



THE EFFECTIVENESS OF SELF-MONITORING TRAINING IN ACHIEVEMENT MOTIVATION AND SOCIAL SKILLS OF STUDENTS WITH LEARNING DISORDERS

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ABSTRACT

Introduction: The present study has been conducted with the aim of investigating the effectiveness of self-monitoring training in achievement motivation and social skills of students with learning disorders.

Method: This research was a pretest-posttest quasi-experimental study with Nonequivalent Control Group Design. The study involved 30 elementary students suffering from learning disorders in Neyshabur in the academic year 2016-2017. They were assigned to experimental and control groups (15 subjects in each group). The members of the self-monitoring training group received 8 sessions of self-monitoring training on a group basis, but the wait list control group was assigned to a waiting list and received intervention after the active treatment group. Before and after the intervention, Achievement Motivation Questionnaire (AMQ) and Teenage Inventory of Social Skills (TISS) were completed by the sample group.

Findings: In the posttest, scores of achievement motivation and social skills have significantly increased in the subjects of the self-monitoring training group compared to the control group subjects.

Discussion: The research findings suggest that participation in self-monitoring training sessions causes increases in achievement motivation and social skills of students with learning disorders.

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Introduction

Learning disability is one of the greatest and most controversial issues in exceptional education [8]. Children with learning disability almost act normally and similar to their peers in terms of physical growth, height, weight, intelligence, talking, playing and interacting with others and self-help skills; but when they go to school, they face serious educational problems [7]. In the fifth edition of Diagnostic and Statistical Manual of Mental Disorders, it is stated that this disorder is diagnosed during a clinical study about developmental, medical, family and educational history of the child. Diagnosis requires the existence of problems in learning reading, writing, science of numbers and mathematics observed within a year of formal education [1]. In Iran, the overall prevalence of 4.58% has been obtained for developing learning disabilities among elementary students of the country [28].

The major problem of children with learning disorder is the information processing disorder (attention, perception, memory and language) which affects the thinking, listening and speaking of the child [6]. Students with learning disorder are constantly faced with educational challenges which have many negative effects on their achievement motivation (. Learning disorder does not occur exclusively in children, but this problem starts in childhood and continues until adulthood and can influence the individual's mental and social growth and academic achievement [29]. Students suffering from learning disorder usually

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become involved in difficulty in cognitive and metacognitive skills) [22] and take a negative attitude towards education due to repeated failures encountered in doing the assignments. For this reason, they lose their motivation for education and development and this deficiency make their motivation faced with learned helplessness [19].

One of the interpersonal factors which improves health and in which most of the students with learning disorder face difficulty is achievement motivation [10]. Achievement motivation means the desire or passion for success and involvement in activities in which success is dependent on personal effort and capability [2]. Students with learning disorder experience a wide range of learning problems which arise from low motivation levels, attention deficit and inadequate management skills and only the students who enjoy high levels of achievement motivation are able to overcome these problems [5]. Achievement motivation occurs when the individual independently uses one or more strategies to achieve the goal [27]. People with high achievement motivation spend more time on learning and are more likely to finish their assignment while individuals without achievement motivation are more prone to abandon the assignment [16]. Indeed, achievement motivation plays an important and fundamental role in the educational environment and learning and is considered as the engine of the individual's movement for the behaviors that lead to better and effective learning [25].

Since talking about man's life is meaningless without his social relations, addressing the factors that improve the interpersonal relationships of students with learning disorder is of crucial importance. One of the factors that has a direct impact on the quality of the interpersonal relationships and psychological status of these students is their social skills [8]. Social skills refer to a set of acceptable acquired behaviors that enable individuals to have an effective relationship with others and avoid unreasonable social reactions [11]. In connection with students suffering from learning disorder, improved social skills and enhanced ability to cope with the issues of social life can lead to the development of healthy supportive relationships without which achievement of high quality life where the individual enjoys a feeling of joy, peace, security, self-esteem and hope is not possible [10]. Thus, dealing with the social skills of students with learning disorder is of great importance in improving their psychological status.

