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Investigating the Effectiveness of Teaching Verbal Self-Instruction on Improving the Educational, Emotional, and Social Adjustment in Students Afflicted with Mathematical Disorders

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ABSTRACT

Introduction: of all learning problems, problems associated with mathematics are especially important because all children are obliged to do mathematical calculations in the early years of elementary school. **Methodology:** this is an experimental research and utilized posttest-pretest design and follow up with the control group. The study population of this research includes all the male junior high school students of Koozdasht city afflicted with mathematical disorder in the school year 2013-2014. The research sample consisted of 40 male students afflicted with this disorder. The samples were chosen randomly based on a multistep cluster pattern among students after they were identified by Keymath mathematical test and after the structural clinical interview and placed in within experiment and control groups. The research tools included structural clinical interview, Keymath mathematical test, and Sinha and Sing's social, emotional and educational adjustment scale. **Results:** The results of multivariable covariance analysis (MANCOVA) indicated that teaching verbal self-instruction can influence social, emotional, and educational adjustment among the students afflicted with mathematical disorders ($P < 0.001$). The results also indicated a significant difference between the experiment and control group in posttest and follow up stages in terms of social, emotional and educational adjustment. **Conclusion:** based on the results of this study, teaching verbal self-instruction helps increase social, emotional and educational adjustment among the students afflicted with mathematical disorder and this method can be utilized as an appropriate interventional method.

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INTRODUCTION

Mathematical learning disability has attracted the attention of scholars and experts in the field of education and training more than ever [49]. Based on the definition of individuals with disabilities education act, learning disability is a disorder in one or several basic psychological procedures which include comprehension of language or its application. This disorder is manifested in the form of disability in listening, thinking, speaking, reading, writing, or mathematical calculations. However, it does not include those learning problems caused as the result of visual, audio, or motor disabilities, mental retardation, emotional disorders, environmental, cultural or economical inappropriate conditions [33]. Just like reading ability, mathematical ability also plays a vital role in human life, however scholars believe that researches conducted in the field of psychological processes for math competency or failures underlying mathematical disability are much fewer than reading disabilities [17,32]. The prevalence level of this disorder is estimated to be from 5 to 8 percent [40]. Students suffering from this disorder have great difficulties in issues like solving verbal problems and the skills associated with that, identifying the obvious information in the problem, utilizing self-regulatory and self-supervising strategies in the process of doing homeworks and keeping the concentration till the end [35].

Learning disabilities cause problems in various social, emotional, and educational fields for the student [16] whose full interpretation requires a great deal of attention to be paid to social, emotional and behavioral modules

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of one's life [28]. One of the variables which is probably impaired due to the presence of learning disabilities in students is social, emotional and educational adjustability. The social adjustability refers to one's adjustment with his social environment by either changing himself or the environment. Emotional adjustment can be described as good mental health, satisfaction with the personal life, and coordination among emotions, actions and thoughts. In other words, emotional adjustability can be defined as mechanisms through which one finds emotional stability [37]. Finally, social and emotional abilities and merits are among the determining factors that influence educational adjustment [34]. Generally, adjustability is defined as the ability to blend, match, cooperate, and deal with yourself, your environment and others. The results of studies indicate that children and adolescents with learning disabilities have problems in interpersonal skills [26,48], behavioral disorders and depression [47,44], social information processing [5], more problems in social interactions and social abilities [45], higher levels of social isolation and loneliness [13] and adjustability problems [1,41,48,2]. The results indicate a great relationship between educational, social, and emotional success [12]. Plata, Trusty & Glasgow (2005) in their research showed that students suffering from learning disabilities have some sort of unwillingness towards their peers especially in the field of educational activities. Heath & Ross [20] and Sideridis [43] proved that students with learning disabilities report more emotional problems such as anxiety and depression. The results of a study indicated a significant difference among students with and without learning disabilities in terms of motivation, anxiety, and hopelessness. Ayorbach *et al* [2], Sideridis [44] and Klassen & Lynch [25] showed in a separate research that children with learning disabilities have a greater rate of social and emotional problems and adjustabilities than normal children. Frilich and Scheman [16] showed that many of the students with learning disabilities also suffer from social, emotional and educational problems which are usually ignored in the school.

