

## Effectiveness of mindful parenting training on mothers' affective self-regulation and on the externalizing behavioral problems in adolescent girls

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### ABSTRACT

The purpose of the present study was to conduct a research of effectiveness of mindful parenting training on affective self-regulation of mothers and externalizing Behavioral problems in their adolescent daughters. In a semi-experimental research method with control group and pretest-posttest design, participants were selected by cluster random-assignment sampling method and placed into the 2 experimental and control groups randomly. They were measured by the Affect Regulation questionnaire and Child Behavior Check-list Externalized subscale. 8 sessions of mindful parenting training were held. After the conduction of the intervention, covariance analysis indicated significant difference between the experimental and the control groups in variables such as affective self-regulation ( $P \leq 0.05$ ,  $F=72/138F=52/07$ ) and externalizing behavioral problems ( $P \leq 0.05$ ,  $F=14.14$ ). The results showed that Mindful Parenting training was effective on affective self-regulation of mothers and externalizing behavioral problems of their adolescent daughters.

**KEYWORDS:** Mindfulness, Parenting, Affective Self-regulation, Externalized Behavioral problems

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### INTRODUCTION

The family is the first and most enduring factor which is known as the foundation of the child personality and his or her later behavior. The most important factors in the etiology of externalizing disorders are family variables. Family-based interventions and parenting has an important role in adolescent's parent welfare and reducing adolescent's behavioral problems due to the physical, cognitive, behavioral and emotional changes [1]. Adolescence is a transitional period in which a person moves from the childhood security towards taking the responsibility and adulthood privileges [2]. The most prominent factor in children emotional and behavioral problems is the family environment [3]. Many psychologists believe that adolescence is changes in physical, psychological, cognitive as well as changes in the social requirements. This period has been considered more difficult than childhood from both adolescents and their parents views [4]. The mother is the first person to create harmony and feeling of security in children. Emotional connection between mother and her child has long-term results and plays an important role even in adolescence and adults in the study and understanding of maladaptive behaviors and adolescent's emotional disorders. Mother's personality traits, their psychological problems and the type of relationship that exists between mother and child have a significant contribution toward catching the externalizing disorders among children. Therefore, one of the factors that seems to be important in developing externalizing problems among children is the mother personality traits [4]. In general, childhood and adolescence behavioral problems and disorders are divided into externalizing and internalizing disorders. The externalizing disorders are involved in two groups of lawbreaking and aggressive behaviors and internalizing disorders include disorders that are the manifestation of symptoms on the person such as depression, anxiety, withdrawal and physical complaints. The studies showed that one of the most important family factors in the changes of problems and in behavioral externalizing disorders in children and adolescents is parenting style that represents emotional relationships and the relationship between parents and their children and it is considered as an important factor for adolescents changing and learning [5]. The relationship between parenting styles and parents behaviors and children and adolescents behavioral problems has been proven in different studies. Interactions that are often associated with mutual hostility, paranoia, excessive control and violence are involved in many childhood and adolescence pathologies. A study on school children showed that children with behavioral disorders have mothers with higher level of aggression, more depression and less social support that use the parenting styles with rejection and punishment [6].

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The researches attributed the parenting to the child education patterns which determines the activities and parents responses to children behaviors.

