

MATERNAL PERSONALITY CHARACTERISTICS, AFFECTIVE STATE, AND
PSYCHOPATHOLOGY IN RELATION TO
CHILDREN'S ATTENTION DEFICIT AND HYPERACTIVITY DISORDER
AND COMORBID SYMPTOMS

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NOVEMBER, 2004

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AND COMORBID SYMPTOMS

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ABSTRACT**MATERNAL PERSONALITY CHARACTERISTICS, AFFECTIVE STATE,
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AND COMORBID SYMPTOMS**

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This study aimed to examine the association between specific maternal characteristics (i.e., parents' personality, depression, anxiety, affective state, and coping strategies) and childhood ADHD, Oppositional Defiant Disorder (ODD), and Conduct Disorder (CD) symptoms in children with and without the diagnosis of ADHD. Method: Data was obtained from 231 subjects including mothers of 77 children who were just diagnosed by Child Mental Health Departments of Hacettepe University or IMGE Child Mental Health Center and 154 children without any psychiatric diagnosis, who were receiving education from Nebahat Keskin Elementary School. Among 154 non-diagnosed subjects the ones who match best with the 77 ADHD group participants were chosen, considering ages of the children, income of the family, and education of the mother. Results and Discussion: (1) Psychometric Characteristics of the TBFİ and CARSS were examined. The internal consistency coefficients of the TBFİ varied from .51 (for Agreeableness) to .75 (for Neuroticism) and all subscales of CARSS had

moderate to high degree of internal consistencies ranging from .65 (Conduct Disorder) to .92. (e.g., Attention Deficit). Additionally, concurrent validity of TBFI and criterion validity of CARSS were studied. Results revealed that TBFI had sufficient internal consistency and validity, and also revealed that CARSS was a highly reliable and valid measure, successfully differentiating the diagnosed group from the non-diagnosed group on each subscale. (2) Group differences on maternal characteristics were examined. Compared to non-diagnosed children, children with ADHD had mothers with higher Depression symptoms, higher Negative Affect, higher Neuroticism, lower Positive Affect. (3) Regression analyses, which were conducted separately for each group and the whole group, revealed that different maternal characteristics were associated with symptoms of diagnosed and non-diagnosed children. In general while symptom levels of children, who have ADHD diagnosis, was associated with higher maternal Negative and lower Positive Affect and higher Depression and Anxiety symptoms, and lower Extraversion scores; symptom level of Comparison children was associated more with Conscientiousness. These differences were explained by means of the fit between maternal characteristics and vulnerability, lower tolerance, lower adaptation, and compensation skills of children with ADHD (when compared to Comparison group). Results addressed the importance of maternal factors regarding its association with presence, and the severity of ADHD and comorbid symptoms of children.

Key Words: Attention Deficit, Hyperactivity, Oppositional Defiancy Disorder, Conduct Disorder, Mother Characteristics, Personality, Ways of Coping, Depression, Anxiety, Positive Affect, Negative Affect.

ÖZ**ÇOCUKTAKİ DİKKAT EKSİKLİĞİ HİPERAKTİVİTE BOZUKLUĞU
(DEHB) VE EŞLİK EDEN BELİRTİLER İLE
İLİŞKİLİ OLARAK ANNE KİŞİLİK ÖZELLİKLERİ, DUYGULANIM
DURUMU, VE PSİKOPATOLOJİSİ**

