

## Effectiveness of Child-Centered Mindfulness on Social Skills and Self-Efficacy of Children with Learning Disabilities

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### ABSTRACT

**Background:** The present study was conducted to investigate the effectiveness of child-centered mindfulness on social skills and self-efficacy of children with learning disabilities.

**Methods:** The present semi-experimental study was conducted using a pretest-posttest design and a control group. The statistical population of this study comprised all children with learning disabilities in Isfahan during the academic year of 2016 - 2017. In this research, non-random convenient sampling method was used and 30 children with learning disabilities were selected who were referred to educational counseling centers and they were randomly assigned to experimental and control groups. This study utilized self-efficacy and social skills questionnaires for children. Data were analyzed using covariance analysis.

**Results:** The results of data analysis showed that child-centered mindfulness therapy was effective on social skills and self-efficacy of children with learning disabilities. This means that mindfulness therapy was able to significantly increase the social skills and self-efficacy of children with learning disabilities (P-value < 0.001).

**Conclusion:** Based on the findings of this study, it can be concluded that child-centered mindfulness therapy can be used as an effective treatment for improving social skills and self-efficacy of children with learning disabilities.

**Keywords:** Mindfulness Therapy, Self-Efficacy, Social Skills, Learning Disability

## Introduction

One of the problems that psychiatrists and doctors face over the past years is the learning disability. Various characteristics have been mentioned for these children, but the most important features of children with learning disabilities is that they are not able to properly learn reading, writing, and mathematics despite their normal intelligence.<sup>1</sup> But it should be noted that, like other cognitive and psychological disorders, the careful and profound study of this disability is also difficult due to the complexity of the symptoms and characteristics.<sup>2</sup> Learning disabilities are currently considered as a major cause of severe learning difficulties. Learning disability is a general term that refers to a heterogenic group of disorders and it presents itself as serious difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematics.<sup>3</sup> Children and adolescents with learning disabilities are found in every classroom. Usually, these students have no choice but to leave school, unless their problems are diagnosed and treated on time. These children, despite their natural intelligence, have difficulty in continuing their education. They have difficulty in one or more learning areas such as reading, writing, and computing and they need special training for academic achievement.<sup>4</sup> Based on the fifth edition of the Diagnostic and Statistical Manual of Psychiatric Disorders, learning disabilities are of four types: reading disorder, mathematics disorder, speech disorder, and undefined learning disability.<sup>5</sup>

One of the main problems children with learning disabilities face is impaired social skills. These children cannot benefit from social communications like ordinary children.<sup>6</sup> Social skills are defined as behaviors that underpin the foundation of successful and face-to-face communications.<sup>7</sup> Social skills are a set of abilities that initiate and maintain positive social relationships, develop peer friendship and empathy, allow individuals to adapt to situations and accept social environment demands.<sup>8</sup> Shandier et al. defined social skills as a means of

interpersonal and environmental communication and believed that this tool is used to start and continue constructive and healthy relationships with peers as a vital part of mental health.<sup>9</sup> Effective social interactions are clearly necessary for emotional and behavioral compromise, successful performance at home, school, work, and in the community. Skillful interpersonal behavior has naturally rewarding consequences, such as starting and deepening friendships and reducing stressful sources of life.<sup>10</sup>

Another vulnerable component in children with learning disabilities is weakness of their self-efficacy.<sup>11</sup> Self-efficacy is defined as the receipt and judgment of an individual about the skills and abilities needed to carry out work in special situations. In addition, self-efficacy only affects the function when the individual has the necessary skills for a special work and is provoked sufficiently to do it and this provocation and motivation to achieve the goals is created by paying attention to the capabilities of individuals and providing the means to achieve these in the light of considering the individual differences.<sup>12</sup>

Self-efficacy beliefs affect variables such as past experiences, cognitive ability, gender, and other beliefs as a mediating variable on the variable of academic achievement. Bandura<sup>13</sup> stated that self-efficacy can play an important role in an individual's approach and attitude to goals, tasks, and challenges. Strong self-efficacy beliefs are considered as a strong personality source in dealing with stressful situations. Self-efficacy beliefs affect how individuals deal with different situations to achieve goals. They also have an extensive impact on motivational processes.<sup>14</sup>

So far, various therapeutic approaches have been used to improve the psychological components of children with learning disabilities, such as child-centered mindfulness treatment that has shown its effectiveness in the treatment of various psychological injuries.<sup>15,16</sup>

