Advances in Nursing and Midwifery Original Article

Autumn 2021, Volume 30, Issue 3 (20-27)

Providing a Causal Model of the Behavioral Disorders in Children Based on Child-Mother Interaction and Parental Acceptance with the Mediating Role of Life Satisfaction in Hyperactive Children's Mothers in Tehran

Mahdie Ghalenoee [1], Hassan Asadzadeh [2,*], Fariborz Dortaj [3]

[1] PhD Student in General Psychology, Science and Research Branch Islamic Azad University, Tehran, Iran

[2] Associate Professor, Department of Educational Psychology, Allameh Tabataba'i University, Tehran, Iran

[3] Professor, Department of Educational Psychology, Allameh Tabatabai University, Tehran, Iran

** Corresponding author: Hassan Asadzadeh, Associate Professor, Department of Educational Psychology, Allameh Tabataba'i University, Tehran, Iran. E-mail: asadzadeh@atu.ac.ir*

DOI: 10.22037/jnm.v30i3.36519

Submitted: 28 Jan 2021
Accepted: 11 Apr 2021
Published: 15 Jul 2021

Keywords:
Child's Behavioral Disorder
Child-Mother Interaction
Parental Acceptance
Life Satisfaction
Hyperactive Child

How to cite:
Ghalenoee M, Asadzadeh H, Dortaj F. Providing a Causal Model of the Behavioral Disorders in Children Based on Child-Mother Interaction and Parental Acceptance with the Mediating Role of Life Satisfaction in Hyperactive Children's Mothers in Tehran. *Adv Nurs Midwifery*. 2021;30(**3**):20-27. doi: 10.22037/jnm.v30i3.36519

Abstract

Introduction: Since hyperactive children are unable to control or dominate over their surroundings, they cannot achieve their wants or perform them, they show some symptoms of behavioral disorders. The purpose of the present study was to provide a causal model of children's behavioral disorders based on child-mother interaction and parental acceptance with the mediating role of life satisfaction in hyperactive children's mothers.

Methods: This research was a descriptive correlational study performed by the path analysis method. The statistical population of the present study included all mothers of hyperactive children visiting psychiatric clinics in Tehran in 2020, out of whom 250 mothers were selected using purposive sampling. The research instruments included Children's Behavioral Disorders Questionnaire (CBDQ), Child-Mother Interaction Questionnaire (CMIQ), Parental Acceptance Questionnaire (PAQ), and Life Satisfaction Questionnaire (LSQ). The proposed model was evaluated using Path Analysis by SPSS Amos 24.0.

Results: The results showed that there is a positive and significant relationship between child-mother interaction/parental acceptance and life satisfaction. Moreover, there was an inverse and significant relationship between child-mother interaction and parental acceptance. The results also showed that the general parental acceptance path had a greater effect on hyperactive children's behavioral disorders.

Conclusions: The causal model of children's behavioral disorders based on child-mother interaction and parental acceptance with the mediating role of life satisfaction in hyperactive children's mothers has a good fit.

INTRODUCTION

Most families face a wide range of positive and at times challenging events in the course of life like the birth of a child requiring special care, which affects the family's function. Basically, childbirth requires new adaptations on the part of the family. The appearance of a third stranger party named a baby imposes mental pressures on many parents as well as particular problems such as feeding, caring, nursing, and the like [1]. If a baby is born suffering mental, physical, behavioral disabilities or a combination of these, the stress resulting from having such a baby on family members, in particular on parents, increases by many times. Attention deficit hyperactivity disorder is one of the most prevalent behavioral disorders both during childhood and adulthood.

About three to five percent of children suffer from the disorder before the age seven, and the disorder

continues up to adulthood in 70% of the cases [2]. This disorder includes attention deficit hyperactivity disorder/impulsiveness. Each one of the two subtypes of the disorder is determined based on some behavioral criteria. Attention-deficit is determined by some behaviors such as carelessness and forgetfulness in daily activities and other problems connected with attention [3]. Since hyperactive children are unable to control or dominate over their surroundings, they cannot achieve their wants and are not noted. Under such conditions, they tend to show some symptoms of behavioral disorder. Behavioral disorders in hyperactive children last longer and are more severe in hyperactive children than their normal peers [4]. The psychoneurotic problems lead to a child's growth delay, and they may also affect some other aspects of a child's growth including their behavioral function. Behavioral disorders are some different types of excessive, chronic, and deviant behaviors that range from aggressive actions or sudden arousal to depressed and isolationist actions [5].