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Bu çalışmanın amacı, DEHB tanısı alan ve almayan çocuklarda belli anne özellikleri (anne kişiliği, duygu durumu, ve baş etme becerileri) ile çocuğun Dikkat Eksikliği, Hiperaktivite, Karşı Gelme - Karşı Olma, ve Davranım Bozukluğu belirtileri arasındaki ilişkiyi incelemektir. Yöntem: Veriler Hacettepe Üniversitesi Tıp Fakültesinin Çocuk Ruh Sağlığı Bölümü ve İmge Çocuk Ruh Sağlığı Merkezinden henüz DEHB tanısı almış 77 ve Nebahat Keskin İlk öğretim Okulunda eğitim gören ve psikiyatrik tanısı olmayan 154 çocuktan oluşan toplam 231 çocuğun annesinden toplanmıştır. 154 tanısız çocuktan, 77 DEHB grubu katılımcıları ile aile geliri, anne eğitimi, çocuğun yaşı bakımından mümkün olduğu kadar eşleşen 77 katılımcı seçilmiştir. Sonuçlar: (1) Türkçe Büyük Beşli Kişilik Envanteri'nin (TBBKE) ve Yıkıcı Davranım Bozuklukları için DSM-IV'e Dayalı Tarama ve Değerlendirme Ölçeği'nin (YDBTDÖ) psikometrik özelliklerine bakılmıştır. TBBKE'nin iç tutarlılığı .51

(Yumuşak Başlılık) ile .75 (Duygusal Dengelilik) arasında değişmiştir. YDBTDÖ tüm alt ölçekleri .65 (Davranım Bozukluğu) ile .92 (örn., Dikkat Eksikliği) arasında değişen, orta ve yüksek düzeyde iç tutarlık katsayıları vermiştir. Ayrıca, TBBKE'nin eşzamanlı geçerliğine ve YDBTDÖ'nin ölçüt geçerliliğine bakılmıştır. Sonuçlar TBBKE'nin yeterli iç tutarlığı ve geçerliği olduğunu ve YDBTDÖ'nin iç tutarlığı yüksek, tanı alan ve almayan iki grubu başarıyla ayırt eden yüksek ölçüde geçerli bir ölçek olduğunu göstermiştir. (2) Anne özellikleri açısından iki grup arasındaki farklılıklar araştırılmıştır. Tanı alan çocukların annelerinde daha yüksek düzeyde depresyon semptomlarına, olumsuz duygulanıma, daha düşük düzeyde olumlu duygulanıma, daha sık oranda nörotik kişilik tarzına rastlanılmıştır. (3) Tanı alan ve almayan her iki grup için ve tüm grup için ayrı ayrı yapılan regresyon analizleri, tanı alan ve almayan gruplardaki çocukların sergiledikleri belirti düzeylerinin farklı anne özellikleri ile ilişkili olduğunu göstermiştir. Genel olarak tanı alan gruptaki çocukların belirtileri, annelerinin yüksek Negatif Duygulanımı, Depresyon ve Kaygı Belirtileri, düşük Pozitif Duygulanımı, düşük Dışa Dönüklük özelliği ile ilişkili olurken; karşılaştırma grubundaki çocukların belirtileri daha sıklıkla ve tutarlı olarak annelerinin Sorumluluk özelliklerinin düşüklüğü ile ilişkili bulunmuştur. Bu farkların DEHB tanısı olan çocukların, tanısı olmayan çocuklara oranla annelerinin bazı özellikleri karşısında daha hassas olmasından, toleransları ve telâfi etme becerilerinin daha düşük olmasından kaynaklanabileceği düşünülmüştür. Sonuçlar DEHB ve eşlik eden belirtilerle ilişkisi açısından anne özelliklerinin önemine işaret etmektedir.

Anahtar Kelimeler: Dikkat Eksikliği, Hiperaktivite, Karşı Olma Karşı Gelme Bozukluğu, Davranım Bozukluğu, Anne Özellikleri, Kişilik, Baş Etme Becerileri, Depresyon, Kaygı.