One of the commonest therapeutic methods which can be widely applied to students with learning disabilities and which has not attracted enough attention is verbal self instruction training (SIT). This therapeutic method is one of the cognitive behavioral therapy in which students are trained to change their undesirable behaviors through talking to themselves. Before responding to social situations, children learn how to take a problem apart by the five-step method. This cognitive approach was first developed by Michen Bam and Goodman (1971; quoted by [8]) in order to teach some sort of reflective problem solving to impulsive children in order to improve their educational performance. Just like a therapeutic method, verbal self-training is concentrated on the correction and reinforcement of the cognitive processes of the mind, because inappropriate behavior and emotions are the result of the absence or failure in some cognitive processes according to the theoretical approach [19]. Based on this, the therapist must educate the appropriate cognitive processes (Spencer, 2010). Treatment includes giving a cognitive paradigm from the therapist to the kid [19].

Linley & Joseph [29] showed in a research that teaching verbal self-instruction in students with learning disabilities promotes self-awareness, helps them have a healthy relationship with others, and affects the physical, psychological, and emotional health of these students. Barrette Ollendick [4] showed in a research that behavioral-cognitive treatment can help children with learning disabilities improve their mood, adjust their emotions, and control their anger. Curtis & Elliott [10] arrived at the conclusion that self-instruction training can contribute to the welfare, social emotional and psychological improvement of the retarded students. The results of their experiment indicated that students in the experiment group had a greater level of social adjustability than control group students. Latifi, Amiri, Malekpour & Molawi [27] arrived at the conclusion that social-cognitive problems solving skills training can improve the performance of the students afflicted with disabilities in social problem solving, reduce aggressive undesirable behaviors, and remove or change some social goals.

Taking into consideration the psychological properties, behavioral problems, moods (anxiety and depression), experiencing the negative emotions of these students afflicted with mathematical disorder [23], coincidence with other psychological disorders of the childhood period, the great prevalence of this disorder in the students and the role of teaching social skills as the key factors of success, promotion of health and reduction of the psychological problems of these students and the shortage of appropriate researches in this field, use of the results of this study in the pathology and treatment of those afflicted with this disorder are some important necessities of this research. Thus the purpose of the present research is to investigate the effectiveness of verbal self-instruction training on improving social, emotional and educational adjustability of the students with this disorder.

Methodology:

Research design: the design of this research is based upon experiments with pretest-posttest pattern with the control group in which the effectiveness of one independent variable (verbal self-instruction training) on dependant variables (social, emotional and educational adjustability) will be investigated.

Population, sample, and sampling method:

The statistical population of this research included all the male junior high school students of Koohdasht in the school year 2013-14 which had mathematical disorders. Multi step cluster sampling method was utilized in

this research. Among all the junior high schools of Koozdasht, 10 schools were chosen and then 5 schools were randomly selected. Then the teachers were interviewed and based upon the DSM-IV factors, students suspected of having mathematical disorders were introduced who were 68 people. Then, Keymath mathematical scale was completed for those students (with 2 standard deviations above the normal level). After scoring the answer sheets, 50 students who had gained the highest marks were selected from whom 40 students (based on DSM-IV criteria) were randomly selected and put in the experience and control groups (20 people in the experiment group and 20 in the control group). As for selection of the sample, each subgroup must have at least 15 people in that, but we decided to put 20 in each group so that they can be the real representative of the population and the research can have high levels of external validity [11]. By utilizing exit and entrance criteria, the benchmark of the respondents' homogeneity was also observed: A) entrance criteria including diagnosis of mathematical disorder based on the clinical interview and Keymath mathematical test; to be in the age range 12 to 16; having the IQ of at least 85; no medicine taken while answering the questions and during the research; sufficient levels of mental and physical health and appropriate level of literacy among parents for answering the questions; B) exit criteria including high level of disorders such as attention deficit/hyperactivity disorder, oppositional defiant disorder (ODD) and depression, having an IQ level below 85; having some sort of medical illnesses that makes one to immediately look for treatment.

Structural clinical interview for DSM-IV disorders:

SCID is a semi-structural clinical interview used to identify disorders based on DSM. In a study conducted by Besco *et al*, the potential procedure of SCID for use in mental health clinic was tested and the results indicated that it can be used to guarantee a valid and precise diagnosis.

Keymath mathematical test:

This test was normalized by Cornoli, Natchman & Pritchett in 1976. This test is used to determine the points of weakness and strength of students in various modules of mathematics. The validity coefficient of this test was calculated to be 0.80 based on Cronbach's alpha. This test is used to identify students with mathematical disorders.

