



NEAR EAST UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
GENERAL PSYCHOLOGY PROGRAM

**INVESTIGATION OF STRESS LEVEL AND PARENTING
STYLE AMONG PARENTS OF CHILDREN DIAGNOSED AS
ATTENTION DEFICIT AND HYPERACTIVITY DISORDER**

MAHNOUSH TEYMOURI

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MASTER THESIS

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DECLARATION

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ABSTRACT

INVESTIGATION OF STRESS LEVEL AND PARENTING STYLE AMONG PARENTS OF CHILDREN DIAGNOSED AS ATTENTION DEFICIT AND HYPERACTIVITY

Attention deficit and hyperactivity disorder (ADHD) is one of the most common psychiatric disorder among children. In this time the role of the family can be important because some negative behaviors of children with ADHD can affect their relationship with a parent. The goal of this article is to investigate how much stress the parents of children with ADHD have and which type of parenting style they used for their parenting. 50 parents of children with ADHD and 50 parents of healthy children participated in this investigation. Conner's parents rating scale, Robinson parenting style questionnaire, and parenting stress index were used as instruments. The results show parents of children with ADHD show higher stress level than parents of normal children. Also, they use a more permissive or authoritarian parenting style. Clinicians should be careful about the stress parents of children with ADHD may experience and psycho-education given to the parents is important.

Keywords: ADHD, Parents, Stress, Parenting Style, parent-child relationship

ÖZ

DİKKAT EKSİKLİĞİ HİPERAKTİVİTE BOZUKLUĞU TANISI ALMIŞ ÇOCUKLARIN EBEVEYNLERİNDE STRES DÜZEYİ VE ÇOCUK YETİŞTİRME STİLLERİNİN ARAŞTIRILMASI

Dikkat Eksikliği Hiperaktivite Bozukluğu (DEHB) çocukluk döneminde en sık görülen psikiyatrik hastalıklardan biridir. DEHB olan çocukların bazı olumsuz davranışları ebeveyni ile olan ilişkisini etkileyebilir, bu nedenle ailenin rolü önemlidir. Bu makalenin amacı DEHB tanısı olan çocuklarının ebeveynlerinin stress düzeyini ve çocuk yetiştirme stillerinin araştırılmasıdır. Araştırmaya DEHB tanısı olan çocuğu olan 50 ebeveyn ve 50 sağlıklı çocuğu olan ebeveyn alınmıştır. Conners Ana-Baba Değerlendirme Ölçeği, Robinson Çocuk Yetiştirme Stilleri Ölçeği ve Ebeveyn Stres İndeksi kullanılmıştır. Sonuçlar DEHB olan çocukların ebeveynlerinin daha yüksek düzeyde strese sahip olduğunu göstermiştir. Aynı zamanda daha müsamahakar ve otoriter çocuk yetiştirme stiline sahip olduklarını göstermiştir. Klinisyenler DEHB olan çocukların ebeveynlerinin yaşadığı strese dikkat etmeli ve ebeveynlere dönük psikoeğitime yer vermelidir.

Anahtar Kelimeler: DEHB, Ebeveynler, Stres, Çocuk Yetiştirme Stilleri, Ebeveyn-çocuk ilişkisi

TABLE OF CONTENTS

ACCEPTANCE/APPROVAL	III
DECLARATION	IV
ACKNOWLEDGEMENTS.....	iii
ABSTRACT	iv
ÖZ	v
TABLE OF CONTENTS.....	vi
LIST OF TABELS	viii
ABBREVIATION.....	ix
1.CHAPTER.....	1
INTRODUCTION.....	1
1.1 Problem statement.....	1
1.2 Aim of the study.....	2
1.3 Importance of the study.....	2
1.4 limitation of the study	3
1.5 Definitions.....	3
Attention Deficit Hyperactivity Disorder (ADHD).....	3
Parenting Style	3
Stress	4
2.CHAPTER.....	6
THEORETICAL FRAMEWORK, RELATED LITERATURE REVIEW	6
2.1 Attention Deficit Hyperactivity (ADHD)	6
2.2 Parenting Style.....	7
2.3 Stress.....	8
2.4 Related literature review	8
3.CHAPTER.....	17
METHOD.....	17
3.1 Model of the Study.....	17
3.2 Population and the sample.....	17
3.3 Instruments.....	17
3.3.1. Socio-Demographic Form.....	17

Table 1.....	18
3.3.2. Conner's Parents Rate Scale- Revised (CPR-R).....	18
3.3.3. Parenting Stress Index (PSI)	18
3.3.4. Parenting Style- Dimension Questionnaire (PSDQ)	19
3.4 Data Collection.....	19
3.5 Data Analysis.....	20
4.CHAPTER	21
RESULTS	21
Table 2.....	24
Table 3.....	25
Table 4.....	26
5. CHAPTER	27
DISCUSSION.....	27
6. CHAPTER	30
CONCLUSION AND RECOMMENDATIONS	30
REFERENCES.....	32
APPENDIX 1	36
Parenting style dimension questionnaire	36
APPENDIX 2.....	37
Conner's parent rate scale- Revise.....	37
APPENDIX 3	38
Parenting Stress Index (PSI-4) Abidin	38
APPENDIX 4	39
Inform consent form.....	39
APPENDIX 5.....	40
Clinic permission.....	40
BIOGRAPHY	42
PLAGIARISM REPORT	43
ETHIC COMMITTEE PERMISSION.....	44

LIST OF TABELS

Table 1. <i>Socio-economic characteristics</i>	18
Table 2. <i>Multivariate Analysis of Variance (MONOVA) for Conner's Parents Rate</i>	24
Table 3. <i>Multivariate Analysis of Variance (MONOVA) for Parenting Stress Indexes</i>	25
Table 4. <i>Multivariate Analysis of Variance (MONOVA) for Parenting Style Dimensions</i>	26

ABBREVIATION

ADHD = Attention Deficit and Hyperactivity

CPR-R = Conner's parents rate scale-revised

PSI = Parenting stress index

PSDQ = Parenting style- dimension questionnaire

1.CHAPTER

INTRODUCTION

It is common for parents to be surprised by their children's behavior, wondering how they have learned these actions. It seems that they have no control over their children's behavior and actions. Mostly, they start blaming themselves for what their children show and take all responsibilities on their shoulders. Getting tired of the exhausting situation, they sometimes stop their effort to control it and just leave it be the way it is. They start normalizing their children's behavior, hoping that it will get better by the time they start going to school. However, this is not what happens in reality; most of the children are unable to cooperate with other students and teachers. Therefore, parents realize that things wouldn't get better on it and their children are in need of help, attention, and protection.