To My Lovely Family;

My Parents, Fatma and Ziya Evinç,

and My Sister, Yeşim Evinç

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LIST OF ABBREVIATIONS

CARSS: Childhood and Adolescent Rating and Screening Scale

ADHD: Attention Deficit and Hyperactivity Disorder

ADD: Attention Deficit Disorder

HD: Hyperactivity Disorder

ODD: Oppositional Defiant Disorder

CD: Conduct Disorder

PANAS: Positive and Negative Affect Scales

PA: Positive Affect

NA: Negative Affect

TWCI: Turkish Ways of Coping Inventory

PFC: Problem Focused Coping

IDC: Indirect Coping

EFC: Emotion Focused Coping

BDI: Beck Depression Inventory

BAI: Beck Anxiety Inventory

TBFI: Turkish Big Five Inventory

CHAPTER I

INTRODUCTION

She was sitting very upset and hopeless outside the room of the psychologist, waiting for the termination of her son's examination. It was the third school that his son had changed within the last 3 months and they were still experiencing problems even in this recent school. Since this situation had been continuing for a very long period of time, she was about to lose her hopes, and started to believe that it is impossible to expect that some day her son will be a successful person, will behave in a proper way, and will spend full 45 minutes in the class without disturbing either the teacher or the students. She, herself, also had faced the same problems when she was at high school, however her son was different, he was much lazier, naughtier and more uncontrollable. She did not know what she exactly expected from the psychologists, what they could do for such a child, but was only giving the last try. After a certain period of time during which the treatment and the recommended parent education have been applied would she have a different opinion about her son and begin enjoying a lot from the improved interaction between herself and her son.

1.1. ATTENTION DEFICIT AND HYPERACTIVITY DISORDER

Attention Deficit and Hyperactivity Disorder (ADHD) is one of the most prevalently diagnosed disorders in child mental health services (APA, 1994,

Barkley, 1997). It is reported to be the most frequent reason of the referral to the child health services (Barkley, 1996). The high prevalence of the disorder brings about the increasing interest in its etiology and contributions. ADHD is defined as having difficulty in giving attention to the homework or work, and in delaying the wish for doing something else while working on a task, as well as being overactive which can not be considered normal at that development progress. Diagnostic and Statistical Manual of Mental Disorders (DSM – IV; American Psychiatric Association, 1994) denominates this disorder as ADHD and International Statistical Classification of Disease and Related Health Problems (ICD 10, World Health Organisation, 1993) names it as Hyperkinetic Disorder.

The diagnostic criteria for Hyperkinetic Disorder according to ICD 10 (WHO; 1993) are, having inattention, hyperactivity, impulsivity symptoms that was present before age 7 years and that have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level and also exhibiting the combination of inattention and hyperactivity in two or more settings.

The diagnostic criteria for ADHD according to DSM–IV (APA, 1994) are, having either inattention or hyperactivity-impulsivity symptoms that was present before age 7 years and that have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level and also exhibiting these symptoms in two or more settings.

According to American Psychiatric Association (APA, 1994), there are three subtypes of ADHD: Predominantly Inattentive, Predominantly Hyperactive-Impulsive, and Combined.

PREDOMINANTLY INATTENTIVE: The symptoms of attention deficit are dominant and enough to be diagnosed while the symptoms of hyperactivity do not exist or are not strong (notable) enough to make the diagnosis.

PREDOMINANTLY HYPERACTIVE-IMPULSIVE: Symptoms of hyperactivity and impulsivity are dominant. Symptoms of attention deficit may exist but they are not diagnosed.

COMBINED: Symptoms of both hyperactivity and attention deficit exist and are diagnosed.

Predominantly hyperactive-impulsive children, when compared to predominantly inattentive children, are recognized in younger ages such as preschool years, while majority of inattentive children are diagnosed in school years or never recognized (Blum & Mercugliano, 1997).

1.2. PREVALENCE AND MANIFESTATION

According to the estimates of American Psychiatry Association (1994), 3 – 5% of the school age children suffer from ADHD. The estimated female – male ratio is approximately 1/ 4 (APA, 1994). Studies support this estimation by indicating that ADHD is more prevalent among boys (Öktem & Sonuvar, 1993). Kent and Craldock (2003), have reported the frequency of ADHD as 5 – 9%

among school age children and have indicated that it was seen among boys three times more than among girls. According to the statistical data of Ministry of National Education, there are 16 million students receiving education in elementary schools (Sürücü, 2003). Depending on this data, Sürücü (2003) estimated that there were around 1 million students suffering from ADHD in Turkey. As Sürücü (2003) also mentions, the difference between this estimation and the number of application to child mental health services in Turkey shows that ADHD is not a well-known disorder and still many children having ADHD are not recognized and are labeled as lazy or naughty.