On the other hand, the symptoms of attention deficit hyperactivity disorder affect children's interactions with their parents, and also the way parents respond to these children because these children are too talkative, pessimistic, and ignorant, and they rarely participate and cooperate [6]. Therefore, it seems that one of the factors affecting the behavioral disorders of children suffering attention deficit hyperactivity disorder is child-mother interaction. The child-mother interaction is rooted in Landreth & Bratton's theory. The qualitative studies have defined the quality of the interaction between parents and children as the feeling of openness between parents and children, degree of openness, the extent of the relationship, perceived conflict between parents and children, feeling rejected by parents, perception of hostility/aggression between parents and children, and the extent of emotions shown by parents and the time spent with parents [7]. Many studies have shown that the child-mother relationship can have a profound effect on different aspects of this relationship like the increase in mothers' understanding and acceptance of their children [8]. Since mothers experience different types of emotional and cognitive reactions, such that these reactions can range from full rejection to full acceptance, much anger to love, ignorance to excessive care [9]. The studies have shown that the children whose mothers do not have an appropriate parent-child relationship with their children suffer sleep disorders, and more behavioral problems, maladaptation, and externalized problems [10]. Sawl et al. [11] showed in their study that the negative child-mother interaction and experiences with discrimination during childhood intensify behavioral disorders in adulthood in children. Ah, Han, Chui, Lao & Shoom [12] have shown the effective role of positive child-mother interaction and mothers' social support in preventing behavioral problems and abuse during childhood. The results of the study conducted by Malio, Dan, and Siyaroji [13] showed that the parent-child interaction, parents' authority, and their mental health have a significant relationship with the decrease in teenagers' behavioral disorders. In addition, Glombook, Zadeh, IMeri, Smith, and Freeman [14] showed that the positive child-mother interaction decreases children's behavioral problems in adulthood, and helps children achieve psychological adaptation. The study conducted by Mantima et al. [15], showed that the quality of the child-mother interaction predicts the next behavioral disorders in children. The lower the quality of this interaction is, the more severe the children's behavioral disorders will be. In addition, according to the study conducted by Satooriyan et al. [16] on the role of parenthood aspects and the parent-child relationship in internalized and externalized behavioral problems of children showed that from among the subscales of the parent-child relationship, the component of dependency in boys and the component of conflict in girls can predict internalization problems, and the component of conflict can predict externalization problems in both boys and girls.

One of the main components involved in formulating the treatment relationship model of child-mother interaction is parental acceptance. Accepting parents are defined as the parents who show greater friendship or affection either verbally or physically for their children. Physical affection may be shown by stroking, hugging, or kissing. The verbal expression of affection may be shown in different ways like admiring the child and saying good things about them. All these are different means of making children feel liked or accepted [17]. Many parents express their hopelessness to their children while providing instructions or explanations, at times they do this to such an extent that the child quits trying [18]. Studies have indicated that exceptional children's mothers are more likely to use physical punishment than those having normal children [19, 20]. Parental acceptance helps children to learn that they can count on other people's support and help in their lives [21]. The results of the study conducted by Lazaro et al. [22] showed that parental acceptance plays an important role in the development of disorders in children. The less accepting the parents are, the more distant the children will become; thus, the emotional stability of children decreases and they act aggressively and show other behavioral problems.

Although the studies show that child-mother interaction and parental acceptance have a direct relationship with behavioral disorders in children suffering from attention deficit hyperactivity disorder, there is evidence showing that the effect of these factors may not directly lead to damage and disorder in children. In fact, it seems that there are some mediating factors through which the child-mother interaction and parental acceptance affect children's behavioral disorders. One of these mediating factors is life satisfaction. Life satisfaction reflects a

balance between the individual's wishes and their current status, and it is considered as the cognitive component of mental well-being [23]. Some studies showed that this mental welfare does not decline in some people despite the decrease in cognitive, social, and physical abilities [24]. If life satisfaction does not meet a desirable standard, this will lead to some mental problems such as depression, pessimism about life, hopelessness about the future, lack of purpose, the futility of life, indifference, and family problems [25]. Researchers state that the mothers of children suffering behavioral problems report experiencing a significantly high number of stressors compared to mothers of normal children. In addition, the studies investigating the relationship between children's psychological problems and behavioral problems in mothers of children suffering behavioral disorders, in particular children suffering externalized disorders, have reported a high level of psychological distress in these mothers compared to the mothers of normal children [26].