Mindfulness means special and purposeful current attention and is free of prejudices and



judgment.<sup>17</sup> Mindfulness is based on Buddhist meditation exercises that increase the capacity to gain attention and knowledge (which goes beyond thought).<sup>18</sup> Through mindfulness, thoughts and behaviors, which were previously deliberate or automatic, become visible phenomena that are occurring in one's body or mind,<sup>15</sup> described as re-perception, that is, what was previously the subject now becomes the object.<sup>19</sup> This type of cognitive therapy includes various meditations, pulled yoga, exercise, body browsing, and several cognitive therapy exercises that link mood, thoughts, feelings, and body senses. All these exercises give attention to physical and environmental current situations and reduce automated processes.<sup>20</sup> Research has revealed promising results that show mindfulness as an effective intervention for the treatment of psychological symptoms.<sup>16, 21</sup>

With regard to psychological, social, and communicative problems in children with learning disabilities,<sup>6, 11, 22, 23</sup> and the importance of using appropriate psychological interventions for these children and lack of research on the effectiveness of child-centered mindfulness therapy on social skills and self-efficacy of children with learning disabilities, the researchers in this study aimed to determine the effectiveness of this method on social skills and self-efficacy of the affected children. Accordingly, the main issue of the present research is to investigate whether child-centered mindfulness therapy affects social skills and self-efficacy of children with learning disabilities.

## Methods

The present study is a randomized controlled trial. The independent variable used was child-centered mindfulness treatment and the dependent variables were social skills and self-efficacy of children with learning disabilities. The statistical population of this study included all the children with learning disabilities in Isfahan during the academic year of 2016 - 2017. In this research, nonrandom convenient sampling method was used. So, children who were referred to the counseling and psychological services centers of Isfahan were

studied. Among these children, those with learning disabilities were investigated and identified (n = 56 children). These children were then invited to participate in the study and 47 of these children were willing to participate. It should be noted that their parents' consent was also obtained. Then, their social skills and self-efficacy questionnaires were completed and 30 children with the lowest score in social skills and self-efficacy questionnaires were selected purposively and were randomly assigned to experimental and control groups (15 children in the experimental group and 15 children in the control group). The randomization process of children in the experimental and control groups was simple random. The criterion for selecting 30 children for the sample size was based on the relevant scientific resources.<sup>24</sup> The experimental group received intervention therapy (child-centered mind-focused therapy) in two and a half months at 10 sessions of 50 min, while the control group did not receive this intervention during the study process, but received the educational interventions of the scholar trainings as usual and for ethical considerations, the children in the control group and their parents were assured that they will receive the child-centered mindfulness intervention after completion of the research process. In addition, the consent of the children and their parents was obtained to participate in the intervention program and they were informed about all stages of the intervention. Participants of both groups were also assured that their information would remain confidential and that there was no need to enter their names.<sup>25</sup>

In this research, the following questionnaires were used:

**Social skills questionnaire:** A social skills questionnaire was prepared for assessing the social skills of children and adolescents. The questionnaire was designed by Matson et al. (1983) and it has 56 items that measure appropriate social skills, non-social behaviors, aggression, supremacy, and jealousy/detention. The participant responds to each item based on a five-point Likert

scale (from totally disagree or totally agreeing). The total scores range from 0 to 224.<sup>26</sup> Yosefi et al. (2002) reported the Cronbach's alpha coefficients at 0.82.<sup>27</sup> The validity of the social skills questionnaire was reported to be 0.83 by Biabangard. The impatience scale prepared by Farmer and Sandberg was used to measure impatience. The participant responds to this questionnaire based on a 7-point Likert scale, from "I totally disagree" to "I totally agree". The maximum score is 196 and the minimum score is 28. A higher score reflects higher social skills. The reliability coefficient of this scale was reported by re-test coefficient of 79.9 to 0.91 in an interval of 1 to 3 weeks and the internal consistency of this scale was 0.79.<sup>28</sup> The reliability of this questionnaire was calculated to be 0.84 using the Cronbach's alpha coefficient.

**Self-efficacy questionnaire:** A self-efficacy questionnaire was designed for children and adolescents by Maurice et al. (2001) to assess the level of self-efficacy of children and adolescents in three social, educational, and emotional areas. This questionnaire consists of 23 items and 3 sub-scales, which measure the social self-efficacy subscales with 8 items, as the ability to establish relationships with peers, determinism, and achieving social criteria. The self-efficacy subscale, with 8 items, evaluates feeling empowered in managing learning behaviors, mastering the school subjects, and fulfilling academic expectations and the emotional self-efficacy subscale, which includes the last seven questions of the questionnaire, which measures empathy in coping and controlling negative emotions. This questionnaire was scored based on a Likert scale from score 1: very low to 5: very high score. Accordingly, the lowest score in this questionnaire is 23 and the highest score is 115. The higher score shows a higher self-efficacy.<sup>28</sup>