Students with learning disorder have difficulty in spontaneous formation of academic skills due to weakness in metacognitive strategies [26]. One of these strategies is self-monitoring which is used for the promotion and change of behavior. It is a method in which students monitor and record their performance in relation to a specific behavior or a group of behaviors [3]. Most of the students affected by learning disorder also have difficulties in learning self-monitoring skills and use of this strategy. Hence, Interventions have proceeded in the direction that this deficiency is removed [24]. Self-monitoring is the ability to resist or delay the impulse, drive or temptation to perform an act. This ability is manifest in the rejection of aggressive impulses, self-control and anger management, high distress tolerance, ability to control problems and lack of abuse and violent and unpredictable behaviors [13]. Various researchers have stated that self-monitoring ability make a significant impact on mental health, perception, giving meaning to experiences, good judgment, appropriate decision-making and psychosocial development of the individual and people with high self-monitoring ability enjoy more power to adapt to new daily issues. Further, high self-monitoring ability correlates with accountability, flexibility, being pleasant and capable and coordination of various social relations [30].

According to the study by [21], students can regulate their own behavior by using self-monitoring and increase independent activities and reduce the reliance on external factors. Students with high self-monitoring enjoy high sensitivity and preparation to deal with environmental events and easily analyze their own feelings and try to exhibit behaviors consistent with their purpose and conditions [14]. Research conducted on self-monitoring training to students has shown that these trainings have been effective in developing better learning habits and strengthening study skills [30], monitoring their performance [9] and also evaluating academic achievement and improving learning [17].

Based on the foregoing, it seems that self-monitoring training is effective in achievement motivation and social skills of students with learning disorders. Therefore, the present study aims to investigate the effectiveness of self-monitoring training in achievement motivation and social skills of students with learning disorders.

Research method

The present research is a pretest-posttest quasi-experimental study design with a nonequivalent control group. The research statistical population comprises all the elementary students with learning disorder in Neyshabur, Iran in the academic year 2016-2017. Thus, after obtaining a letter of introduction from the university and making necessary arrangements, Learning Disability Evaluation Scale (LDES) was completed by the parents of the students who had referred to psychology clinics in Neyshabur while complaining of the symptoms of learning disorder. Out of the students under investigation, 30 subjects who had obtained the highest scores in LDES were selected and were randomly divided into two experimental and control groups. Afterwards, the experimental intervention (self-monitoring training) was carried out in the experimental group within 8 sessions of 2 hours and the effect of the independent variable (self-monitoring training) on the dependent variables (achievement motivation and social skills) was examined. During this period, the control group remained on the waiting list to receive training. Ultimately, at the end of 8 training sessions, both groups took a posttest. The data obtained from the pretest and posttest of both groups was analyzed using the analysis of covariance (ANCOVA) in SPSS (version 23).

The implementation method of self-monitoring training has been organized inspired by Hallahan and Hudson (2002) therapy program. This method has been mainly provided for attention inhibition in students with learning disabilities. But from the standpoint of Hallahan and Hudson (2002), it can be employed for other groups such as children suffering from emotional

behavioral disorder, attention deficit hyperactivity disorder or mental retardation. A summary of the content of sessions has been presented in (Table 1).

Table 1. A summary of the content of self-monitoring sessions

First session	Introducing the self-monitoring technique, giving information about achievement motivation, providing examples of self-monitoring benefits, introducing the tools used for implementing self-monitoring and modeling the use of tools.
Second session	Reviewing the content of the first session and identifying and introducing the students' problems in learning, using self-assessment training techniques, self-education training and verbal mediation training to identify these problems.
Third session	After implementing and practicing the checklists by the instructor, the students are asked to explain and display them. At this stage, feedback and verbal praise are provided and the students are trained to record the number and manner of the occurrence of some problems associated with reading, writing and calculation.
Fourth session	Self-monitoring program along with text reading is repeated and practiced with the students. In each stage, Checklist and tape recorder are used. The students are trained to report their progress using self-assessment techniques.
Fifth and sixth sessions	Self-monitoring program along with text reading is repeated and practiced with the students. In each stage, checklist and tape recorder are used. The students are trained to report their progress using self-assessment techniques. At this stage, feedback and verbal praise are used to reinforce the students' progress.
Seventh session	At this stage, the checklist practiced in previous sessions is gradually laid aside (removal of the dependency on self-monitoring tools) and the students independently do their assignments.
Eighth session	The students personally undertake self-monitoring during learning and practice and repeat it. At the end of this stage, the effects of self-monitoring training are evaluated.