It seems to be hard but parents need to accept that the unusual behaviors of their children might stem from psychological disorders. Realizing the real problem, they face, parents must start a consultation with a psychologist or psychiatric in order to get professional help.

1.1Problem statement

Attention Deficit Hyperactivity Disorder (ADHD) as a neurodevelopmental disorder can make issues for parents who want to raise children. Parents may face so many

problems while raising their children with ADHD. It can cause some levels of stress for parents when they try to educate their children, and this stress may interfere with their critical thinking. It may result in a change of their parenting style from authoritative to authoritarian or permissive and, this may hinder the interaction of the parents and the child. Moreover, Hetchman (1996) explain families of children with ADHD have more difficulties. These difficulties are basically related to the mental health of family member, marital relationship and emotional climate of home.

1.2 Aim of the study

The aim of this research is to explore the level of stress in parents of children with ADHD, and also to find out what type of parenting style they use in interaction with their children. Our hypothesis suggests that the stress level of parents of children with ADHD is more than parents of healthy children. A higher level of stress may cause parents to use more authoritarian or uninvolved parenting style to educate their children. The goal of this study is to compare the stress level and parenting style of parents of children with ADHD with parents of children without ADHD.

1.3 Importance of the study

The result of the study may help the clinician to help parents of children with ADHD with their parenting skills and help the clinician to be careful about parents' stress level and guide them how to cope with stress. This is very crucial as the parenting style may interfere with the uncontrolled level of parents' stress. Besides, the research may help the researcher to have more idea about how the stress level of parents of children with ADHD may affect their parenting style and plan further research to understand it in details.

1.4 limitation of the study

The first limitation of the study is the sample of the study which is limited to some parents of children with ADHD in selected private clinics in Tehran, Iran. Most of them are families from the middle to high socio-economic status, so the sample cannot represent all children in Tehran. The second limitation of the study is that the findings are limited to the parents' self-report scales and there is no database of clinician's assessment. In addition, as the parents were asked to fill the questioners voluntarily, the researcher encounters serious problem to motivate them to fill the form and attend the survey.

1.5 Definitions

Attention Deficit Hyperactivity Disorder (ADHD)

Attention Deficit Hyperactivity Disorder (ADHD) is one of the common mental (Nigg, 2001) and neurodevelopmental disorders. ADHD is defined by inattention, disorganization, hyperactivity, and impulsivity (American Psychiatric Association (APA), 2013). Generally, most of these children are less compliant, more negative, persistent and bossy. In addition, they cannot follow the rule and parental instructions (Finzi-Dottan, Triwitz, & Golubchik, 2011). Thus, children with ADHD have some negative behaviors that may affect parents' behavior.

Parenting Style

Darling(1999) defined parenting is included some complex activity and many specific behaviors can influence on outcomes of children. In parenting, there are two important elements: parenting responsiveness and parenting demands. Parenting responsiveness refers to parental warmth and support. It also refers to the extent of

how parents foster individually, self-regulation, self-assertion, and how cooperative with children's special needs and demands.

Four parenting type

By Baumrind (1991) four category of parenting style including: permissive, authoritative, authoritarian, and uninvolved. Permissive parents are more responsive for everything that children need, they don't behave like an adult, allow appreciable self-regulation, and avoid meeting and talking face to face. Authoritative parents are demanding and responsive. They try to be supportive, rather than punitive, and they want their children to be assertive and self-regulated. Authoritarian parents, try to make some special rules and expect their children should obey their orders without and explanation. Uninvolved parents, they are weak on responsive and demanding. Also, this might include rejecting and neglecting. Baumrinds (1966) addressed the authoritative parent, try to direct children activity in a rational, issue-oriented way. Although the authoritarian parent attempts to control and shape the children behavior with a set standard of conduct.

Stress

L.Jones (2001) defines stress as a source of negative conditions and thought experienced by all people of all ages. According to Miller (1985), stress is created when issues and forces in the outside of the body conflict with the inside of the body or individual. Similarly, Justin mentions the same conflicting situation which leads to the development of stress. He explains stress as a situation in which there is a lack of balance between a person and her/his environment (2002).

According to Dunn, stress is "a difficult scientific concept" as it is hard to agree on its universally accepted definition (1996). He argued that "stress is subjective", having

altered effects on different individuals at different times. Justin (2002) explains that although stress mostly has a negative connotation, a certain level of stress in people lives may have good and positive functions. Miller et al.(1985) raise the same issue and claim that some stressors and stressful situation are necessary for life as they may consider as excitement or challenges in our life without which life can be boring.

2.CHAPTER

THEORETICAL FRAMEWORK, RELATED LITERATURE REVIEW

This chapter will be discussed and give some information about attention deficit and hyperactivity disorder, parenting style, stress and stress level in people lives. Also, theoretical frame work and related literature review that explain about parenting style of parents with ADHD children and stress level of parents of children with ADHD.

2.1 Attention Deficit Hyperactivity (ADHD)

In general, inattention, hyperactivity, and impulsivity are the most important criteria for ADHD. Specifically, children with ADHD almost all of the time fail to give close attention, concentrate on a specific task, follow instructions and finish school work. They talk excessively, cannot sit still, and have difficulty in taking a turn. These symptoms must be persistent for at least six months in order to be diagnosed as positive ADHD (APA, 2013).

By DSM-V (APA, 2013) prevalence of ADHD in most cultures is about 5% in children. In addition, Faraone, Sergeant, Gillberg & Biederman (2003) reported that up to 1 in 20 children are diagnosed by ADHD in the USA. The report of Kosari, Keyhani, hemayat-

Talab & Arab-Ameri (2013) is the prevalence of ADHD in Iran nearly to 10% or 20%. However, the rate of this disorder is higher for boys than girls (Reid & Shields, 2010).

DSM-V (APA, 2013) introduces some risk factors as reasons for ADHD such as, temperamental, environmental, genetic and physiological. In addition, some family-related factors such as large family size and living with only one parent can be risk factors for ADHD in children (Hamed, Taha, Sabra, & Bella, 2008).