Students Adjustability Questionnaire:

This questionnaire was developed by Singha and Sing (1993) and Karami [22] has edited and translated it to Persian. This questionnaire includes 60 questions which will be answered by Yes or No. It separates students with good levels of adjustability from weak students in three modules of adjustability (social, emotional, educational). In this questionnaire, the answers that indicate adjustability in all three fields get 0 and those answers that indicate no adjustability get 1. Higher scores indicate lack of adjustability while lower score indicate adjustability. The validity of this test was reported to be 0.95 and 0.93 respectively through bisecting and retesting [22]. In his research, Fouladchang [14] reported retesting coefficient and Kuder-Richardson coefficient respectively 0.89 and 0.82. The validity of this test is confirmed by a group of psychologists (quoted by Saghi and Rajaiee, 2008). In the present research, the Cronbach's alpha coefficient of this questionnaire was 0.84 for social adjustability, 0.86 for educational adjustability, and 0.78 for emotional adjustability. The total coefficient was 0.82 which indicates a desirable validity for this scale.

Verbal self-instruction training program for students:

In this research, we have tried to develop the training program based upon the theory of Maiken Bam and Goodman (1971; quoted by Kratochoil & Morris, 2002). Thus, administering the therapeutic program has been trained to students in eight 1-hour sessions which will be briefly discussed below.

Table 1: Verbal self instruction training program based upon Maiken Bam and Goodman approach.

structure of the session	contents of verbal self instruction training sessions
1 st session	introducing the members of the group to each other and getting them to talk about their disabilities (with the goal of accepting the problem), conceptualizing and describing the learning disability, its signs and effects on social performance, getting familiar with the goals of intervention sessions and the reason for holding them, signing the participation contract and describing the effects of instruction (to boost motivation)
2 nd session	A paradigm (the researcher) talks to himself loudly and does a homework (cognitive paradigm). For example he asks himself: what is my problem? What is my plan and design? Shall I use this plan? How should I put this plan and design which is internal into practice? Training verbalization of problems, self observation and exercising constraint. In this step, the researcher asks all students to practice this assignment and then assigns them to practice the skills till the next session.
3 rd session	A review of the previous session and asking questions about application of the skills over the last week. The researcher asked the students to do the same task again under the educational supervision of the pattern (therapist). Then, the assignments were done by the students under the supervision of therapist for several times. Homeworks were assigned to practice the skills for next session.
4 th session	A review of the previous session and asking questions about the application of the skills over the last week. In this step, the students were asked to guide themselves loudly (evident self-guidance). Then, all the students in the experiment

	group were asked to repeat this exercise several times. Homeworks were assigned for the next session.
5 th session	A review of the previous session and asking questions about the application of the skills over the last week. In this step, the student is asked to practice quietly (gradual omission of evident self-guidance). Homeworks were assigned for the next session.
6 th session	A review of the previous session and asking questions about the application of the skills over the last week. Students began doing their homeworks while whispering to themselves (evident self-guidance). Homeworks were assigned for the next session.
7 th session	A review of the previous session and asking questions about the application of the skills over the last week. Students were taught how to regulate their emotions (the goals of teaching regulation of emotions, knowing why emotions are important, identification of emotions, reduction of vulnerability and emotional suffering, positive emotions), an how to change negative emotions through the positive self-expressions. Homeworks were assigned for the next session.
8 th session	A review and summing up of the previous sessions and asking questions about application of the skills over the last week. Assigning tasks for practicing skills for ever.

The process of conducting the research:

After making the arrangements and gaining permission from the bureau of education and training of Koohtasht city, the research sample was collected to participate in the research after complying with the moral considerations and statement of the goals, informing the parents, and gaining their consent. Then the students who were to form the research sample took the Keymath test and the students with high scores (two standard deviations above average) were identified and interviewed. Of the students with mathematical disorders, 40 were placed randomly in the experiment and witness groups. Further to justifying the students and stating the goals of the research, they were asked to take part in the course of treatment. The experiment group was divided to two groups each consisting of 10 people so that they can be controlled in the training sessions. What's more, two assistants were used to better control these kids; then each of these groups underwent verbal self-training while the witness group received no intervention (during the educational intervention course, the witness group merely underwent regular class training). The training courses included 8 sessions each one hour in a place specified by the bureau of education and training of Koohtasht. Over these sessions and after the end of training, students in both groups took the post test. Finally, the students answered the questions booklets after a 2-month period again to check the consistency of interventions. Finally, the data collected were analyzed through multivariable covariance analysis test (MANCOVA). The students were also assured that their responses will remain secret and got mentally and spiritually prepared for the tests. No loss of the participants was observed in both the experiment and control groups. Verbal self-learning training course was implemented by two graduate students of clinical psychology over 8 sessions in the place specified by the bureau of training and education of Koohtasht. After making the required arrangements with parents, these trainings were scheduled for Fridays when schools were closed.

