Familiarizing members with communication styles in choice theory and the suggestions of this theory respecting communication with others with accompanying examples in this regard concerning the theory principles
		Familiarizing members with ten evident principles of choice theory
		Presenting tasks
		Adding up and concluding
		Listening to members' opinions about the course
		Executing posttest

Table 2: Descriptive results of mental health and its subscales

Variables	Statistics	Experimental group		Control group	
		Pretest	Posttest	Pretest	Posttest
Somatic symptoms	Mean	10.21	11.64	9.24	8.34
	SD	4.03	5.36	4.37	3.69
Insomnia and anxiety	Mean	12.47	12.95	8.05	9.33
	SD	5.89	6.17	5.04	5.61
Social dysfunction	Mean	8.27	13.64	9.96	10.6
	SD	4.39	4.23	4.09	5.33
Depression	Mean	11.29	10.41	10.2	10.16
	SD	7.61	6.29	6.63	6.86
Total number mental health	Mean	42.24	48.64	37.45	38.43
	SD	13.11	18.08	11.17	13.91

SD: Standard deviation

Table 3: The results of analysis of covariance for effect of choice theory instruction on mental health

Source	df	MS	F	P
Constant	1	3420.35	13.79	0.001
Pretest	1	832.34	3.36	0.073
Group	1	3002.47	12.1	0.001
Error	47	248.1		

MS: Mean square

individuals how they are actively engaged with their choice processes. Concerning the concept of general behavior, any behavior executed by a person has four components of mind, action, physiology, and feeling. In the meantime, mind and action have noticeable effects on feeling and physiology. If a person, admitting this point that s/he himself is responsible for his/her choices, changes his/her action, his/her mind is changed. The change in mind results in a change in his/her feeling which can change his/her somatic statuses, as well.

Students in grade two of high school spend a delicate adolescent period. In this period, extensive mental forces might be imposed on them due to different reasons such as physical and sexual development, extremist feelings, identity search, and fear of responsibilities, apprehension to enter university or career choice, and some other issues. Hence, they are intensely exposed to mental harms and thus, their mental health decreases.[25]

According to Glasser,[10] collective counseling, by creating an accepting environment leads to the members' needs satisfaction and increases their sense of responsibility and successful identity achievement. This, in turn, decreases the members' tension and anxiety and improves their functions and

Table 4: The results of analysis of covariance in multivariate analysis of covariance

Variables	Source	MS	df	F	P
Somatic symptoms	Pretest	120.01	1	6.66	0.013
	Group	106.13	1	5.81	0.02
Anxiety and insomnia	Pretest	465.03	1	18.27	<0.001
	Group	115.59	1	4.54	0.039
Social dysfunction	Pretest	32.54	1	1.39	0.245
	Group	161.4	1	6.87	0.012
Depression	Pretest	371.45	1	7.92	0.007
	Group	153.31	1	3.27	0.078

MS: Mean square

performances. The love and being loved needs' satisfaction is well performed in a group, and collective counseling can supply a suitable environment for reaching a successful identity and tranquil feeling.[11] On the other hand, creating a sense of control in students, hope for future, specified planning, and a sense of power in doing things increases their mental health. The limitation of the research was including using self-report scale and not having the follow-up stage because of limitation in cost and time. It is suggested that future studies remove these limitation to obtain more accurate results.

Conclusion

Concerning the results of this study, we can argue that this approach with the components of choice freedom, focus on the main needs, and responsibility could be effective in increasing mental health and its subscales. Thus, it seems that the choice theory training approach is an effective approach to increase the mental health of female students. Of the limitations of this study is the use of a self-report questionnaire. It is suggested that future studies obviate this limitation.

Conflicts of interest
There are no conflicts of interest.

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