Öktem (1993) has reported that the frequency of ADHD among the girls of age between 4 and 12 was 4% and the same percentage among boys was 10%. The higher ratio observed in boys may derive from genetic factors either determining the existence of ADHD or determining the primarily exhibited, dominant symptom. Thus, girls may tend to exhibit inattentive symptoms primarily and may not be recognized easily. Wodushek (2003), in his study with 45 participants, could not find any relation between severity of ADHD symptoms and age or gender but reported that education was negatively correlated with ADHD.

ADHD is seen as a great risk for antisocial behaviors (Loeber, 1991). Manuzza et. al. (1991) conducted a follow up study concerning 94 hyperactive boys selected among the patients who were evaluated in a no-cost psychiatric clinic between the years 1970 – 1977 and 78 normal controls. Their results revealed that participants who had an ongoing ADHD diagnosis tended to develop

antisocial disorder, and substance abuse (Manuzza et. al., 1991). Studies indicate that the majority of criminal youth suffer from ADHD and hyperactivity is a strong criminogenic factor (Dalteg, Lindgren, & Levander, 1999). Dalteg and Levander (1998) have found hyperactivity to be an important predictor of poor outcome among juvenile delinquents.

Though ADHD was thought to be a childhood disorder which ends through adulthood, in recent years there is a growing consensus among the researchers and clinicians about the idea that individuals keep on suffering from ADHD in adolescence and in adulthood as well (Manuzza, Klein, Bessler, Malloy, & La Padulla, 1998). Studies indicate that 80% of the children having ADHD still exhibit similar symptoms in adolescence, a period of particular stress and impairment (Weiss & Murray, 2003). Öktem (1996) has reported that the estimated prevalence of ADHD among adults is 2%, this means that while 50% of the adults leave their ADHD symptoms behind, other 50% continue suffering from this disorder and this prevalence also shows some differences between women and men (2%, and 5% for women and men respectively). Studies report that among the ones who have a childhood history of ADHD, 50 – 80% of the adolescents and 30 –50% of the adults go on suffering from ADHD (Barkley, Dupaul, & McMurray, 1990). Based on these findings, the researchers try to find the answer of how ADHD is manifested in adulthood.

Depending on the Utah adult ADHD research group's studies, Wender (2000) defines the adult ADHD characteristics as:

- Motor hyperactivity
- Attention deficits
- Affective lability
- Hot temper, explosive, short – lived outbursts
- Emotional overactivity
- Disorganization, inability to complete tasks
- Impulsivity
- Associated symptoms (eg. Academic problems – independent of IQ level, social problems, relationship problems, marital problems, alcohol - substance dependence)

Researchers have indicated that childhood ADHD is associated with poor adult psychosocial life conditions (Dalteg, Lindgren, & Levander, 1999). Results of these studies reveal various ways that adults manifest their symptoms: Among them there are adjustment and employment problems, relationship difficulties, car accidents, and other psychiatric complications (Manuzza & Klein, 1999). It is suggested that even the individuals who do not carry on a diagnosable ADHD to adulthood, manifest subthreshold problems like inattention, impulsivity, mood disorders, and other adaptation or health problems (Nigg, John, Blaskey, Pullock, & Willcut, 2002).