Results:

Table 2: The mean and standard deviation in the scores associated with social, educational, and emotional compliance in the pretest, posttest, and ad hoc test of the groups studied

variable	experiment						control					
	pretest		posttest		ad hoc		pretest		posttest		ad hoc	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
social adjustment	14.26	2.21	9	2.32	8.36	2.14	13.23	1.36	11.29	2.05	11	1.36
educational adjustment	11.33	1.42	7.53	2.09	6.57	2.21	14.15	2.10	13.45	2.11	12.14	1.55
emotional adjustment	13.12	1.88	7.36	2.06	7.12	2.13	12.75	1.87	11.18	1.42	10.59	1.16

Based on table 2 , the following means (and standard deviations) were reported for the pretest of the students in the experiment group for these components: social adjustment 14.26 (2.21), educational adjustment 11.33 (1.42), and emotional adjustment 13.12 (1.88). The means (and standard deviations) of the scores of the posttest the students of the experiment group were 9 (and 2.32) for social adjustment, 7.53 (and 2.09) for educational adjustment, and 7.36 (and 2.06) for emotional adjustment, while their ad hoc scores were as follows: 7.63 (and 2) for social adjustment, 7.1 (and 2.1) for educational adjustment, and 6.23 (and 2.36) for emotional adjustment. The following means (and standard deviations) were reported for the pretest of the students in the control group for these components: social adjustment 13.23 (1.36), educational adjustment 14.15 (2.05), and emotional adjustment 12.75 (1.87). The means (and standard deviations) of the scores of the posttest of the students of the experiment group were 11.29 (and 2.05) for social adjustment, 13.45 (and 2.11) for educational adjustment, and 11.18 (and 1.42) for emotional adjustment, while their ad hoc scores were as follows: 11 (and 1.63) for social adjustment, 12.14 (and 1.55) for educational adjustment, and 10.59 (and 1.16) for emotional adjustment. To check the normality of the distribution of coherent variables, Shapiro-Wilkes test was utilized. Based on the resulting possible values which range from 0.117 to 0.336, it can be concluded that the distribution of all research variables has been normal.

Table 3: Testing the normality of distribution in the stage of pretest and posttest based on the group

variable resources	Shapiro-Wilkes			
	scale	statistics	DF	P
pretest (verbal self-learning training)	social adjustment	0.929	40	0.145
	educational adjustment	0.948	40	0.336
	emotional adjustment	0.937	40	0.212
	social adjustment	0.935	40	0.192
pretest (witness group)	educational adjustment	0.924	40	0.117
	emotional adjustment	0.928	40	0.128

Based on table 3, the zero hypothesis for the normality of the distribution of the scores in social, educational, and emotional scales in both groups (verbal self-learning education and witness group) is confirmed. This means that the scores of both groups in the scales of social, educational and emotional adjustment have a normal distribution in the pretest status.

Table 4: The results of Box's and Leven's test about the presupposition of the equality of the variances of both groups in terms of the scores gained for social, emotional and educational adjustment in the pretest and ad hoc test of the groups studied

Leven's	Leven			
	DF1	DF2	F	P
social adjustment posttest	1	38	0.814	0.423
social adjustment ad hoc test	1	38	1.226	0.145
emotional adjustment posttest	1	38	0.968	0.214
emotional adjustment ad hoc test	1	38	0.569	0.617
educational adjustment posttest	1	38	1.856	0.112
emotional adjustment ad hoc test	1	38	0.519	0.602

Prior to utilizing the multivariable covariance analysis parametric test, Box's and Leven's tests were applied to comply with its presuppositions. Based on the Box test which was not significant for any of the variables in the posttest stage with (BOX= 4.124 and F=1.361, P= 0.471) and the ad hoc with (BOX= 6.546 and F=2.181, P= 0.264), the condition of the homogeneity of variance/covariance matrixes is observed. Based on Leven's test and her insignificance in posttest and ad hoc test, the condition of the equality of intra-group variances is also observed (Table 4).