This is particularly more noticeable in the presence of aggression and oppositional defiant disorder. In addition, the presence of the child suffering behavioral problems stirs things up in the family management system, leading to child abuse [27]. Seldom could we encounter a family that is capable and aware, puts in time for hyperactive children, is aware of the correct way to deal with them, and raises self-built children. In most cases, families themselves have not been trained; they have marital problems and do not know how to treat their normal children alongside their hyperactive children [28]. Empowering parents, in particular the mothers of children suffering hyperactivity, is a must. Thus, we can help them to cope with raising these children. There is also another aspect to empowering the mothers of hyperactive children, that is, empowering them to achieve an awareness appropriate to their children's needs (like children's maturation, recognition of drugs, recognition of comorbid disorders, appropriate behaviors, etc.). Sometimes these mothers are themselves the heads of the household where they will certainly face more problems, or they have to deal with the hyperactive child together with their husbands. Hence, their mental health is disrupted, and even the number of emotional divorces many increase in the parents of hyperactive children. Considering the above-mentioned points, the importance and necessity of the present study are more tangible than before, thus, the present study seeks to find an answer to the question, if the causal model of children's behavioral disorders based on child-mother interaction and parental acceptance with the mediating role of life satisfaction in mothers of hyperactive children in Tehran, has a desirable fit.

METHODS

Study Design

The present study is a descriptive-correlational study where the relationships between the proposed variables were analyzed using structural equation modeling. The statistical population consists of all mothers of hyperactive children who have visited psychiatric clinics to treat their children in Tehran in 2020. Considering the number of the variables, in total, a sample consisting of 250 mothers was selected using the purposive sampling method. To conduct the sampling, the mothers meeting the inclusion criteria (including the age range 21-57 years, holding at least a secondary school degree, and not suffering any mental disorder) were selected from among the students' mothers who were referred to the clinics, and the mothers meeting the exclusion criteria (such as not responding all questions and unwillingness to continue to participate in the study) were not selected.

Research Tools

A) Behavioral Disorders Questionnaire: Behavioral Disorders Questionnaire (parents' form) for children was developed by Michael Rutter (1967) to assess children's behavioral problems. This questionnaire included 26 items; however, it was developed into a 30-item questionnaire by adding 6 new items to it and combining two items into one due to similarity. The questionnaire has been scored from 0 to 2 based on a 3-point Likert scale. This questionnaire enjoys an acceptable agreed validity. In the first study conducted by Rutter (1967) on 91 children, the percentage of the agreement between the questionnaire and psychiatrist's diagnosis was reported to be significant at level of 0.001. In addition, it reported the questionnaire validity through the agreement between psychiatrist's diagnosis and Rutter questionnaire as significant at levels of 0.01 and 0.05. Rutter (1967) reported the reliability of pretest and posttest with a 2-month interval as 0.89. The results of a study showed that the Alpha coefficients of syndrome scales based on the 4th edition of diagnostic and statistical manual of mental disorders are at a more satisfactory level, and it ranges from 0.62 to 0.92 [29].

B) Child-mother interaction questionnaire: The present study used Pianta's 33-item on child-mother interaction questionnaire (1994) that assesses parents' perception of their relationships with their children. The questionnaire consists of three components. Intimacy component including 9 questions, dependency component including 6 questions, and conflict component including 18 questions. In this test, the scoring in this test assesses the range of agreement based on a 5-point Likert scale, and the scores range from 1 indicating strongly disagree to 5 indicating strongly agree, and the total score of this test is obtained from the sum of scores of intimacy and the inverse scores of conflict and dependency. The total score of the test will be used in this study. The content validity of this questionnaire was reported as desirable, and its total reliability was reported as 0.86 by Abarshi [30]. C)

Parental acceptance questionnaire: Porter parental acceptance scale was developed in 1954. This questionnaire is a 40-item test that is scored through as a 5-point Likert scale with the scores ranging from 1 indicating never to 5 indicating always. The scores in this questionnaire range from 40 to 200. The higher scores indicate higher parental acceptance of children. Porter (1954) reported the reliability coefficient of the test as 0.80 by halving 0.76 and total test validity coefficient. The validity of this scale was confirmed for all items upon the confirmation of at least 3 examiners out of 5 [31]. D) Life satisfaction questionnaire: the questionnaire was developed by Diener et al. (1985). This scale includes 5 items, and each item consists of 7 options that is scored from 1 indicating strongly agree to 7 indicating strongly disagree. The score range of this scale ranges from 5 to 35. Diener et al. (2003) reported the retest correlation coefficient of this scale as 0.87 and 0.82 in one study. Bayati, Mohammadkoochaki, and Goudarzi [32] reported the validity of this scale as 0.69 by retesting.

Statistical Analysis:

The analysis was conducted by providing the given questionnaires to the selected mothers after selecting them to be sampled and getting their written consent to participate in the test while complying with all ethical standards. Then, the selected mothers were given enough time to complete them and turn them in to the researcher. After this step, the data obtained from the questionnaires were entered into SPSS 22, and AMOS 24. The mean and standard deviation were used to analyze the descriptive data, and correlation coefficients and path analysis were used to analyze inferential data.