Externalizing disorders include stubbornness and disobedience, and aggression. The main causes of these disorders are ineffective parenting practices [7]. The studies showed that the family risk factors such as poor parenting, family conflicts and family separation are the strong predictors for the development and keeping adolescents externalizing problems [8, 9]. Therefore, early intervention method that aims parenting procedure is one of the effective prevention methods of behavioral disorders in adolescence. The mindfulness-based interventions have been highly considered in the mental health and in the prevention of mental disorders and treatment programs in adults and children. One of the newest applications of these interventions is the application of mindfulness in parenting [10]. The mindfulness is a form of meditation which is rooted in the eastern teachings and religious rituals specially Buddhism. According to Kabat-Zinn the mindfulness is considering to the specific and systematic manner at present and without any judgment and prejudice [11]. Mindfulness is considered as a welcoming and non-judgmental awareness of what is happening now [12]. Mindfulness-based parenting education is one of the most common aspects of mindfulness which its purpose is to improve parenting through improving the quality of attention in parents and increasing awareness and reducing their reactivity. Buddhism mindfulness-based parenting is derived from mindfulness-based stress reduction (MBSR) and mindfulness-based parenting cognitive therapy (MBCT). The most important aspects in mindfulness education are 1- attention to the physical, emotional, mental status of children and adolescents and their motivations 2- educating a set of effective parenting skills including much more self-regulation in parents which can promote self-regulation in children and adolescents and can help the positive actions between child and parent. These approaches invite parents to consider their parenting according to the long-term relationship with their child and have an outlook of a healthy relationship based on trust and creating happiness [13]. Duncan *et al.* (2009) [14] were based a model of mindfulness-based parenting on five principles: 1- listening with full attention, 2- acceptance without prejudice, 3- parents and children emotional awareness, 4- self-regulation in parenting actions, 5- love child and themselves [14]. Self-regulation in parenting relationships does not mean self-control but it means obtaining less reactivity towards child abnormal behaviors and its aim is reflecting before reaction and parent responding to the child emotions [15]. In this model, a parent shows interest to meet the needs of the child and to pacify the child through love education and empathy. In this way, the child feels the love and is supported much more from the parents [16]. Studies about the effect of negative parent-child interactions and ineffective parenting methods in creating children behavioral disorders showed that the interventions are essential for changing ineffective parenting methods and reducing the children and adolescents behavioral problems. Since mindfulness can promote a deeper and more stable sense of health which is done through participation in current events and by accepting that the moments are transient and a moment later new experience takes their place, mindfulness leads to increase the flexibility and it is done more acceptance and less reactivity towards the current events at the level of physical, mental, emotional and behavioral [17]. For this reason, this study seeks to answer this question that can the family intervention in the method of "mindfulness-based parenting training" improve externalizing behavioral problems in adolescent girls? And is this method influential on mothers' affective self-regulation?

## MATERIALS AND METHODS

This study is a semi-experimental research on the basis of pretest- posttest with control group. The population of this study included all mothers of adolescent girls from the first year of high school in 2013-2014 in the city of Tehran. According to the mother's reports and according to Achenbach questionnaire behavioral disorders they have obtained high scores in externalizing disorders part. In this study the sampling method was Multi-stage cluster sampling. In the first step, after the necessary coordination with the department of education two zones were selected randomly from the central zones of Tehran. Then two schools were selected randomly from the list of all first years of high schools in these zones and all classes of these schools were selected. In the second step in order to measure behavioral problems it was given to all mothers the CBCL questionnaire. In the third step mothers whose adolescents got higher scores under externalizing scale were interviewed considering test cut-off point. Then if they were eligible for entering to the study phase including having age between 30 and 50 years old, having middle socio-economic class and the level of higher education, they could enter it (the criteria for entering the study). Students who would suffer from acute mental illness or their parents would suffer from acute mental illness and would use drugs or psychoactive drugs or they had only one parent were removed from the list through interview (criteria for withdrawal or removal from the sample group). In the fourth step among the eligible mothers 50 person were randomly selected and were randomly replaced in two groups. Thus, in the experimental group (n = 25) and control group (n = 25) were replaced. In the last step after inviting mothers affective self-regulation questionnaire was conducted. It should be noted that depending on the type of project all pre-test and post-test questionnaire was conducted for mothers.

**Research tools:** Affective self-regulation strategies questionnaire (MARS):

In psychology the efforts which are done by a person to regulate emotional states like increasing positive emotions (PA) and reducing negative emotions (NA) are called emotional self-regulation [18]. The questions of this questionnaire mainly have been designed from the comprehensive guidelines for self-regulation book by Larson and Prizmike and have been translated by Gorji, 2006. This questionnaire has 44 questions which includes cognitive, behavioral, repositioning, changing emotions, reducing negative mood and increasing positive mood. Mars test of emotional self- regulation strategies is a test of 7 choices which is graded from zero to 6. This questionnaire has been regulated for assessing types of strategies which is used to change the feelings. Its reliability is a kind of content reliability and its validity has been obtained with conducting on 60 people (30 girls, 30 boys) and using 75/0 bisection method. Its Cronbach Alfa has also been calculated 80/0 [19]. This questionnaire will be conducted to assess the mothers as a personal report.