Studies of 305 boys between 8-12 years old in Saudi Arabia, using the children behavior questionnaire scale (CBQ) that teachers and parents complete (Abolfotouh, 1997). CBQ is a questionnaire that caregiver fills it with the purpose of measure different temperament of children (Rothbart, Ahadi, Hershey, & Fisher, 2001). The results show large families with four or more children were 2.5 times more likely to have a child with some form of behavioral disorder. Although we cannot say this behavioral disorder is exactly ADHD, or maybe can be part of it (Abolfotouh, 1997).

2.2 Parenting Style

Johnston et al. (2012) explain the concept of parenting behavior includes two domains, "effective behavioral control and emotional responsiveness". Behavioral control based on action and reaction in parenting behavioral to protect children. Behaviors such as observing and monitoring, planning, solving problems, give children guidance, and being wise all are part of parenting behavioral control. In emotional responsiveness, parents focus on the warmth relationship with children and the emotional needs of children. Kindness, approval, acceptance, love and other positive behaviors are in this category.

2.3 Stress

Oxington (2005) explains stress is a physical reaction to an undesirable and unpleasant situation. Also, stress can be short-term (acute) or long-term (chronic). Acute or short-term stress is a reaction to an immediate or real threat. Chronic or long-term stress involves a situation that is not short. Miller et al.(1985) explain that the source of stress is in our lives and changes in our lifestyles, orientations, and behaviors. The physical and psychological reaction that happens in our body is because of mismanaged stress.

Justin (2002) argues that as adults coping with family responsibility and issues it is easy to forget children also have some pressure in their life that makes stress for them. Stressful situations are normal in life because can help adults and children learn how to solve problems and become stronger. However, too much stress can cause many physical and psychological problems. We said stress is part of life. Birth of a child can be a stressful situation for many parents, but when a child born with a medical complication this can be a new level of fear and anxiety in parents (Oxington, 2005).

2.4 Related literature review

Lang et.al(2014) explain many methods, including drug therapy and behavioral therapy, or a combination of both, is used to treat ADHD. Bird (2017)Explainsone of the important treatments of ADHD is drug therapy by using some medications such as Ritalin. However, the parent-child relationship is one of the important parameters of drug efficacy in ADHD. In this sense, there are two kinds of parenting style that affect children behavior; authoritative and authoritarian parenting. They can affect the emotional and behavioral development of children (Lifford, Harold, & Thapar, 2008).

Alizadeh, Applequist, and Coolidge (2007) explain that most of the time children with ADHD have some challenges in their family relationships because maybe they create more family stress; perhaps parents cannot understand their children's behavior so their negative attitudes can influence the child's capacity to develop their internal orientation. This stress can create some psychological and physiological changes, also reactions that come from attempts to adapt to parenthood (Yousefia, SoltaniFar, & Abdollahian, 2011).

many studies tried to explain how the medication or behavioral intervention affects the parent-child relationship. Lifford et.al (2008) cite Schachar's research (1987), it was found that mothers of children with ADHD, whose children used medication, displayed more warmth, less criticism and fewer negative conflicts than those mothers whose children used a placebo.

Finzi-Dottan et al.(2011) argue that parents of children with ADHD think parenting is like more threatening and so boring. In their study, 151 parents participated the study, including 71 parents of children with ADHD and 80 parents of children without ADHD as a control group. They collected data from the participates from the Child & Adolescence out-patient clinic of the Geha Mental Health Center in Israel in three months. All children used medication and all parents got psycho-educational therapy. They used parenting sense of competence scale (PSCS) .Also, they used cognitive appraisal questionnaire for parenthood. The result shows parents of children with ADHD they think parenthood is more threat than parents without children with ADHD. Also, their competence was less than the control group (children without ADHD). In addition, parents think daily work with children with ADHD is hard, and they report to feel more unhappy and dissatisfied in their parenting.

Johnston and Mesh(2001) in a literature review explain parents of children with ADHD in all situations have stress, especially in mothers of preschool children. Also, they explain parents of younger children have more stress than parents of older children, therefore, this stress can disturb the parent-child relationship. In this position mothers of ADHD children give more command, less reward and less interactive.

Yousefia et al.(2011)conduct a study in Mashhad, Iran where they compared parenting stress and parenting style among mothers of ADHD children and mothers of normal children. Their sample was 50 mothers of ADHD children who were selected from child psychiatry extra-specialized clinic and 80 mothers of normal children who were selected by the method of stepwise cluster sampling. They use the parenting stress index and parents parenting style scale as questionnaires. They find a significant relationship between authoritative and authoritarian styles. However, there is no significant difference between both groups of mothers in permissive parenting styles. Their findings indicate that parenting stress level can affect parenting styles.

Alizadeh, Applequist, Coolidge (2007)search about parental self-confidence, parents' style and punishment. Their sample includes 125 families of 65 students diagnosed with ADHD and 60 students without it as a control group in elementary school in Tehran, Iran. They asked teachers to complete Conner's' Teacher Rating Scale of behavioral problems associated with ADHD and asked parents to complete Parenting Style and Dimensions Questionnaire (PSDQ) (that is a measure examine all parenting style) (Kimble, 2014). and Conner's' Parent Rating Scales. The result of these three questionnaires showed that the parents of children with ADHD were significantly less self-confident. Their result showed that there was no significant difference between fathers and mothers of children with ADHD in the level of self-confidence, but mothers

showed more warmth and involvement in both the group of ADHD and the control group of children without ADHD. In addition, fathers of ADHD children use more punishment than mothers.

Teymouri & Yousefi (2008) argue that most of the parents of children with ADHD use an authoritarian parenting style. The sample of this investigation includes 50 parents of children with ADHD, 5-12 years old, who identify by psychologist and 80 parents of normal children. They used Baumrind parenting style scale. It is found that the authoritative parenting style is used more by parents of normal children than parents of children with ADHD. In addition, in the permissive parenting style, both groups were at the same level. Moreover, they understand to have a child with ADHD may effect on which parenting style parent will choose.

Chronis, Chacko, Fabiano, Wymbs, and Pelham(2004)try to explain behavioral parent training (BPT) and how it can be useful for both parents and children with ADHD. BPT teach parents some techniques of behavior modification that is based on social learning theory. In particular, it is clinic treatment which therapist, parents and sometimes children attended in family sessions for parent-child intervention therapy that teaches some skills to parents. They identified 28 studies of BPT for 1,161 children with ADHD. Across these studies, they understand BPT was effective in improving parent scale on problem behavior and negative parent and child behaviors. Also, the results show BPT it can effect on parental stress and social behavior and accept the treatment of children. Most of the time BPT sessions was between 8 and 12 however, in some substantial case was longer.