RESULTS

The findings of the study showed that mothers of hyperactive children are 36.55 ± 3.35 years old on average. The Kolmogorov-Smirnov test value for the variables including behavioral disorders, child-mother interaction, parental acceptance, and life satisfaction was found to be higher than 0.5 which indicates that the research variables are normally distributed. Other descriptive findings about the research variables have been mentioned in Table 1.

As can be seen in Table 1, the mean and standard deviation of the variable of children's behavioral disorder were obtained as 34.72 and 11.31 respectively, those of child-mother interaction variable as 86.39 and 25.18 respectively; those of parental acceptance as 118.12 and 37.74 respectively; and those of life satisfaction as 21.69 and 5.6 respectively.

Table 1. Descriptive Findings about Research Variables for All Subjects

Variables	Mean	SD	Min	Max	Number
Children's behavioral disorders	34.72	11.31	1	57	250
Child-mother interaction	86.39	25.18	46	146	250
Parental acceptance	118.12	37.74	48	180	250
Life satisfaction	21.69	5.06	7	37	250

Table 2. Simple Correlation Coefficients between Research Variables in All Subjects

Variables	Behavior Disorders	Child-Mother Interaction	Parental Acceptance	Life Satisfaction
Behavioral disorders	1	-	-	-
Parent-child interaction	r= -0.301**	1	-	-
Parental acceptance	r= -0.409**	r= -0.681**	1	
Life satisfaction	r= -0.482**	r= -0.544**	r= -0.560**	1

** means P > 0.01

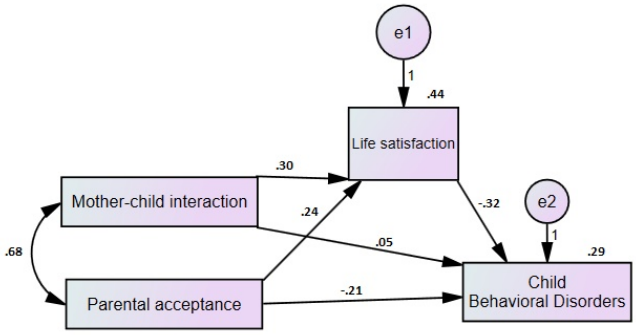

Figure 1. Initial Model in Standard Mode

Table 3. Goodness of Fit Index of Initial model

Goodness of fit Index	x^2	df	$\frac{x^2}{df}$	IFI	TLI	CFI	NFI	RMSEA
Initial model	-	-	-	1.00	-	1.00	1.00	0.338

As can be seen in Table 2, the correlation coefficients are significant for all research variables at P < 0.01.

The structural equation modeling was used to assess the model proposed by this study using AMOS and maximum likelihood estimation. The initial proposed model has been obtained to explain children's behavioral disorders based on child-mother interaction, parental acceptance, and life satisfaction whose diagrams can be seen below.

Considering the data in Table 3, the Root Mean Square Error of Approximation (RMSEA=0.338) index shows that the initial model needs to be modified. In the initial model, since the model was saturated, this means that all possible paths have been drawn, and it is not possible to calculate chi-square and other indices, and the model is not saturated anymore after removing the path (child-mother interaction relationship with children's behavioral disorders), and the software is able to calculate chi-square and other indices. In the final model, it is the Root Mean Square Error of Approximation (RMSEA=0.001) indicating that the model is good-fitted. The modified model has been presented below.

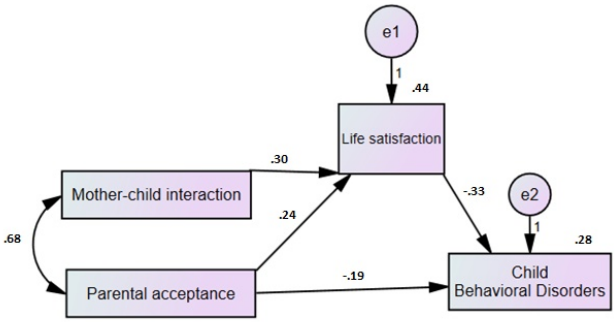

Figure 2. Final Model of Standard Mode

Table4. Goodness of Fit Indices of Final Model

Goodness of Fit Indices	x^2	df	$\frac{x^2}{df}$	IFI	TLI	RFI	CFI	NFI	RMSEA
Final model	1.587	2	0.452	0.99	1.006	0.97	0.00	0.99	0.001

Table 5. Coefficients of Direct and Indirect Effects Path between Research Variables in Final Standard Model

Paths	Direct	P	Indirect	P	Total
Child-mother interaction-child's behavioral disorders	-0.05	0.469	-0.099	0.041	-0.09
Parental acceptance-child's behavioral disorders	0.304	0.001	-0.07	0.020	0.234
Child-mother interaction-life satisfaction	-0.206	0.004	-	-	-0.206
Parental acceptance-life satisfaction	-0.242	0.001	-	-	-0.242
Life satisfaction-child's behavioral disorders	-0.324	0.001	-	-	-0.324

Considering the data in Table 4, all fit indices like the values of squared-Chi (χ^2), normalized index of squared-Chi (χ^2/df), a normalized fit index (NFI), comparative fit index (CFI), incremental fit index (IFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA=0.338) indicate an acceptable fit of the final model to the data.