**Achenbach child behavior inventory parent version (CBCL):**

This questionnaire measures 6 to 18-year-old children behavioral-emotional problems as well as their academic and social abilities and competencies from the parent’s views and typically it is completed within 20 to 25 minutes [20]. That part of the CBCL which measures behavioral- emotional problems has 113 main questions and 8 sub-questions that is graded in a 3-point scale (0 = false, 1 = somewhat or sometimes true 2 = completely or mostly true). This form measures 8 problems or 8 emotional-behavioral syndromes. These 8 syndromes are as follows:

Anxiety / depression, corner-making / depression, somatic complaints, social problems, thought problems, attention problems (inattention, hyperactivity and impulsivity), lawbreaking behavior and aggressive behavior. In Minaei study (2008) this questionnaire was conducted on 697 boy students and 650 girl students in Tehran. The results showed that this questionnaire has acceptable reliability and validity. This questionnaire was completed by the mothers to identify behavioral problems in adolescents. This test made on the basis of Achenbach approach about the need to evaluate children and adolescents multi-axial assessment. This test is widely used to assess and identify the children and adolescents emotional and behavioral signs and problem in two aspects; externalization and internalization and has been used in many countries [20]. Mindful parenting training sessions were held for mothers in experimental group. The titles and subjects of the sessions for Mindful Parenting training included the following:

First session: Introduction, Automatic Parenting, awareness of each moment, getting to know each other, raisin exercise, body scan. Second session: the description of Beginner’s Mind Parenting, perception vs. interpretation, sitting meditation. Third session: the education of Reconnecting with Our Body as a Parent, watching the body during parenting stress, mindful seeing. Fourth session: teaching Responding Rather than Reacting to Parenting Stress and 3min breathing space. Fifth session: Description of Parenting Patterns, recognizing patterns, responding with acceptance to self and child. Sixth Session: Teaching Conflict and Parenting, dealing with difficult emotion. Seventh session: Introduction of Love and Limits, rupture and repair exercise for parent-child conflicts. Eighth Session: Describing A Mindful Path through Parenting, what has been learned and the future [21].

Other 25 people (witness group) included mothers who were on a waiting list. After the education, the test was conducted again for both groups.

**RESULTS**

**Table 1-** Descriptive statistics of mothers affective self-regulation variable in the pre-test and post-test in both groups

Group	Test	mean	Standard deviation
Control	pre - test	282/58	12/46
	post - test	219/68	30/79
experimental	pre - test	281/80	12/53
	post - test	315/88	33/45

As table 1 shows about the level of affective self-regulation the descriptive information have been represented in the pre-test and post-test order and following up in the experimental group and the control group. According to these findings the average of the experimental group shows an increase in the post-test stage.

**Table 2-** The descriptive statistics of externalization behavioral problems in the adolescent girls

Group	Test	mean	Standard deviation
Control	pre - test	9/28	2/42
	post - test	9/36	3/20
experimental	pre - test	2/66	11/04
	post - test	1/82	7/40

Table 2- The descriptive statistics of externalization behavioral problems in the adolescent girls. It can be found that the experimental group in the post-test stage have decreased compared to the pre-test and externalization variable has more decreased.

To respond to the both main hypothesis in this study it was used covariance analysis method. In addition, to evaluate the assumptions of this statistical test it was conducted kolomogrov-smirnov and Levene statistical test and the normality of test data and the homogeneity of variances was determined and confirmed.

**Table 3-** The results of covariance analysis for determining the effectiveness of mindful parenting training on increasing the mother's Affective self-regulation

Statistical indicators	SS	DF	MS	F	Significance	Effect size
Pre- Test	9755/64	1	9755/64	73/94	0.01	0.75
Group	11766/21	1	11766/21	138/72	0.01	0.74
Error	39864/44	42	848/18			
Total	3750607/00	50				

According to the table 3 by eliminating the effects of pre-test variable and according to F (38.72) it can be found that there is a significant difference between the participants adjusted averages of the affective self-regulation scores in terms of group membership (experimental and control groups)  $P < 0.05$ . Thus, according to the table 3 results it can be concluded that null hypothesis is rejected and using mindfulness-based parenting training have had a greater impact on increasing mothers affective self-regulation in experimental group participants compared to the control group participants. The extent of this impact (practical significance) was 0.74 and this means that 74% of the total variances or individual differences in mother's affective self-regulation have been related to the mindfulness-based parenting training method ( $P < 0.05$ ).