Alizadeh and Andries (2002) talked about the interaction of parenting style and ADHD in Iranian parents. Their participants were 250 parents of elementary school (children between 7- 11) of Tehran, Iran, 130 parents (mother: 65 and father: 65) of children with ADHD and 120 parents (mother: 60 and father: 60) of children without ADHD. They used Conner's Teachers rating scales (CTRS) for teachers and Conner's Parents rating scales (CPRS). Also, they gave the parenting style and dimensions questionnaire (PSDQ) of Robinson to parents. Thus, they find there is a relationship between authoritative and authoritarian parenting style in parents of children with ADHD. It shows when the family has a child with ADHD it possible parents show more authoritarian than authoritative. In addition, they find parents of children with ADHD they don't use the same parenting style for boys and girls.

In a study about "comparing parenting style of children with ADHD and normal children", the researcher used 75 parents of children with ADHD as participants and 75 parents of healthy children as a control group in Zahedan, Iran. Also, they used Baumrind's parenting style questionnaire and analyze the data with Spss. The results of this study show, permissive parenting style in parents of children with ADHD was lower than the control group. Although, in authoritarian parenting style control group has a lower score than parents of children with ADHD, and in the authoritative parenting style there is no significant between two groups. Also, the study show age, gender of children and parents' education can effect on parenting style (Moghaddam, Assareh , Heidari poor, Eslami Rad, & Pishjoo, 2013)

In an investigation with parenting stress among families of children with ADHD hypothesis, the researcher used 87 boys and 17 girls with age 49 to 145 months and mothers age with 23 to 48 as participants. First, they interview with families to get

information's about the children diagnostic, then used the parenting stress index (PSI) of Abidin. The results of this study show parent and child characteristics have a large number and are important in family stress. Also, the oppositional behavior and difficulty of ADHD can affect stress. At all, it means families with ADHD children have more stress than families who they have children without ADHD (Anastopoulos, Guevremont, Shelton, & DuPaul, 1992).

Gupta (2007) explain about parenting stress in parents with ADHD children. In this investigation, the researcher used the parenting stress index (PSI) of Abidin. Researcher compares the stress level of parents with ADHD children (N=28), DD children (N=50) and HIV children (N=46). Parents of children with ADHD who they were participates in this investigation reported the highest level of stress for inattention, adaptability and demandingness domain. also, attachment score was higher in children with ADHD.

In an investigation in Israel, the researcher argued about two hypotheses as, first being as a parent of children with ADHD would be related to lower marital satisfaction, lower parental self-efficacy, and higher parenting stress and second parenting stress level and parental self-efficacy can intercede to the relationship between ADHD child and marital satisfaction. the researcher asked 198 mothers or fathers to participate in their study and 182 of them accept as participates, include 63 parents of children with ADHD and 119 parents of children without ADHD. They used parental self-efficacy questionnaire, marital adjustment test (MAT), and parental stress scale (PSS). Thus, results show this investigation confirm both hypotheses that researcher predict. Also, parents with ADHD children have more individual stress experience which leads to

decreasing parental self-efficacy and less marital satisfaction. (Ben-Naim, Gill, Laslo-Roth, & Einav, 2018)

In another study, the researcher examines parenting stress among mothers of children with ADHD. Their participants were include 126 mothers of girls and boys on 6-17 years. They used parenting stress index (until 11 years old), stress index for parents of adolescence (12+ years old), Conner's parent rate scale, the impact of social life scale, the impact of marriage scale (which made by Donenberg and baker, 1993), perceived social support. The results of this study show there is a positive correlated between parental stress and children ADHD severity, and with mother's perception of children on marriage and social life. Also, the negative correlation in the mother's perception of social supporting (Muñoz-Silva, Garcia, Urbano, & Márquez, 2017).

Dortaj & Mohammadi (2010) in their study argue about family function in children with ADHD. Their participants include 75 parents of children 7-15 years with ADHD and 75 Parents without ADHD as a control group in Tabriz, Iran. In this study, they use Family assessment device questionnaire (FAD). The result of the study show, the average score of parents with ADHD in "problem-solving, communication, roles, affective responsiveness, behavioral control, affective involvement and general functioning" was higher than parents without ADHD.

Munoz-Silva & Urbano (2016) in another study try to explain parenting style and child ADHD severity and also, parenting style and comorbid behavior problems. They ask 68 parents of children 6-11 years who diagnosed as ADHD as participate. Researcher use criticism-rejecting scale, indulgent education style scale, behavior problems scale in the strengths and difficulties questionnaire, and Conner's parent scale. The results

of this study show, there is a correlation between child ADHD severity and permissive-indulgent. In addition, a strong correlation in child behavior problem with criticism-rejecting.

In an investigation, the researcher tries to predict parenting stress in families of children with ADHD. Their participants were include 95 parents of 8-12 years old children with ADHD. They used parenting stress index-short form, Conner's rating Scale-Revised: a long version, Conner's adult ADHD rating scale, family support scale, and Wechsler abbreviated scale of intelligence. The results show first, parental ADHD symptomology was the strong predictor for parenting stress and pressure. Second, teacher report of child ADHD was different from parent report (Theule, Wiener, Rogers, & Marton, 2011). in a qualitative study, Peters & Jackson (2009) explain the mother's experience of parenting a child with ADHD. They interview with 11 mothers' volunteers who have children with ADHD. After transcribing and coding the data; the result show mothering of children with ADHD is stressful and demanding that need more patient. Also, they feel more isolated from socialization.

In a study by Maric & Bogels (2019) they explain parenting behavior associated with AD and ADHD youth. Their participants were include 20 children with AD, 15 children with ADHD and 25 children as a control group. They used parenting behavior, youth anxiety, and parenting anxiety. The result of this study showed fathers of ADHD children have a higher score in rejecting and fathers of AD children have a higher score in controlling children than the control group, but there was no significant in three mothers' group.

In a study with 130 parents of children with 4 to 12 years old who diagnosed as ADHD in Vietnams, the researcher uses disruptive behavior stress inventory and family support scale. They measured the influence of social support on parenting stress of parents with ADHD children. Results of this study show, parents of children with ADHD in Vietnam have a high stress level in their self-report and, it is higher in mothers. moreover, it shows professional support, positively predicts parenting stress (Hoang, 2015).