As can be seen in Table 5, child-mother interaction through the indirect path has a total effect of -0.09 on hyperactive child's behavioral disorders, and no direct effect was observed in the model. As for the parental acceptance variable, the total effect was obtained as 0.234 which indicates that parents' acceptance has a big role in a child's behavioral disorder. In addition, the total effect of child-mother interaction on mothers' life satisfaction was obtained as -0.206. The total effect of parental acceptance on mothers' life satisfaction is 0.242, and the total effect of life satisfaction on a child's behavioral disorders is -0.324. In general, two variables, namely child-mother interaction and parental acceptance that account for 0.28 of the changes in hyperactive child behavioral disorders variance.

DISCUSSION

The purpose of the present study was to provide a causal model of child's behavior based on child-mother interaction and parental acceptance with the mediating role of life satisfaction in hyperactive children's mothers. For this purpose, the results indicated the indirect role of child-mother interaction and the direct role of parental acceptance with the mediating role of life satisfaction on hyperactive children's behavioral disorders. That is, child-mother interaction in the standard model of life path satisfaction is effective on hyperactive children's behavioral disorders which align with the research Savell et al [11], Oh et al [12], Maiuolo, Deane & Ciarrochi [13], Golombok et al [14] and Mäntymaa et al [15]. It can be said, to explain the relationship of child-mother interaction and life satisfaction with hyperactive children's behavioral

disorders, that communication is the basis of social relationships, and it is a necessity required to form different behaviors. In the parent-child interaction, the formation and maintenance of relationships between parents and children are vital. Communication forms strong interaction between parents and children and helps mutual understanding between parents and children considerably [33]. For example, a study by Mäntymaa et al. [15] showed that the quality of mother-child interaction predicts subsequent behavioral disorders in children. The lower the quality of this interaction, the more severe the behavioral disorders will be. Parent-child interaction is the first factor introducing children to the communication world, and it is an important and vital relationship required to create security and love which consists of a combination of behaviors, feelings, and expectations specific to a father and mother and a particular child. As for its importance, most researchers have come to the conclusion that family factor as a factor and in particular parents' behaviors have a major role in creating problems in both childhood and adulthood [34] because children are the mirror of parents and the child's behavior is a reaction to the environmental factors, especially to their parents' performance. The rejection by mother in the child-mother relationship usually appears in the form of ignoring the child, separating the child from parents, denying the child, punishing misbehaviors, using threats, humiliating, and unplanned birth, and the child's responses to rejection are usually exhibited as some reactions and feedbacks to win emotions, attempts to attract attention, antisocial reaction and hostile reaction. In such conditions, the hyperactive child misses on opportunities to learn behavioral patterns and to internalize behavioral skills, and respond through behavioral disorders. In such conditions, they make use of some behaviors such as restless, impulsive, and various other behaviors to attract attention, win emotions, decrease anxiety, and coordinating internal impulses [35].

On the other hand, if mothers try to enhance their capacity to interact with children calmly, stably, and adaptively through childcare practices, this strengthens the child-mother relationship, and the mother would perform more effectively in terms of education. Therefore, positive child-mother interaction creates greater emotion, trust, and emotional involvement, thus making the child more obedient and decreasing behavioral problems in hyperactive children [36]. Siegel believes that positive child-mother interaction makes listening fully attentive because parents make their child understood that they listen to her wholeheartedly by directing all their attention to her. When parents and children interact directly, paying full attention creates an internal representation from the parents and their supportive performance in the child which results in the creation of a responsive and accessible body protecting them from dangers which helps create a secure attachment, and improves child-mother interactions in terms of quality, and also decreases behavioral disorders in the hyperactive child. The research of Satourian et al. [16] showed that the subscales of parent-child relationship, dependency component in boys and conflict component in girls have the ability to predict internalization problems and conflict component in both boys and girls has the ability to predict externalized problems.