Table 5: Information associated with the credential indexes of multivariable covariance analysis test (MANCOVA) in posttest and ad hoc test stage.

situation	test	value	DF of hypothesis	DF of error	F	P	Eta	statistical power
group membership of posttest	Pilai-Bartlet	0.765	3	33	4.361	$p \leq 0.001$	0.765	1.00
	Wilks lambda	0.216	3	33	4.361	$p \leq 0.001$	0.765	1.00
	Hetling effect	13.263	3	33	4.361	$p \leq 0.001$	0.765	1.00
	the highest root above	13.263	3	33	4.361	$p \leq 0.001$	0.765	1.00
member ship in ad hoc group	Pilai-Bartlet	0.723	3	33	2.563	$p \leq 0.001$	0.765	1.00
	Wilks lambda	0.142	3	33	2.563	$p \leq 0.001$	0.723	1.00
	Hetling effect	11.142	3	33	2.563	$p \leq 0.001$	0.723	1.00
	the highest root above	11.142	3	33	2.563	$p \leq 0.001$	0.723	1.00

As it is seen in table 5, after moderating the test marks, the intra-subjects factor of the group (verbal self-learning skills education) has a significant influence on components of social, emotional and educational adjustment in the posttest (F(33 and 3)= 4.361, P<0.001) and ad hoc (F(33 and 3)= 2.563, P<0.001) stage. In other words, the hypothesis that teaching verbal self-learning improves social, emotional and educational adjustability of the students afflicted with mathematical disorders is confirmed in the significance level of P<0.001.

Table 6: The results of multivariable covariance analysis test (MANCOVA) on the scores of the components of social, emotional, and educational adjustability in verbal self-learning and witness groups

variable	component	SS	DF			MS	F	P	ETA	statistical power
			group	error	total					
adjustability	social adjustability posttest	141.365	1	35	40	141.365	11.321	$p \leq 0.001$	0.745	1.00
	social adjustability ad hoc	112.745	1	35	40	112.745	106.451	$p \leq 0.001$	0.656	1.00

emotional adjustability posttest	214.126	1	35	40	214.126	98.119	$p \leq 0.001$	0.718	1.00
emotional adjustability ad hoc	163.452	1	35	40	163.452	86.654	$p \leq 0.001$	0.601	1.00
educational adjustability post test	310.713	1	35	40	310.713	163.202	$p \leq 0.001$	0.803	1.00
educational adjustability ad hoc	212.542	1	35	40	212.542	119.310	$p \leq 0.001$	0.776	1.00

Based on the results of the MANCOVA test, after moderating the scores of pretest, teaching verbal self-learning has a significant influence on social adjustability in the posttest ($F(35 \text{ and } 1) = 111.321, P < 0.001$) and ad hoc ($F(35 \text{ and } 1) = 106.451, P < 0.001$) stages. It also has a significant influence on emotional adjustability in posttest ($F(35 \text{ and } 1) = 98.119, P < 0.001$) and ad hoc ($F(35 \text{ and } 1) = 86.654, P < 0.001$). Its significant influence has also been observed on educational adjustability in posttest ($F(35 \text{ and } 1) = 163.202, P < 0.001$) and ad hoc ($F(35 \text{ and } 1) = 119.310, P < 0.001$) stages. There is also a significant difference between the moderated scores of social, emotional and educational adjustability between the educational groups of verbal self-learning and witness groups. In other words, these results indicate an increase of social, emotional and educational adjustability in the experiment group as compared with the witness group. The efficiency value in the posttest stage for social, emotional and educational adjustability is respectively 0.745, 0.718 and 0.803. It means that 74, 71 and 80 percent of the changes in posttest scores are associated with verbal self-learning education. The efficiency value in the ad hoc stage for social, emotional and educational adjustability is respectively 0.654, 0.601 and 0.776. It means that 65, 60 and 77 percent of the changes in ad hoc scores are associated with the durability of the influence of verbal self-learning education. This fact indicates the durability of the influence of teaching verbal self-learning in the experiment group.