3.CHAPTER

METHOD

3.1Model of the Study

This investigation is a survey study, quantitative, with a cross-sectional design. It means, we drawn one or more samples from the population at one time (Shaughnessy, Zechmeister , & Zechmeister , 2009).

3.2 Population and the sample

Among non-probability sampling methods, the purposive sampling method is used. families who have children with ADHD are taken in this study. The population was including 70 parents of children with ADHD who were diagnosed by a psychiatrist in the Irana-Mental Clinic in Tehran, Iran. Among them, a total of 50 parents of children with ADHD and 50 parents of normal children who were volunteers randomly filled out the scale as a control group.

3.3Instruments

3.3.1. Socio-Demographic Form

demography form asks parents about the gender and age of their child and how old was their child when show ADHD symptoms. Also, it asks the marital status of parents, education level, and work of both parents, mother, and father.

Table 1.
Socio-economic characteristics

Socio-economic	Group	ADHD		Normal		Test	P
		N	50	N	50		
Child's Gender	Female	24	(48.0)	26	(52.0)	$\chi^2=0.16$	0.69
	Male	26	(52.0)	24	(48.0)		
Mother's Education	Under Diploma	20	(40.0)	22	(44.0)	$\chi^2=0.17$	0.68
	Upper Diploma	30	(60.0)	28	(56.0)		
Father's Education	Under Diploma	9	(18.0)	13	(26.0)	$\chi^2=0.93$	0.33
	Upper Diploma	41	(82.0)	37	(74.0)		
Marital Status	Couple	48	(96.0)	47	(94.0)	$\chi^2=0.21$	0.65
	Divorced	2	(4.0)	3	(6.0)		
Mother's Job	Unemployed	28	(56.0)	18	(36.0)	$\chi^2=4.21$	0.06
	Employed	22	(40.0)	32	(61.0)		
Fathers' Job	Unemployed	2	(4.0)	6	(12.0)	$\chi^2=2.17$	0.14
	Employed	48	(96.0)	44	(88.0)		
Child's Age	M	8.26		8.34		t=1.26	0.21
	SD	1.18		1.04			
Age of disorder diagnosis	M	3.40		1.26		t=1.15	0.25
	SD	3.10		1.34			

3.3.2. Conner's Parents Rate Scale- Revised (CPR-R)

Conner's rating scales which was made by Keith Conner's. There is two versions of Conner's scale, parents scale, and teacher scale. Here we used the Persian version of CPR-R with 0.85 validity (Alizadeh, 2005). It is including 26 questions that completely focus on Attention Deficit and Hyperactivity in child and adolescent. It means with this questionnaire psychiatrists identify that children have any single of ADHD or not. Also, it shows which type of ADHD (lack of attention, hyperactivity, or both of them) children have.

3.3.3. Parenting Stress Index (PSI)

This questionnaire which made by Abidin (1990) includes 120 items in two areas of childhood (47 items) and parents (54 items), and stress of life (19 items). Subscales in

child domain includes: distractibility/hyperactivity (DI), reinforces parent (RE), demandingness (DE), mood (MO), acceptability (AC); and in parent domain includes: competence (CO), isolation (IS), attachment (AT), health (HE), role restriction (RO), depression (DP), and spouse/parenting partner relationship (SP). The base of this questionnaire wants to explain the importance of stress in the parent-child relationship. Also, explain this stress may come from children behavior, parent's personality, or parenting role. reliability of this scale for all of the domains is 0.96. Dadsetan, Azghandi, Hasan-abadi (2007) explore the validity of this questionnaire in Persian version 0.88 and after 10 days 0.94.

3.3.4. Parenting Style- Dimension Questionnaire (PSDQ)

Parenting style dimension questionnaire (PSDQ) which was made by Robinson and it includes 30 questions. It surveys which type of parenting style that parents use. It has three subscales; permissive, authoritative, authoritarian. In this investigation, we used the Persian version of parenting style scale with 0.72 for the reliability of this version which translated by Alizadeh. In detail reliability of this scale for permissive parenting is 0.69, authoritative parenting 0.73, and authoritarian 0.77 (Bahrami, Bagherpour, Fathi, & Ahmadi, 2009).

3.4 Data Collection

In this survey study (research), we collected the data with questionnaires. Participates first filled the socio-demography form and after that fill the questionnaires as self-report.

3.5 Data Analysis

For analyzing data in this study, we used SPSS and because we have multivariate analysis so, used MANOVA. Independent variate was ADHD in children and depending variates were parenting style and stress level of parents.

4.CHAPTER

RESULTS

This chapter presents the results of statistical analysis. At first, the demographic indicators of the sample have been studied. The descriptive indexes of variables including minimum and maximum scores, mean and standard deviations were investigated. Finally, using multivariate and one-variable variance analysis, the research hypotheses were investigated separately.

Demographic indicators

Participates include 50 parents of children with ADHD and 50 parents of normal children.

In this research, a multivariate analysis of variance has been used to answer the research hypotheses. In order to perform parametric statistical tests, in addition to the distance scale of the variable's measurement, the regularity of the distribution of variables is essential. On the other hand, to apply variance analysis, the assumptions of homogeneity of variances and homogeneity of the variance-covariance matrix, as well as the correlation between dependent variables, should be investigated. The following is an explanation of each of the hypothesizes.

1. Normal distribution of variables: This assumption means that the distribution of variables in this society has been normal. In other words, one can use a

parametric test that has a reason to believe that community distributions do not differ much from a normal distribution (Ferguson, 1959). The Shapiro Wilk test was used to evaluate the distribution of variables. The greater significance level of the test is from the $P < 0.001$, indicating the normal distribution of variables (Meyers, Gamst, & Guarino, 2016). The results of this analysis showed that the distribution of variables is normal ($P > 0.05$).

2. Homogeneity of variances: This assumption means that two examples of communities with equal variances are selected. In other words, one can use a parametric test that has a reason to believe that the variances of society do not differ much from equality (Ferguson, 1959). To test the homogeneity of variances, the Levin variance error equation test has been used. In this test, if the level of significance is greater than 0.05, it means that the data do not question the assumption of the equality of error of variances (Brace, Cemp, & Snelgar, 2000). The results show that homogeneity of variances is achieved in all variables ($P \leq 0.05$).