Research tools

In this study, the following questionnaires were applied to achieve the required information:

- 1. Learning Disability Evaluation Scale (LDES):** This test is used for the diagnosis of learning disorder and includes the scales of listening, thinking, speaking, reading, writing, spelling and calculating (mathematics). It consists of 88 items with Likert scale which are responded by the child's parents or a person familiar with the child's educational status and assignments. Then, the examiner decides whether or not the child suffers from learning disorder based on the total scores obtained. The internal reliability of this test by [18] has been estimated to be between 0.60 and 0.70. Additionally, [18] has obtained the test validity to be higher than 0.50 by analyzing the validity through comparing the results with other criteria of learning disorder.
- 2. Achievement Motivation Questionnaire (AMQ):** This questionnaire was developed in 1970 by Hermans based on the existing experimental and theoretical knowledge about the need for achievement and by examining the related research in this regard. This scale was made up in the form of 29 incomplete sentences. These questions developed based on ten characteristics that distinguish people who have high achievement motivation with those who have low achievement motivation. To prepare materials of questionnaires, Hermance considered ten characteristics of people as based in selecting questions: 1) high level of desire; 2) strong motivation for upward mobility; 3) Long resistance facing with assignments or moderate difficulty level; 4) Willingness to reattempt in doing assignments; 5) dynamic perception of time, the feeling that things happen quickly; 6) Foresight; 7) Paying attention to merit criterion in selecting friends, colleagues and model; 8) recognition through good performance at work; 9) doing jobs well, and 10) Low risk behavior . This questionnaire is completed by the students. In order to homogenize the value of questions, four options are written for each of the 29 questions in the questionnaire. These options are scored depending on whether the intensity of achievement motivation is from high to low and vice versa. In the study conducted by [12] with the aim of validation and standardization of the achievement motivation test, the reliability coefficient of the questionnaire was reported to be 0.80 using Cronbach's alpha. To assess the test validity, [20] has calculated the correlation coefficient of each question with achievement behaviors. The correlation coefficient reported for the questions of the questionnaire has been obtained to be in the range of 37 to 57 in the order of questions, which indicates the good validity of the questionnaire [20]
- 3. Teenage Inventory of Social Skills (TISS):** This scale was developed by Inderbitzen and Foster in 1992. Respondents were asked to rate the descriptiveness of each of the 39 items along a 5-point continuum. The items are rated on a 6-point Likert scale ranging from 0 (it doesn't describe me at all) to 5 (it describes me completely). The negatively-keyed items must be reverse-scored before computing the total score. The higher score in this scale represents greater social skills. The original version of this inventory comprises 40 items, one of which (item number 22) has been eliminated because of non-compliance with the Iranian culture. The reliability coefficients of this questionnaire have been reported by Amini (1999) in Tehran for female students, which are 0.71 and 0.68 respectively for positive and negative statements. Besides [23] has obtained the reliability of this questionnaire to be equal to 0.84 using Cronbach's alpha coefficient. Inderbitzen and Foster (1992) estimated the reliability coefficient of this questionnaire to be 0.79 through Cronbach's alpha method.

Results

The average age for subjects was 10.16 years in the experimental group and 10.21 years in the control group. 53.3% of the research subjects were male and 46.7% were female. At first, mean and standard deviation of the research dependent variables are provided for each of the experimental and control groups in the pretest and posttest (**Table 2**).

Table 2. Descriptive indicators of the dependent variables of achievement motivation and social skills for each group

Group	Variable	Number	Pretest		Posttest	
			Mean	SD	Mean	SD
Experimental	Achievement motivation	15	61.80	7.45	75.00	7.09
	Social skills	15	55.80	5.40	68.26	7.54
Control	Achievement motivation	15	60.80	5.19	61.53	5.56
	Social skills	15	51.86	6.52	52.73	5.54

As can be observed, the mean score of the experimental group members in achievement motivation and social skills tests has increased significantly in the posttest compared to the pretest. This change was not observed in the control group.

In this study, analysis of covariance test has been used due to more consistency with the research hypothesis. Further, assumptions of the analysis of covariance test have been investigated.

Table 3. Results of covariance analysis of the effect of self-monitoring training on achievement motivation

Variable	Kolmogorov – Smirnov test	Homogeneity of variances test	Pretest effect	Group effect	Partial η^2
Achievement motivation	Z=1.113	F(1,28)=2.890	*F(1,27)=93.568	*F(1,27)=101.794	0.790
Social skills	Z=0.978	F(1,28)=2.311	*F(1,27)=105.824	*F(1,27)=74.077	0.733

As can be seen in the [**Table 3**], the results obtained from comparing the posttest of achievement motivation in both groups while controlling the pretest effect indicate that after attending self-monitoring training sessions, achievement motivation and social skills of the students participating in the experimental group have had a significant increase relative to those who were in the control group.