Conclusion and discussion:

The goal of the present research was to investigate the effects of teaching verbal self-learning on the social, educational and emotional adjustability of the students afflicted with mathematical disorders. The results indicated that verbal self-learning has a positive influence on social, emotional and educational adjustability of students afflicted with mathematical disorders. These results are in line with other studies [27] which claim cognitive-behavioral skills (verbal self-learning) improve the social and cognitive adjustability of the students afflicted with mathematical disorders. In an attempt to elaborate on these results, we can say that attending sessions of verbal self-learning training helps make learning disorders something usual and normal for the students and their families, because in the majority of cases there is only one individual in the school who is formally diagnosed with learning disability (mathematical disorder, etc) and this sense of loneliness and exceptionality is bothering. As a matter of fact, participating in verbal self-learning training sessions helps the students admit their problem and deal with it rationally. Stating the successful and unsuccessful experiences in the presence of the people who share a lot with him gives the individual a sense of friendliness, responsibility and self-efficiency. Thus, verbal self-learning gives the students an opportunity to deal with their problems and feel they are capable of having a joyous relationship despite educational, emotional and social problems. Furthermore, the education was conducted in such a way that made students think because it was based upon questioning and thinking and repetitive emphasis was made that students should avoid quick and impulsive responses and need to think more deeply. On the other hand, promotion of social adjustability might be due to the fact that practical and verbal participation of the individuals to find the solution for problems was encouraged very much and desirable behaviors and students' responses were encouraged too [27]. This state has probably resulted in positive experience and promotion of the students' attitude towards others and promotion of intrapersonal relationships. Metacognitive strategies for these students are steps to improve their cognition and help them abandon the role of "a defeated individual". Choosing inappropriate social goals such as isolation of children with learning disabilities indicates their ignorance by their peers.

In an attempt to describe the other results, we can say that students with learning disabilities (mathematical disorders) suffer from low social skills, low psychological and physical welfare, and weak intrapersonal relationships [27], thus they have significant problems in personal and emotional adjustability and regulation of emotions [24]. This fact leads to lack of social and emotional adjustability among them. By teaching the verbal self-learning skills, these students will gain skills of social relationships, emotional management and regulation and friend making art. Because they receive positive feedback from their friends and the researcher after each behavior, they will have more desirable social goals and less undesirable feelings towards their peers. As a matter of fact, the individual differences of children in terms of social, cognitive and emotional relationships are associated with their acceptance by peers and family. If the level of relationships gets closer to the peers, the child will choose more social goals (the most important of which is social problem solving). Although these children are identified with lower levels of self-efficiency and adjustability and higher levels of negative emotions [24], the results indicate a reduction of undesirable social behaviors after receiving training in the field of verbal self-learning. On the other hand, the oral review of the previous session's assignments indicated that

students tended to use the skills they had learnt at home and, particularly, in interaction with their mothers. May be some sort of emotional security and higher sympathy will take place between mother and child.

Thus the skills utilized in this training program seem to provide children with a pattern for social skills and appropriate ways of interaction in different situations. Based on the behavior analysis approach, these patterns can teach children new behaviors; improve and organize the purposeful behaviors that exist in their behavior inventory; incite them to act in a particular way; reduce their anxiety; and encourage their positive behaviors indirectly.

In another interpretation of verbal self-learning, we can say that rehabilitating the students with mathematical disabilities in application of internal speech helps them guide their behavior through self-expression and direct their behavior by utilizing plans and designs. In other words, verbal self-learning results in verbal thinking which help a child with learning disability internalize his behavior so that he may predict future and maximize the long-term consequences. Activation of internal speech as a result of verbal self-learning education acts as an automatic fulcrum point. Teaching students methods for fighting against the inappropriate thinking patterns, emotions and cognitive styles helps them control and guide their behaviors and emotions through talking to themselves.

Since this sample is merely confined to Koohdasht, it will be hard to generalize the results to other cities. The sample included only male junior high school students and this facts make it difficult to generalize the results to female students. Considering the abundance of this disorder in childhood and adolescence period and voracious references to treatment centers, conducting psychological researches associated with this social problem can make a great contribution to identification and solving the psychological problems in these people. It is recommended that consultants and educational planners form curricula for verbal self-learning, promotion of adjustability and identification and expression of emotions in schools and families. This treatment method is suggested to be tested on other disorders such as ODD and ADHD. The results can be utilized in counseling centers.

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