3. Homogenization of variance-covariance matrices: The realization of this assumption is necessary for multivariate analysis of variance. In general, the homogeneity of variances is based on the question of whether samples are selected from societies with equal variances. When this assumption is satisfied, the data obtained from these two examples can be combined to obtain an unbiased estimate of the variance of society (Ferguson, 1959). The implementation of homogeneous homogeneity of variance-covariance matrices also pursues such a goal. In order to study homogeneity of variance-covariance matrices of research variables from the M-test. The box is used. Based on the significance level obtained in this test, one can judge the homogeneity or non-homogeneity of variance-covariance matrices. Thus, if the significance level is

greater than $P = 0.05$, the matrices are equal and vice versa (Brace, Cemp, & Snelgar, 2000). The results showed that the homogeneity assumption of variance and covariance matrix for analysis for parents' stress, parenting, and behavioral problems were realized ($P > 0.05$).

4. Multiple correlations of dependent variables There are disagreements about the extent to which affiliate variables are better or should be correlated with each other. This assumption is tested by Bartlett's test. The significant coefficients of this test show a multivariate correlation between dependent variables (Meyers, Gamst, & Guarino, 2016). The results showed that the sprite assumption was achieved ($P < 0.01$).

Multivariate analysis of variance was used to answer this hypothesis. This analysis first compares the linear composition of the variables among the groups. Multivariate testing is performed with several tests. Lambda Wilkes, the most trusted test, is multivariate and has a higher reputation due to the realization of the assumptions. The results of this analysis showed that the linear composition of the variables was significant (Wilks Lambda = 0.39, $F = 23.90$, $P = 0.001$, $\text{Partial}\eta^2 = 0.61$). In the following, the results of the analysis of variance for comparing the differences between groups in behavioral problems are presented in Table 2.

Table 2.
Multivariate Analysis of Variance (MANOVA) for Conner's Parents Rate

Dependent Variable	Group	Mean	Standard Deviation	F	P	Partial η^2
Low attention - Memory problem	ADHD	9.36	2.27	43.70	0.001**	0.31
	Normal	6.18	2.54			
Restlessness - hyperactivity	ADHD	10.16	2.34	50.05	0.001**	0.34
	Normal	7.08	2.00			
Emotional instability -impulsiveness	ADHD	9.88	2.66	26.76	0.001**	0.21
	Normal	7.14	2.63			
Problems with the general impression of yourself	ADHD	9.72	2.73	23.16	0.001**	0.19
	Normal	7.14	2.63			
Hyperactivity index - Low attention	ADHD	10.72	2.76	43.97	0.001**	0.31
	Normal	7.14	2.63			
low memory-memory problems	ADHD	10.22	2.39	52.09	0.001**	0.35
	Normal	6.68	2.51			

*p \leq 0.05 ** p \leq 0.001

The results of Table 2 show that the difference between ADHD and Normal children groups is significant in all behavioral problems ($P < 0.01$). Comparison of the means shows that children with ADHD have low attention-memory problems, restlessness-hyperactivity, emotional-impulsivity instability, problems with their overall imagination, low-attention-hyperactivity index, low memory-memory problems, they have a higher mean than normal. Based on the above, the first hypothesis of the present study is confirmed. This means that ADHD and Normal children have different behavioral problems and ADHD children have more behavioral problems. The size of the effect of group membership on the difference between the groups (Partial η^2) varies from 0.19 to 0.35.

Multivariate analysis of variance was used to answer this hypothesis. Wilks Lambda test showed that the linear combination of variables in the domain of childhood (Wilks Lambda = 0.48, $F = 17.02$, $P = 0.001$, Partial $\eta^2 = 0.52$) and Parental Domain (Wilks Lambda = 0.69, $F = 5.84$, $P = 0.001$, Partial $\eta^2 = 0.31$) is significant. The results of the analysis of variance for comparing group differences in behavioral problems are presented in Table 3 below.

Table 3.
Multivariate Analysis of Variance (MANOVA) for Parenting Stress Indexes

Dependent Variable	Group	Mean	Standard Deviation	F	P	Partial η^2
Compromise	ADHD	24.78	3.05	29.02	0.001**	0.23
	Normal	21.40	3.23			
Acceptability	ADHD	21.66	2.90	1.22	0.27	0.01
	Normal	21.00	3.06			
demandingness	ADHD	24.66	2.94	20.23	0.001**	0.17
	Normal	22.04	2.89			
Mood	ADHD	9.72	2.89	0.24	0.63	0.01
	Normal	10.00	2.88			
distractibility/hyperactivity	ADHD	19.76	2.97	24.64	0.001**	0.20
	Normal	16.84	2.92			
reinforces parent	ADHD	20.20	3.10	20.19	0.001**	0.17
	Normal	17.50	2.91			
depression	ADHD	27.02	3.56	11.81	0.001**	0.11
	Normal	24.68	3.24			
attachment	ADHD	17.66	2.94	1.13	0.29	0.01
	Normal	17.04	2.89			
role restriction	ADHD	19.98	4.10	0.57	0.45	0.01
	Normal	19.42	3.29			
competence	ADHD	40.30	5.19	0.22	0.64	0.01
	Normal	39.80	5.50			
isolation	ADHD	19.98	2.63	7.44	0.01*	0.07
	Normal	18.70	2.02			
spouse/parenting partner relationship	ADHD	22.02	2.63	2.16	0.14	0.02
	Normal	21.30	2.25			
health	ADHD	17.04	2.22	9.00	0.001**	0.08
	Normal	15.58	2.63			

* $p \leq 0.05$ ** $p \leq 0.001$

The results of Table 3 indicate that the difference between ADHD and Normal children in adolescence and creation in the realm of childhood and in attachment, role limits, sense of competence, and relationships with the spouse in the parents' domain are not significant ($P > 0.05$). Differences are found in other sources of parenting stress ($P < 0.01$). Comparison of the meanings shows that ADHD children have a higher mean in parental stress than normal ones. Based on what has been mentioned, part of the second hypothesis of the present study is confirmed. This means that there is a difference between ADHD and Normal children in terms of compromise, exaggerated, neglected and overweight, empowerment, depression, social isolation, and parental

health, and parents of ADHD children are more stressed. The size of the effect of group membership on the difference between the groups (Partial η^2) varies from 0.07 to 0.23.