The confirmatory factor analysis reported the three-factor structure of this scale in three social, educational, and emotional domains as significant and reliable with an internal

consistency of 80%. The content and face validity of this scale was appropriate and its reliability was reported at an acceptable level of 0.70 for three factors, 0.87 for academic self-efficacy, and 0.78 for social self-efficacy.<sup>29</sup> The validity of this test was calculated in Iran, using a two-week-long test-retest on 43 participants in Tehranian students at 0.84% and Cronbach's alpha of 0.74.<sup>29</sup> Also in the study by Tahmassian et al. (2006),<sup>30</sup> factor analysis showed four factors to confirm the validity of the test. The reliability of this questionnaire was calculated using Cronbach's alpha coefficient of 0.80 in this study.

In this study, in order to analyze the data, two levels of descriptive and inferential statistics were used. For the descriptive analysis, mean and standard deviation (SD) were used and for the inferential statistics, Shapiro-Wilk test was used to assess the normal distribution of variables; Levine test was used to examine the equality of variances; t-test was used to check the significant difference between the experimental and control groups in the dependent variables in the pretest stage; and also, covariance analysis (due to control of pre-test scores) was used to test the research hypothesis. The statistical results were analyzed using the SPSS<sub>23</sub> software.

## Results

The results of the demographic data showed that the research subjects were of the age range of 9 to 12 years old, while the age range of 11 years was the most frequent 46%. In addition, these children were mainly students in elementary school, with the highest number being in the fifth grade 42%. Table 1 shows the descriptive results of the study.

Before providing the results of covariance test analysis, the hypotheses of parametric tests were evaluated. Accordingly, the results of Shapiro-Wilk test showed that the distribution of data in both social skills and self-efficacy variables were normal ( $P$ -value  $< 0.05$ ). Also, the assumption of homogeneity of variances was also measured by Levin's test. The results of this study showed



that it is non-significant; indicating that homogeneity of variances was observed in the variables ( $P$ -value  $> 0.05$ ). In addition,  $t$ -test showed that the pre-test variables of the experimental and control groups were not significantly different in the dependent variables (social skills and self-efficacy) ( $P$ -value  $> 0.05$ ). It should also be noted that in testing the hypothesis of homogeneity of regression line slope, the results showed that the association of pre-test interaction with the grouping variable in the post-test stages was not significant in self-efficacy and social skills variables. The regression slope line in self-efficacy and social skills variables was assumed to be homogenous. Thus, the results of inferential tables were presented.

the presentation of independent variables (child-centered mind-focused therapy) resulted in a significant difference in the mean scores of the dependent variables (social skills and self-efficacy of children with learning disabilities) in the post-test at error level of 0.05 (Table 2). Thus it can be concluded that the scores of social skills and self-efficacy variables in children with learning disability have increased significantly. Considering the size effect of these variables, it can be said that 0.71 and 0.69 of changes in social skills and self-efficacy variables of children with learning disability are justified by group membership (child-centered mindfulness therapy).

**Table 1: Interventions of child-centered mindfulness therapy<sup>24</sup>**

Sessions	Description of the session
The first session	Introduction of mindfulness and explanation of the reason for this training course for children, explaining how to plan mindfulness exercises and include these exercises in daily life, parent participation, and daily notes about mindfulness exercises, training and exercising aware meditation (sitting on a chair, lying down, sitting on four knees, tree position, walking, and position of hands
The second session	Talking about the experience of clients from mindfulness exercises and explaining the need for a quiet place for aware breathing exercises (breathing exercises are like treasures of jewelry) and aware eating exercise
The third session	Getting feedback from participants about exercises and fixing their problems, repeating the meditation exercises and aware breathing for a short time, breathing exercises, and fast and slow breathing.
The fourth session	Reading several notes from the experience of home mindfulness and fixing their problems, practicing awareness of the present.
The fifth session	Talking about mindfulness experiences of the clients and receiving feedback from them and fixing the problems, aware hearing exercise, aware tasting exercise, and repeating the previous exercises
The sixth session	Repeating the meditation exercise, aware smelling exercise, and aware touching exercise
The seventh session	Repeating aware breathing exercises, re-explaining the practice of awareness of the thoughts and completing this exercise, and film screening
The eighth session	The aware breathing exercise, exercising awareness of excitement, film screening, and aware eating exercise.
The ninth session	The aware breathing exercise, awareness of relationships, exercising awareness of tasks, and film screening.
The tenth session	Reviewing mindfulness exercises, exercising aware compassion, review and discussion of meetings and emotions that participants had in this course.