These problems result in leaving the school, having problems in marriage, low social abilities, lack of attention in traffic, smoking habit, insufficiency at work, lower socio-economic status, poor planning skills, and higher risk of distress disorders (Borland & Heckman, 1996; Gittelman, 1985; Barkley, Murphy, & Kwasnik, 1996; Nigg et. al., 2002; Manuzza & Klein, 1999). Fones and Pollack (2000) have found that among 85 adult participants of their study who had panic

disorder, 23.5% had had significant ADHD features in childhood, 9.4% had had threshold ADHD problems in childhood and subthreshold ADHD problems continued in 65% of the participants. Biederman et. al. (1994) have indicated that ADHD predicts emergence of psychopathology in later life. Among the adults who need therapy for ADHD symptoms the ratio of substance abuse, and dependency is reported as 52% though it is 17-27% in normal population (Reiger et. al., 1990, Wilens et. al. 1995, Kessler et. al., 1996). A study revealed that 52% of the adults with ADHD had shown symptoms of antisocial personality disorder (Levin et. al., 1998). Briefly, ADHD is a great risk factor for other psychopathological symptoms such as antisocial disorder, criminal acts, furthermore, it is a predictor of poor outcome and poor psychosocial life conditions. However, we still lack the knowledge about the factors predisposing, intensifying, and maintaining ADHD.

1.3. COMORBIDITY

ADHD is shown to be related to many other disorders. 2/3 of children having ADHD have some additional symptoms (Öktem, 1996). As evidence has been found regarding the existence of ADHD in adults, the relation of ADHD with affective and anxiety disorders became point of interest. It has been reported that compared to boys, while the rates of severe behavior disturbances were lower; cognitive impairment, depression and low self-esteem were observed more frequently among girls (Faraone, Biederman, Keenan, & Tsuang, 1991). Biederman (1997) indicates that at least 50% of children with ADHD exhibit one

or more comorbid disorders in a life time period. A study conducted in ADHD Research and Education Center in Canada concerning 137 ADHD children aged between 3 – 18, indicated that 29% of ADHD children did not have any additional diagnosis, while 35% had one, 25.5% had 2, and 8% had 3 additional diagnosis. There was no difference between girls and boys on having an additional diagnosis (Erman, Turgay, Öncü, & Urdavic, 1999).

The high prevalence of comorbidity observed in ADHD samples seems to be of importance. The factors underlying this prevalence are not well understood. ‘What determines the development of a disorder comorbid to ADHD?’ It may be the overlap of symptoms (i.e., inattention and overactivity) between ADHD and such other disorders as mania and depression. This overlap may even cause a misdiagnose. Another possible factor is a probable predisposing role of ADHD in many ways (e.g., determining the relationship of the proband with environment, effecting the parent child interactions, causing the managing difficulties). There may also be some common factors underlying both ADHD and the comorbid disorders, such as psychosocial, physiological, genetic, or environmental vulnerabilities. All these ambiguities point to our lack of understanding of the etiology, which also affect the development of effective intervention programs.

1.3.1. OPPOSITINAL DEFIANT DISORDER (ODD)

Oppositinal Defiant Disorder (ODD) is defined as having negativistic, hostile, or defiant acts that hinder functioning in academic, occupational, or social domains (APA, 1994). 35-65% of children with ADHD exhibit comorbid ODD (Öktem, 1996). Onset of this disorder is generally observed at age 8 and it

decreases after adolescence (Sürücü, 2003). The prevalence of comorbidity of ODD and Conduct Disorder (CD) was found to be around 35% (Anderson et. al., 1987, Biederman et. al., 1990, Faraone et. al. 1991). According to some studies, oppositional behavior and substance abuse disorders are seen more prevalently among people with ADHD as compared to control group (Murphy & Barkley, 1996).

The ratio that ADHD overlaps with conduct disorder and oppositional defiant disorder is reported as 40 – 95% (Turgay et. al., 1994; Faraone et. al., 1995). The high prevalence of comorbid ODD and ADHD may derive from some common genetic factors, the characteristics of ADHD such as being a vulnerability factor for behavioral disorders because of the association with poor interpersonal relationships, or may derive from the characteristics of mothers of children with ADHD who have difficulty in catching the social cues.