In addition, concerning the role of parental acceptance in behavioral disorders through life satisfaction, in the present study, it should be acknowledged that parental acceptance plays a stronger role in hyperactive child's behavioral disorders, and this aligns with the results of the studies Miranda et al [19], Bernet et al [20], Kuyumcu & Rohner [21], Mendo-Lázaro et al [22]. In explaining the effects of parental acceptance on hyperactive children's behavioral disorders, it can be said that acceptance interactional style is one of the positive and desirable interactional methods adopted on the part of mothers enhancing effective and constructive behaviors in children. In a study, Kuyumcu & Rohner [21] claimed that parental acceptance helps a child learn that he or she can count on the support and help of others in life. Rohner and Khaleque [17] confirm that the perception of parental rejection-acceptance in childhood has a positive relationship with personality traits (self-esteem, emotional instability, lack of emotional response, lack of self-efficacy, dependence, hostility, aggression and worldview Negative). Since mother's feedbacks in this interactional style is based on honesty, common feelings about the child, identification with the child, honest affective response to the child, romantic and emotional child-mother relationships, honest interests in child's joys and activities, honest interest in child's transformation, and also rational, authoritative and non-destructive controls, stability and discipline, order and orderly program in daily life, rational demands from the child, appropriate outdoors social behaviors towards the child and adopting a concept of the child as a good child. Thus, the child's responses to this interactional style adopted by the mother are shown through a positive response to socialization, positive transformation of socialization, transformation of feeling kindness and affection, stable emotions (stable in behavior), and realistic evaluation of oneself. Thus, we may expect to create some socialized and constructive behaviors in the child due to the mother's interactional style of acceptance adopted by mothers [37]. In an interactional style of acceptance in the child-mother relationship, it is a warm and intimate relationship blessed with latitude and authority that makes children learn good social behaviors well and internalize behavioral patterns smoothly. In this interactional style, the children easily achieve the ability needed to satisfy their external behaviors and internal

needs. The consequence of the interactional style of acceptance which appears as socialized behaviors, internalization of behavioral skills, and learning behavioral patterns makes this category of children learn normal behaviors well. In confirmation of this finding, the results of research by Mendo-Lázaro et al. [22] showed that parental acceptance has an important role in the occurrence of disorders in children. The less parental acceptance occurs, the more distant the children become, and as a result, the children's emotional stability decreases and they turn to aggression and other behavioral problems. On the other hand, considering children's reactions to their mother's accepting behaviors, a desirable and constructive opportunity opens up to enhance socialized behaviors, satisfy psychological needs and stabilize the feelings and behaviors for the children. If mothers of children suffering attention deficit hyperactivity disorder are at a lower level of interactional style of acceptance [38].

CONCLUSION

The general results of the study showed that both parental acceptance and child-mother interaction can have direct effects on the decrease in hyperactive children's behavioral disorders through the mediating role of life satisfaction. Therefore, enhancing the parent-child relationship can lead to an increase in understanding of acceptance in this relationship. Parents can improve self-confidence, self-esteem, and self-control in children by forging a nonjudgmental, unconditional, and authentic relationship full of affection and friendship, and creating a warm and intimate atmosphere in the family.

The present study had some limitations, like any other study, like conducting an examination on hyperactive children's mothers exclusively in Tehran. Thus, we must take care when generalizing the results of the present study to other mothers and educational settings. The present study also has the limitation of generalizability of the results to fathers. It is recommended that the present study be conducted for fathers whose children suffer hyperactivity so as to be able to generalize the results more confidently. In addition, it is recommended that this model be used with parents' social support variable as the mediator.

ACKNOWLEDGEMENT

We would appreciate all the individuals who assisted us in accomplishing this study.

CONFLICT OF INTERESTS

There is no conflict of interest among the authors of the paper.

ETHICAL CONSIDERATIONS

The present study was published with the ethical code IR.IAU.SRB.REC.1400.138, by the ethics committee of Islamic Azad University, Science and Research Branch, from the PhD dissertation.

FUNDING

The present study has been sponsored by Islamic Azad University, Science and Research Branch.

AUTHORS' CONTRIBUTIONS

Introduction and collection of data and data analysis method were conducted Mahdieh Ghalenoee, Hassan Asadzadeh, Fariborz Dortaj.