Multivariate analysis of variance was used to answer this hypothesis. Wilks Lambda test showed that linear combination of variables (Wilks Lambda = 0.80, $F = 8.12$, $P = 0.001$, Partial $\eta^2=0.20$) is significant. The results of the analysis of variance for comparing group differences in behavioral problems are presented in Table 4 below.

Table 4.

Multivariate Analysis of Variance (MONOVA) for Parenting Style Dimensions

Dependent Variable	Group	Mean	Standard Deviation	F	P	Partial η^2
Authoritarian	ADHD	37.58	4.31	4.20	0.04*	0.04
	Normal	35.96	3.57			
Permissive	ADHD	17.84	3.31	6.05	0.02*	0.6
	Normal	16.22	3.28			
Authoritative	ADHD	42.56	7.49	16.24	0.001**	0.14
	Normal	48.34	6.84			
*p ≤ 0.05 ** p ≤ 0.001						

The results of Table 4 indicate that the difference between ADHD and Normal children in parenting styles is significant ($P < 0.05$). The comparison of meanings shows that ADHD children have a higher mean in authoritarian and permissive parenting than the Normal group. In authoritative parenting, parents of Normal children have higher meanings. Based on what has been mentioned, the third hypothesis of the present study is confirmed. This means that there is a difference between the parents of ADHD and Normal children in parenting styles and that the parents of ADHD children have a higher average in authoritarian and permissive. The size of the effect of group membership on the difference between the groups (Partial η^2) varies from 0.04 to 0.14.

5. CHAPTER

DISCUSSION

This study investigated parenting style and parents stress level of parents among children with ADHD. It means we explore parents of children with ADHD most used what type of parenting style and how much they have stress in their parenting style and arising children with ADHD.

The Results of this study shows There is a difference between the behavioral problems of children with ADHD and normal. also, there is a difference between the parents' tension between ADHD and normal children. In addition, there is a difference between parenting styles of ADHD and normal children.

In this position, with such a similar view there are Many studies with the same result that can explain our results. in this research, we try to find studies who work on parenting style or stress level separately or both of them together on families with ADHD.

American psychiatric association (2013) explain children with ADHD will show more inattention, hyperactivity, and compulsivity. Also, they cannot finish their task or sitting on their seat and, will show these sign for six months. So, normal children, they don't have these symptoms or it is less than six months.

In Anastopoulos et al. (1992) investigation about parenting stress among families of children with ADHD, the result shows parent and child characteristics and the behavior of children with ADHD can affect on stress in families. Also, in another study, the result shows parents of children with ADHD report a high level of stress in some domain than parents of children with DD or HIV (Gupta, 2007).

Ben-Naim et al. (2018) investigation show that parents of children with ADHD feel less marital satisfaction and less self-efficacy that its effects on they have more individual stress experience. Also, the study of Munoz-Silvia et al. (2017) show there is a relationship between the stress level of parents and ADHD severity in children.

In another study, Theule et al. (2011) predict that parents who have ADHD symptomology will effect on their parenting stress. In addition, Peters & Jackson (2009) in their interview with mothers of children with ADHD understand, they feel mothering of ADHD child is stressful and make them isolated. Johnston & Mash (2001) argue mothers of younger children with ADHD they feel more stress and it can disturb the parent-child relationship. also, they give more command.

Researches explain parents often use authoritative or authoritarian parenting style. In parents with ADHD children, it depends on child behavior make their parenting style to grows their children. Although, the result of Alizadeh et al. (2007) study explore mothers of children with ADHD show more warmth and involvement in their parenting and fathers use more punishment. Also, another study show parents stress level can effect on parenting style (Yousefia, SoltaniFar, & Abdollahian, 2011).

Moghadam et al. (2013) compare parenting style in parents with and without children with ADHD and their result show parents of children with ADHD use more authoritarian parenting style than permissive or authoritative. Also, Alizadeh & Andries (2002) in

their study explore parents of children with ADHD use more authoritarian parenting style. On the other hand, their parenting style is different from boys and girls.

Later, Finzi-Dottan et al. (2011) explain parents of children with ADHD they feel parenting is more threat and their competence was less than the control group. Also, parents mention, daily work with ADHD children is hard and they feel more unhappy. In a similar study by Dortaj & Mohammadi (2010), they understand parents of children with ADHD have a high score in problem-solving, communication, roles, and behavioral control.

In an interesting study Munoz & Urbano (2016) explore that there is a relationship between parenting style and ADHD severity and behavior problem. In detail, there is a correlation between permissive- indulgent parenting style with ADHD severity. Also, another correlation between behavior problem and criticism- rejecting.

6. CHAPTER

CONCLUSION AND RECOMMENDATIONS

In this study with parenting style and stress level of parents of children with ADHD hypothesis, we explore parents of children with ADHD which type of parenting style they use and also in this part how much they have stress or measure their stress level.

The result of this investigation shows parents of children with ADHD, significantly show more stress level than parents of children without ADHD. Also, in their parenting style, parents of children with ADHD most of the time use more permissive and authoritarian parenting style for growing their ADHD children. In addition, it happened that child behavior and parents stress level, parenting style will change.

As for recommendations, it will be good if the researcher can investigate the information level of the family about ADHD. Also, it will be good to get more assistance from fathers as participates in the investigation because the characters and parenting style most of the time is different between fathers and mothers.

On the other hands, clinicians first can check the parent's information about ADHD. It will be good if parents have not enough information, psychiatrists explain for them. The other thing is, psychiatrists, can do some therapy or skills as family therapy, stress management, or parenting skill and after that check parents stress level or parenting style.

Unfortunately, there is something important that we couldn't explain about that in this investigation. Social vision sometimes can effect on parenting style and stress level. So, in the future study, it will be good if we measured the influence of social support on parenting style of stress level.

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APPENDIX 1

Parenting style dimension questionnaire

Please rate how often you engage in the different parenting practices, listed below. Scores range from “Never” to “Always” on a 5-point scale. At the end of each section, Add up the scores and divide it by the number of questions in that section. The calculated score is your total score for that category. The highest score indicates your preferred parenting style.

	STATEMENT	NEVER	2	3	4	5	ALWAYS
1	I am responsive to my child's feelings and needs						
2	I take my child's wishes into consideration before I ask him/her to do something						
3	I explain to my child how I feel about his/her good/bad behavior						

APPENDIX 2

Conner's parent rate scale- Revise

	STATEMENT	NEVER	1	2	VERY OFTEN
1	In attentive, easily distracted.				
2	Angry and resentful				
3	Difficulty doing or completing home work.				