1.3.2. CONDUCT DISORDER (CD)

Conduct Disorder (CD) is defined as having persistent antisocial acts in children and adolescents which can be clustered in four areas: aggression to people and animals, destruction of property, deceitfulness and theft, and serious violations of rules. It has two subtypes; among which the first one starts in childhood, and second one starts in adolescence (Sürücü, 2003). 20-45% of children with ADHD show symptoms of conduct disorder (Sürücü, 2003). In a study, this ratio was found as 30% (Biederman, Newcorn, & Sprich, 1991). Milberger et al. (1995) also indicated that the prevalence of CD among children with ADHD was 30 – 50 %. In a study conducted in Turkey comorbidity between

ADHD and CD is reported as 54% (Şenol, 1997). Majority of the ADHD subjects with comorbid CD, tended to have an additional ODD (Biederman, Faraone, Milberger, Jetton, Chen, Mick; Greene, & Russel, 1996).

Because of the high comorbidity of CD with ADHD and the difference between diagnostic systems; it is discussed whether they are features of a separate category of disorder (i.e., ADHD+CD) or they are different disorders, which occur together frequently (Taylor, 1994). Compared to ADHD children, ADHD + CD and CD children seem to have more demographic correlates; and compared to CD children ADHD + CD and ADHD children have more developmental delay (Szamatri, Boyle, & Offord, 1989). Milich et al. (1982) have considered aggression and hyperactivity as two externalizing disorders and investigated the associations between them and supported the validity of the differentiation of these two externalizing dimensions. Faraone et. al. (1997) indicated that ADHD alone and ADHD + CD/ APD (Anti-Social Personality Disorder) are different disorders and though ODD and ADHD can be observed among the relatives of participants with ADHD, CD was observed only among the relatives of participants with CD or comorbid ADHD and CD. Lilenfeld and Waldman (1990) reviewed many studies investigating the association between childhood ADHD and antisocial personality disorders and reported that ADHD is associated with APD. The results of these studies show that it is important to understand the factors determining the prognosis of ADHD. We may summarize the possible ways suggested to explain comorbidity and diagnostic overlap in three items: 1- ADHD is a predisposing factor (Szamatri, Boyle, & Offord, 1989) 2- ADHD is an

early and less severe form of CD (Biederman, Newcorn, & Sprich, 1991) 3- There are common factors underlying the etiology of both disorders (Szamatri, Boyle, & Offord, 1989; Biederman, Newcorn, & Sprich, 1991). Among all these, the second one is shown to be more probable for girls while the others are shown to be more probable for boys and it has been suggested that compared to non-ADHD children the ratio of exhibiting CD was higher in ADHD children and compared to ADHD girls CD was higher in ADHD boys (Szamatri, Boyle, & Offord, 1989).

1.3.3. LEARNING DISORDERS

20 - 35% of ADHD children are also diagnosed as Learning Disorders. These children have great difficulty in reading, writing, and arithmetic although they have no problem with their IQ (Sürücü, 2003). Biederman et. al. (1991) indicated that 10% of ADHD children exhibit symptoms of Learning Disorders. Studies showed that 25 – 40% of ADHD children exhibit comorbid Reading Disorder (Dykman & Ackerman, 1991) and 15 – 35% of RD exhibit comorbid ADHD (Willcut & Pennington, 2000). Results of a study indicated that ADHD was an inhibitory deficit, Reading Disorder (RD) was related with deficits on measures of phoneme awareness and verbal working memory and the most impaired group on phoneme awareness and executive functioning measures was the group with comorbid RD and ADHD together (Willcut, Pennington, Boada, Ogline, Tunick, & Chabildas, 2001).

1.3.4. DISTRESS DISORDERS

Among people with ADHD, prevalence of mood disorders was found as 24% (Milberger, Biederman, Faraone, Murphy, & Tsuang, 1995) and prevalence of anxiety disorder was reported as 26% (Öktem, 1996). In a study investigating the comorbid disorders to ADHD, it was reported that 25% of people with ADHD suffer from anxiety disorders and 15 – 75% of them suffer from mood disorders (Biederman, Newcorn, & Sprich, 1991). A study conducted in Turkey reported that the prevalence of comorbid depression and anxiety among Turkish ADHD population is 7.6% and 3.8%, respectively (Şenol, 1997).