REFERENCES

1. Yamaoka Y, Tamiya N, Izumida N, Kawamura A, Takahashi H, Noguchi H. The relationship between raising a child with a disability and the mental health of mothers compared to raising a child without disability in japan. SSM Popul Health. 2016;2:542-8. **doi:** 10.1016/j.ssmph.2016.08.001 **pmid:** 29349170
2. Thomas P, Gullotta & Cary M. Blau. Childhood Behavioral Issues. Evidence-Based Approaches to Prevention and Treatment. 2016. **doi:** 10.4324/9781315716619: 376
3. Sharp SI, McQuillin A, Gurling HM. Genetics of attention-deficit hyperactivity disorder (ADHD). Neuropharmacology. 2009;57(7-8):590-600. **doi:** 10.1016/j.neuropharm.2009.08.011 **pmid:** 19715710
4. Hansen BH, Skirbekk B, Oerbeck B, Wentzel-Larsen T, Kristensen H. Associations between sleep problems and attentional and behavioral functioning in children with anxiety disorders and ADHD. Behav Sleep Med. 2014;12(1):53-68. **doi:** 10.1080/15402002.2013.764525 **pmid:** 23461477
5. Garwood JD, McKenna JW, Roberts GJ, Ciullo S, Shin M. Social Studies Content Knowledge Interventions for Students With Emotional and Behavioral Disorders: A Meta-Analysis. Behav Modif. 2021;45(1):147-76. **doi:** 10.1177/0145445519834622 **pmid:** 30854879
6. Bussing R, Zima BT, Mason DM, Meyer JM, White K, Garvan CW. ADHD knowledge, perceptions, and information sources: perspectives from a community sample of adolescents and their parents. J Adolesc Health. 2012;51(6):593-600. **doi:** 10.1016/j.jadohealth.2012.03.004 **pmid:** 23174470
7. Lee AS. Young adults' romantic relationships: a longitudinal study on the dynamics among parental divorce relationships with mother and Father, and children committed romantic relationships. Unpublished. For the degrcc of doctor the university of Arizona.2007.
8. Park S. Relationship between Preschool Child-Mother Interaction, Child's Health Status, Health-Related Quality of Life, and Social Development. Child Health Nurs Res. 2014;20(4):255-63. **doi:** 10.4094/chnr.2014.20.4.255
9. Hallahan DP, Kauffman JM, Pullen PC. Exceptional learners. Introduction to special education (15th ed). Boston: Allyn & Bacon.2014. 340 p.
10. Khodabakhshi A, Hassani Sh, Philosophical Nejad M. A Study of the Relationship between Guardianship and Outcome Disorders in Children with Working and Unemployed Mothers. Quarter J Job Organiz Counsel. 2015;7(23):103-92.
11. Savell SM, Womack SR, Wilson MN, Shaw DS, Dishion TJ. Considering the role of early discrimination experiences and the parent-child relationship in the development of disruptive behaviors in adolescence. Infant Ment Health J. 2019;40(1):98-112. **doi:** 10.1002/imhj.21752 **pmid:** 30586478
12. Oh A, Han M, Choi Y, Lau S, Shum MS. Exploring relationship among child maltreatment experience in childhood and behavior problems as young adults: Role of social support