APPENDIX 3

Parenting Stress Index (PSI-4) Abidin

	STATEMENT	STRONGLY AGREE	AGREE	I AM NOT SURE	DISAGREE	STRONGLY DISAGREE
1	When my child wants something, he usually tries to get it.					
2	My child is so active that he is completely helpless.					
3	My child looks irregular and simply distracting.					

APPENDIX 4

Inform consent form

Dear participant,

The goal of this investigation is to explore parents of children with ADHD, how much they have stress in their parenting and which type of parenting style they use. In this investigation the information you give will be kept confidential and no personal data will be used, only group means will be used at the scientific report. Also, you should know that participation to this study is voluntary and you are free to quit whenever you want.

This study is conducted by Mahnoush Teymouri with supervisor Prof, DR, Ebru Cakici as a master thesis.

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I confirm that I have read and understood the information about study.

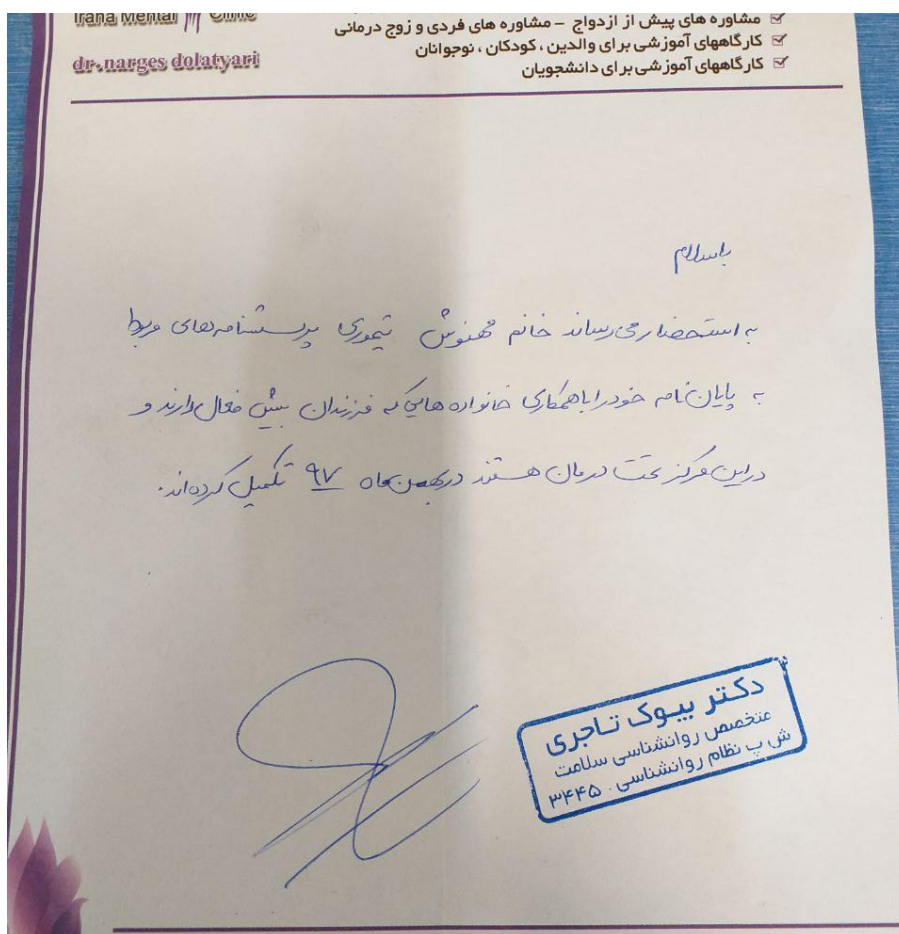
I understand that my participation is voluntary and I am free to stop being part of this investigation.

I am agree to take part in this study

Date & Signature

APPENDIX 5

Clinic permission



شماره ۷۳۲۹۱۷۰ سری ط

ردیف دفتر ثبت



جمهوری اسلامی ایران
مؤسسه تخصصی زبان - اداره مترجمین رسمی

تلفن ۰۲۱-۸۸۴۴۸۹۰۵ و ۰۲۱-۸۸۴۴۸۹۰۶
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Leila Kordi, PhD
Official English Translator to the Judiciary of I.R.I
Translation License No. 1091

**OFFICIAL TRANSLATION FROM PERSIAN
IRANA MENTAL CLINIC**

CERTIFICATION

This is to certify that

Ms. MAHNOUSH TEIMOURI

has completed questionnaires for the thesis in February 2019, using the cooperation of the families with Hyperactive children and treated at the center.

Signed & Sealed by Dr. Biouk Tajeri

True Translation Certified. 3 June, 2019

Dr. Leila Kordi
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شماره پروانه: ۱۰۱۹
Translator to the Judiciary of I.R.I.

BIOGRAPHY

Mahnoush Teymouri was born in 1991 in Iran. She completed her psychology bachelor degree in 2017 at Bahai Institute of Higher Education (BIHE), and started her master education at Near East University in 2017. In this time, she didn't stop for just passing course, so she started to learning some other skill which related to psychology and got some certificate in Child life skill, Montessori education, CBT for children anxiety and some others. Also, she was a teacher of children and teach them some of life skill, how they can serve in society and what they should do in their friendships.

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"Parenting stress and parenting styles in mothers of ADHD with mothers of normal children", Procedia - Social and Behavioral Sciences, 2011.
Publication



Theule, J., J. Wiener, R. Tannock, and J. M. Jenkins. "Parenting Stress in Families of Children With ADHD: A Meta-Analysis", Journal of Emotional and Behavioral Disorders, 2010.
Publication

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Alizadeh, H. "Parental self-confidence, parenting styles, and corporal punishment in families of ADHD children in Iran", Child Abuse & Neglect, 200705
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Hamid Alizadeh. "Interaction of Parenting Styles and Attention Deficit Hyperactivity Disorder in Iranian Parents", Child & Family Behavior Therapy, 10/29/2002
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ETHIC COMMITTEE PERMISSION

23.10.2018

Dear Prof. Dr. Ebru akıcı

Your application titled **“Investigation Of Stress Level And Parenting Style Among Parents Of Children Diagnosed As ADHD”** with the application number YDÜ/SB/2018/278 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Assoc. Prof. Dr. Diren Kanol

Rapporteur of the Scientific Research Ethics Committee