**Table 4-** The results of covariance analysis for mindful parenting training on reducing externalization behavior problems in girls

Statistical indicators	SS	DF	MS	F	Significance	Effect size
Pre- Test	40/10	1	40/10	6/92	0.01	0.13
Group	81/40	1	81/40	14/04	0.01	0.23
Error	266/58	46	5/79			
Total	3885/00	50	40/10			

The results of table 4 shows that by eliminating the effects of pre-test variable, F was calculated (14.04) for externalizing variable. According to the significance level of 5%, the difference in this variable before and after the intervention is significant. Thus, according to the results it can be concluded that null hypothesis is rejected and using mindful parenting training have had a greater impact on reducing behavioral problems (externalizing) in adolescent girls in experimental group participants compared to the control group participants. The extent of this impact (practical significance) was 0.23 and as it is clear externalization has had more practical impact. Thus, this hypothesis is also confirmed.

## DISCUSSION AND CONCLUSIONS

The overall goal of this study is to evaluate the effectiveness of mindfulness-based parenting education on mothers' emotional self-regulation and externalization behavioral problems in adolescent girls. It has been done few studies in mindfulness-based education and the family and parents variables in Iran. Considering the important role of family in coordinating the behaviors and its members behaviors and considering that the family is the first ecological structure and uses the first interventions in the biological survival, social development, emotional and cognitive development of the children, it is important to pay more attention to its role and its related variables like emotional self-regulation and behavioral problems in adolescents. Of course it is worthy of mention that most of these problems are caused by improper functioning of the family and should be treated using modern cognitive therapies.

One of the results of this study is this fact that mindfulness-based parenting training is effective in increasing mothers' affective self-regulation. Mindfulness can improve emotional regulation through restricting the reactivity. Thus, one of the characteristics of mindfulness people is less emotional variability [22].

Therefore, parents who support and undertake their children emotional expressions and do not deny the child negative mood or do not respond it with their negative mood would be able to raise more qualified adolescent emotionally and socially [23]. This finding is consistent with the results of other studies. For instance, Duncan (2007) [24] in his study "mindfulness-based assessment among adolescents' parents" mentioned that mindfulness-based parenting is influential on reactivity, awareness and attention based on the present moment and also it is influential on accepting without judgment. Bailie, Kuyken & Sonnenberg in a study showed that mindfulness-based cognitive therapy in the parents leads to increase emotional self-regulation [24]. Hill and Apadgraph (2012) [25] in a study with the name of "mindfulness and its relationship with emotional regulation" showed that mindfulness exercises lead to increase the ability to emotional distinguish, emotional self-regulation and emotional problems.

The latest finding of this study showed that mindfulness-based parenting training is effective in girls' externalization behavioral problems. Various factors have an impact on increasing this problems like permissive parents, environmental factors, family environment and parenting role. In this regard, mindfulness-based parenting method is the method that it seems to be an important factor in reducing the families and adolescents problems [26]. Through mindfulness parents find out that their perceptions of their children experiences is not necessarily pure and correct. They find out that their understanding of the issues is under influence of the expectations and interpretations. When they considered their children as a beginner they develop their views and allow their attention to understand the entire experience and not pull to one side or the other and do not label their children based on past experiences [27]. Since in this study it has been shown that mindfulness-based parenting education is effective in increasing emotional self-regulation and in reducing behavioral problems in adolescents, for this reason it is recommended that health and counseling centers throughout the country keep in mind this type of education. The limitations of this study can be outlined as follows:

Since this study deals with the education of the limited number of people, conducting the studies with the wider samples leads to a more generalized results. Because of the limitations of this study such as the time of subjects and administrative constraints and high risk of sample loss especially in the control group, it can be offered to conduct the follow-up period or to conduct the other research projects, such as AB-AB.

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Mindful parenting is associated with greater adjustment and fewer behavior problems in children and adolescents. However, the mechanisms by which mindful parenting functions to mitigate risk in adolescence are not well understood. The present study investigates the effects of mindfulness training on parents' neural activity, children's perceptions of the parent-child relationship, and the relationship between the two. As such, this design allowed us to investigate intervention-induced changes in the parent-child relationship. Parents with high levels of mindful parenting were rated in behavioral observations as engaging in more positive, consistent, and less harsh parenting behaviors than those who scored low on mindful parenting. The effectiveness of an 8-week mindfulness training for adolescents aged 11-15 years with ADHD and parallel Mindful Parenting training for their parents was evaluated, using questionnaires as well as computerized attention tests. Adolescents (N = 10), their parents (N = 19) and tutors (N = 7) completed measurements before, immediately after, 8 weeks after and 16 weeks after training. Adolescents reported on their attention and behavioral problems and mindful awareness, and were administered two computerized sustained attention tasks. Parents as well as tutors reported on adolescents' atte