**Table 2:** Descriptive statistics of the social skills and self-efficacy components of children with learning disabilities in the experimental and control groups at pre- and post-test stages

Groups		Pre-test		Post-test	
		Mean	SD	Mean	SD
Experimental group	Social skills	82.73	11.79	93.60	10.59
	Self-efficacy	55.93	5.43	65.86	5.16
Control group	Social skills	84.33	12.18	80.53	10.73
	Self-efficacy	54.06	6.51	50.93	5.39

**Table 3:** Results of covariance analysis of the effect of child-centered mindfulness therapy on social skills and self-efficacy of children with learning disabilities

Variable	Group	Sum of squares	Degrees of freedom	Mean squares	F	Significance level	Effect size	Test power
Social skills	Covariate	15.09	1	15.09	0.13	0.71	0.005	0.06
	Grouping	1540.83	1	1540.83	65.68	0.0001	0.71	1
	Error	633.41	27	23.46				
Self-efficacy	Covariate	121.50	1	121.50	4.97	0.03	0.15	0.57
	Grouping	1491.82	1	1491.82	61.10	0.0001	0.69	1
	Error	659.17	27	24.41				

**Discussion**

This study was conducted to investigate the effectiveness of child-centered mindfulness on social skills and self-efficacy of children with learning disabilities. The results of the data analysis showed that child-centered mindfulness therapy was effective on social skills and self-efficacy of children with learning disabilities. This means that mindfulness treatment has been able to significantly increase the social skills and self-efficacy of children with learning disabilities (P-value < 0.001).

The results of this study are consistent with the findings of Semple et al. (2014), and Perry Parrish et al. (2016) Ritvo et al. (2013), Ames et al. (2014).<sup>15, 16, 31, 32</sup> examined the effect of mindfulness in reducing students’ negative self-concept and the results showed that mindfulness had a positive effect on reducing the negative self-concept of these students. Ames et al. (2014) reported mindfulness treatment as an effective treatment for depression in adolescents.<sup>32</sup> Perry Parrish et al. (2016) also reported child-centered mindfulness approach as a useful approach in the

treatment of psychological components in children and adolescents.<sup>16</sup>

Mindfulness is a skill that allows people to experience the current events as less uncomfortable. When people become aware of the present, they will no longer focus their attention on the past or the future. Most psychological problems are usually related to events that have happened in the past or will occur in the future.<sup>33</sup> Accordingly, children with learning disabilities take advantage of their mindfulness to take their focus of attention from past failures and the likelihood of failure in the future to focusing on the present.

It can also be said that mindfulness is a feeling without judgment and is free of knowledge that helps to explicitly recognize and accept emotions and physical phenomena, as it happens. It therefore educates children with learning difficulties associated with psychological problems due to the learning disability of these strategies. Therefore, making them to accept their psychological feelings and symptoms, which are the result of failure in education and social relationships, and accepting these feelings reduces



the attention and hypersensitivity to the reports of these symptoms. Ryan and Dessy showed in their research that mindfulness helps individuals modulate negative behaviors, automatic thoughts and regulates health-related positive behaviors.<sup>34</sup> In other words; mindfulness can create positive changes in psychological components of individuals by combining vivacity and a clear view of experiences that this process can lead to social skills and children's self-efficacy.

Like any other research, there are some limitations in the present study such as the results of the study being limited to a specific group and geographical area (children with learning disabilities in Isfahan), non-random sampling method, and lack of follow-up. Therefore, it is suggested that the present research should be carried out in other groups and other geographical regions using random sampling and follow-up to increase the power of generalizability of the results. Based on the results of the present research, it is suggested that this therapeutic approach be used in psychiatric clinics, counseling and psychological service departments of the education center. It is also suggested that in-service courses and workshops be organized to train counselors on this method at different levels, so that they can learn and apply this therapeutic approach to improve social skills and self-efficacy of children with learning disabilities.

### Conclusion

Considering the results of this study, which show the significant effect of child-centered mindfulness education on social skills and self-efficacy of children with learning disabilities, it can be concluded that child-centered mindfulness can be used to improve social skills and the self-efficacy of children with learning disabilities.

### Conflicts of Interest

In this study, did not report any potential conflicts of interest with the authors.

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and selected schools are wholeheartedly appreciated. Further, in the current study all ethical issues were observed base on the Helsinki Declaration.

### Authors' Contribution

Conceptualization, M.G.B. and F.M.N.; Methodology, F.M.N.; Formal Analysis, F.M.N., Investigation, M.G.B.; Data Curation, M.G.B. and F.M.N., Writing – Original Draft, M.G.B. and F.M.N.; Writing – Review and Editing, M.G.B.; Resources, M.G.B. and F.M.N.; Supervision, F.M.N.

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