among college students in Hong Kong. Int Soc Work. 2019;62(2):1011-24. **doi:** 10.1177/0020872818762718
13. Maiuolo M, Deane FP, Ciarrochi J. Parental Authoritativeness, Social Support and Help-seeking for Mental Health Problems in Adolescents. J Youth Adolesc. 2019;48(6):1056-67. **doi:** 10.1007/s10964-019-00994-4 **pmid:** 30783955
14. Golombok S, Zadeh S, Imrie S, Smith V, Freeman T. Single mothers by choice: Mother-child relationships and children's psychological adjustment. J Fam Psychol. 2016;30(4):409-18. **doi:** 10.1037/fam0000188 **pmid:** 26866836
15. Mantymaa M, Puura K, Luoma I, Latva R, Salmelin RK, Tamminen T. Shared pleasure in early mother-infant interaction: predicting lower levels of emotional and behavioral problems in the child and protecting against the influence of parental psychopathology. Infant Ment Health J. 2015;36(2):223-37. **doi:** 10.1002/imhj.21505 **pmid:** 25739800
16. Satourian A, Tahmasian K, Ahmadi M. The role of parenting dimensions and parent-child relationship in internalized and externalized behavioral problems of children. Famil Stud. 2015;12(48):705-683.
17. Rohner RP, Khaleque A. Testing central postulates of parental acceptance-rejection (PAR Theory): A meta-analysis of cross-cultural studies. J Famil Theory Rev. 2012;2(3):73-87. **doi:** 10.1111/j.1756-2589.2010.00040.x
18. Rohner RP. Parental power and prestige moderate the relationship between perceived parental acceptance and offspring's psychological adjustment: Introduction to the international father acceptance-rejection project. Cross Cult Re. 2014;48(3):197-213. **doi:** 10.1177/1069397114528295
19. Miranda MC, Affuso G, Esposito C, Bacchini D. Parental acceptance-rejection and adolescent maladjustment: mothers' and fathers' combined roles. J Child Famil Stud. 2016;25(4):1352-62. **doi:** 10.1007/s10826-015-0305-5
20. Bernet W, Gregory N, Reay KM, Rohner RP. An Objective Measure of Splitting in Parental Alienation: The Parental Acceptance-Rejection Questionnaire. J Forensic Sci. 2018;63(3):776-83. **doi:** 10.1111/1556-4029.13625 **pmid:** 28833110
21. Kuyumcu B, Rohner RP. The relation between remembered parental acceptance in childhood and self-acceptance among young Turkish adults. Int J Psychol. 2018;53(2):126-32. **doi:** 10.1002/ijop.12277 **pmid:** 27167870
22. Mendo-Lazaro S, Leon-Del-Barco B, Polo-Del-Rio MI, Yuste-Tosina R, Lopez-Ramos VM. The Role of Parental Acceptance(-)Rejection in Emotional Instability During Adolescence. Int J Environ Res Public Health. 2019;16(7). **doi:** 10.3390/ijerph16071194 **pmid:** 30987100
23. Gorry A, Gorry D, Slavov SN. Does retirement improve health and life satisfaction? Health Econ. 2018;27(12):2067-86. **doi:** 10.1002/hec.3821 **pmid:** 30141568
24. Samaha M, Hawi NS. Relationships among smartphone addiction, stress, academic performance, and satisfaction with life. Comput Human Behav. 2016;57(4):321-5. **doi:** 10.1016/j.chb.2015.12.045
25. Fardinejad Z, Ahadi H. The relationship between public health and perceived social support with life satisfaction in the elderly. [In Persian]. J Behav Sci. 2013;5(15):100-87.
26. Okuzono S, Fujiwara T, Kato T, Kawachi I. Spanking and subsequent behavioral problems in toddlers: A propensity score-matched, prospective study in Japan. Child Abuse Negl. 2017;69:62-71. **doi:** 10.1016/j.chiabu.2017.04.002 **pmid:** 28448815
27. Trepat E, Granero R, Ezpeleta L. Parenting practices as mediating variables between parents' psychopathology and oppositional defiant disorder in preschoolers. Psychother. 2014;26(4):497-504.
28. Von Otter C, Stenberg SÅ. Social capital, human capital and parent-child relation quality: interacting for children's educational achievement? British J Sociol Educat. 2015;36(7):996-1016. **doi:** 10.1080/01425692.2014.883275
29. Yousefi F. Rutter scale normalization in order to investigate the behavioral and emotional problems of male and female elementary school students in Shiraz. [In Persian]. J Human Soc Sci Shiraz Univ. 1999;13(1):172-92.
30. Abarshi Z, Tahmasian K, Mazaheri M, Panaghi L. The effect of teaching the program "Promoting the psycho-social development of the child by improving the mother-child interaction" on the self-efficacy of parenting and the mother-child relationship under three years. [In Persian]. Res Mental Health. 2009;3(3):49-58.
31. Varasteh M, Aslani Kh, Aman Elahi A. The effectiveness of positive parenting program training on the quality of parent-child interaction. J Counsel Culture Psychother. 2016;7(28):183-201.
32. Bayani A, Mohammad Koucheky A, Goodarzi H. The reliability and validity of the satisfaction with life scale. [In Persian]. J Iran Psychol. 2007;3(11):259-65.
33. Schilling CM, Walsh AYI. ADHD and criminality: A primer on the genetic, neurobiological, evolutionary, and treatment literature for criminologists. J Crim Justice. 2011;39(1):3-11. **doi:** 10.1016/j.jcrimjus.2010.11.001
34. Homauni M, Mariani BM, Yaacob SNAM. Parent-child relationship and aggression among adolescents in Tehran, Iran. Life Sci J. 2014;11(9):766-70.
35. Duncan LG, Coatsworth JD, Greenberg MT. A model of mindful parenting: implications for parent-child relationships and prevention research. Clin Child Fam Psychol Rev. 2009;12(3):255-70. **doi:** 10.1007/s10567-009-0046-3 **pmid:** 19412664
36. Franz AO, McKinney C. Parental and Child Psychopathology: Moderated Mediation by Gender and Parent-Child Relationship Quality. Child Psychiatry Hum Dev. 2018;49(6):843-52. **doi:** 10.1007/s10578-018-0801-0 **pmid:** 29582206
37. Alijani A, RM GS. The effectiveness of mother's cognitive-behavioral group interventions on the number of ADHD children's behavioral problems. Procedia Soc Behave Sci. 2013;84(3):874-8. **doi:** 10.1016/j.sbspro.2013.06.665
38. Bakhshayesh AMR. Effectiveness of Play Therapy on the Reduction of Children's Severity Symptoms with Attention Deficit/Hyperactivity Disorder (ADHD) and Promotion of Their Academic Performance. SJIMU. 2015;22(6):1-13.