In their review study Kent and Craddock (2003) have reported that 57 to 100% of children with Bipolar Disorder exhibit symptoms of ADHD defined by DSM III –R and 11% - 22% of ADHD diagnosed children exhibit Bipolar Symptoms (Kent & Craddock, 2003). Biederman et. al. (Biederman, Faraone, Milberger, Jetten, Chen, Mick, Grene, & Russel, 1996) have conducted a four year follow up study with 128 ADHD children and 120 normal control and indicated that there was a great increase in the prevalence of Bipolar disorder among ADHD children. Thus, since the genetic, biological and brain related factors do not show a great change by age it can be concluded that the increase in the prevalence of the comorbid disorder most strongly stem from environmental factors. Hence, there seems to be a great need to understand the environmental factors affecting the prognosis.

Results of the same study also indicated that the risk for major depression was higher for ODD + CD + ADHD than for ODD + ADHD but for both

conditions the risk for Major Depression was higher than for ADHD alone. O'Connor et. al. (1998) revealed that the antisocial behavior (which is shown to be frequently comorbid to ADHD) and depression symptoms were correlated with each other and 45% of the covariation could be explained by a common genetic liability. In addition to possible shared genetic factors, the symptom overlap (symptoms like inattention and rigidity) between these disorders may lead them to occur frequently together or the consequences of one (such as poor interpersonal relationships) may lead to the other.

1.3.5. TIC DISORDERS

Tic is a rapid, involuntary, sudden, recurrent, nonrhythmic, stereotyped motor movement or vocalization (APA, 1994; WHO, 1993). In Tourette's Disorder the criteria are the existence of multiple motor and one or more vocal tics at some time during the illness, occurrence of tics many times a day, nearly every day or intermittently throughout a period of more than 1 year, never having a tic free period of more than 3 consecutive months and having onset before age 18 (DSM - IV, ICD - 10). 50 - 70 % of Tourette Disorder is reported to be comorbid with ADHD (Sürücü, 2003).

Thus it can be concluded that the prevalence of comorbidity is very high for ADHD and the disorders that are reported to frequently occur comorbid with ADHD vary on a wide range. These results clearly indicate that ADHD is a great risk factor for both the present and future psychosocial life. Therefore, it seems very important to understand the etiology of ADHD in order to determine the

factors underlying having ADHD diagnosis, underlying the severity of symptoms that the child exhibits, and underlying the comorbidity.

1.4. ETIOLOGY

Despite the great concern for the etiology of ADHD, researchers indicate that there is no specific reason of ADHD, but there are many conditions observed to contribute to this disorder, for example; genetic, biological, brain related, and environmental contributions.

1.4.1. GENETICS – BIOLOGICAL – BRAIN RELATED FACTORS

Researchers investigating the genetic factors contributing to ADHD focus on twin studies (e.g., Gilger, Pennington, & Defries, 1992; see Bradley & Golden, 2001 for a review). The monozygotic twins show 80% concordance, same sex dizygotic twins show 30%. Family studies give evidence to genetic factors underlying this disorder, by indicating that 10-35% of family members of children with ADHD exhibit the same disorder (Bradley & Golden, 2001).

Family genetic studies revealed that children with ADHD and their relatives were at an increased risk for both ADHD and other psychopathologies (Milberger, Biederman, Faraone, Murphy, Tsuang, 1995, Faraone et. al. 1991). Faraone et. al. (1991) indicated that the risk for ADHD, Antisocial Disorders, Major Depression, and Anxiety Disorders was higher for the relatives of the girls with ADHD than normal comparison girls (Faraone, Biederman, Keenan, & Tsuang, 1991).