Discussion and conclusion

The present study was performed aimed at investigating the effectiveness of self-monitoring training in achievement motivation and social skills of students with learning disorders. The results demonstrated that participation in self-monitoring training sessions lead to improvement of the achievement motivation and social skills of students with learning disorders.

[3] conducted a study and found that self-monitoring training can reduce the problems associated with children's achievement motivation. Additionally, these findings are in line with the results of studies [3], [14] and [15], which show the significant positive effects of self-monitoring training for various groups of learning disabilities. In explaining the effectiveness of self-monitoring training in achievement motivation of students with learning disability, we can refer to the positive impacts of self-monitoring and self-orientation training which occurs verbally. Self-talk or autosuggestion is very effective in the development of adaptive and maladaptive behaviors. The most important element of self-monitoring training is that the client is trained to suggest to himself positively or to apply encouraging and supporting sentences and phrases. This method has a positive influence on preparing the students to deal with stressful situations [17]. It can be stated that the implementation of self-monitoring and self-orientation techniques by students prevents the formation of stress in the classroom and weaknesses in learning and academic performance and strengthens their achievement motivation [17].

In explaining the effectiveness of self-monitoring training in social skills of students with learning disability, it can be mentioned that students learn the problem-solving process by taking advantage of this program and identify fundamental aspects of each problem by avoiding emotion-oriented attitude and consider the possible solutions for the problem and are also able to select the most adaptive way by focusing on the important aspects of the problem while evaluating various solutions. Furthermore, the relationship between avoidant coping style and emotion-oriented pattern with psychopathological syndrome has been proved in students [27]. On the other hand, research has shown that direct confrontation with issues, the use of personal control in doing the assignments and setting aside the emotion-oriented style are accompanied by reduced psychological problems and enhanced mental health [14]. This issue was reflected in the present study.

By helping the growth of inner speech, self-monitoring training causes the children with learning disabilities to compensate their deficiencies in the field of problem-solving through the self-questioning process and accordingly take the control of the flow of thought and problem-solving process (Harris et al., 2005). Training self-monitoring techniques such as cognitive restructuring, problem-solving and directed personal dialogue causes the individual to reach a reasonable awareness of the causes of his cognitive disturbances. This insight brings numerous advantages for the individual and enables him to enhance his focus on topics of interest and to avoid distracting stimuli. In fact, weakness in attention and concentration and the inability to inhibit the distracting stimuli in children with learning disabilities prevent the appropriate performance in learning areas and working on these variables which is done by using different techniques can improve cognitive abilities. Since self-monitoring

techniques minimize the disturbance of insignificant environmental stimuli, the use of these techniques puts the individual's knowledge about stimuli and assignments into practice and practically brings cognitive coordination for the person [3]. On the other hand, children under training have managed to internalize the socialization rules through inner speech and by taking advantage of self-monitoring techniques. Late childhood (a stage of growth at which the children of our target population are) is the beginning of establishing and maintaining relationships outside the family and this is a practice that will continue until the end of life. During this period, children go beyond their families and peers and turn to their friends. Self-monitoring method teaches the children the skills that provide success in relationships with friends and help to deal with social and communication problems. In this method, the child learns to express his demands clearly and boldly. He also learns not to be afraid of apology whenever he makes a mistake; but when he is right, he should insist on his opinion or statement. Accordingly, training of how to create and maintain friendly relations and express oneself and subsequently negotiation training to students were included in the self-monitoring program. This encourages the child to show adaptive behaviors in the face of social problems and issues. It seems that the main factor of change in achievement motivation and social skills of the students attending self-monitoring training sessions includes the advancement in the inner speech and verbal self-orientation, acceptance of the possibility of negative emotional states and change in the stress coping style in dealing with social and educational issues. Results of this research and previous studies support the interventions and methods based on self-monitoring to improve the psychological state and resolve the problems of students with learning disabilities. Along with answering some questions on the research subject, this study was faced with a number of limitations including that with respect to this research as being cross-sectional, it was impossible to provide a complete picture of achievement motivation and social skills of students with learning disabilities. The factors affecting these variables including the process of psychosocial skills development, formal and informal social support, extended family performance and different personality variables should be examined in a broader study in terms of both time and sample size. Moreover, this research has been conducted in the primary age group (7-11 years) and its findings are not generalizable to students with learning disabilities in other ages.

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