The role of dopaminergic neurotransmitter system has been extensively studied (e.g., Swanson, et. al., 2001; Sagvolden & Sergeant, 1998) DAT1, DRD2,

DRD3, DRD4 and DRD5 are the dopamine related genes which are thought to have an essential role in the core symptoms of ADHD (Sagvolden & Sergeant, 1998; Muglia et al., 2000; Kirley et. al., 2002). Bradley & Golden (2001) state that drugs like methylphenidate lessen the ADHD symptoms by increasing synaptic dopamine and this is interpreted by Bradley and Golden (2001) as an evidence to the hypothesis asserting that the hypodopaminergic functions and ADHD symptoms are related to each other (Bradley & Golden, 2001).

Kirley (2002) reported studies showing evidence for the association between the DRD4 and novelty seeking which is also a characteristic of ADHD. Cadoret et. al. (2003) have investigated the relation between serotonin transporter-linked promoter region and ADHD, conduct disorder, aggressivity, externalizing behavior in adoptee and reported that variant of 5HTTLPR was associated with increased externalizing behaviors in individuals with antisocial biological parentage and male individuals have more vulnerability to have conduct disorder and aggressivity.

According to cognitive energetic model (van der Meere, 1996) children with ADHD have difficulties in regulating their response organizations and motor outputs. Converging evidence implies the existence of lesions in some areas of brain. Studies made to detect the brain dysfunctions report abnormalities in prefrontal, parietal, and temporal lobes, caudate nuclei, corpus collasum, cerebellum of ADHD children and reduction in volumes of either the whole brain or its specific areas (Tannock, 1998; Sürücü, 2003).

Durston et. al. (2003) have made a study with 14 right-handed children comprising of 7 control and 7 DEHB (3 inattention, 4 incombined). They have investigated the striatal activation pattern of these children by using fMRI under a go/nogo task. According to their results, while performing the given task children having normal development use a network including ventral frontostriatal regions, on the other hand children with ADHD use a more complex network including posterior regions of inferior parietal lobe, posterior cingulate and dorsolateral prefrontal regions (Durston et. al., 2003). Both children and adults with ADHD are thought to have difficulty in inhibiting their behaviors (Nigg, 2001). Durston et. al. (2003) have made a study using 'event related fMRI' with a go/nogo paradigm. Their results show that ADHD children have more difficulty than controls under the increasing intrusion effect of go task before a nogo task.

Whether ADHD is a disinhibitory disorder or not is an issue of debate. Wodushek and Newmann (2003) indicate that behavioral inhibition is a critical cognitive variable in explaining ADHD symptoms. Researchers investigate if the rapid and impulsive behaviors of children result from excessively strong impulse or inefficient inhibition of the impulse (see Nigg, 2001 for a comprehensive review). Executive functions of people with externalizing disorder is extensively studied and found to be associated with their diagnosis (Nigg, 2001). In accordance with these findings there is some evidence obtained about the existence of impairment in the executive functions of ADHD people and inhibitory problems are emphasized (Barkley, 1997). Barkley (1997) in his comprehensive review study reports that 4 executive neuropsychological

functions are linked with inhibition: (a) working memory, (b) self-regulation of affect–motivation–arousal, (c) internalization of speech, and (d) reconstitution (behavioral analysis and synthesis). Barkley (1997) also states that children with ADHD, exhibit deficits most strongly on behavioral inhibition, working memory, regulation of motivation, and motor control. Executive functions are reported to denote an assembly or summary of psychological processes involved in organization (Johansen et. al., 2002). Studies indicate an association between executive functions and ADHD independently from comorbid conditions (Nigg, Carte, Hinshaw, & Treuting, 1998). Eslinger (1996) counts the following behaviors as the six characteristics of executive functions: limiting the behavior, flexibility, obtacling the answers, self control, planning, and ordering which seem to be close to the symptoms of ADHD (cited in Öner & Aysev, 1999). Öner and Aysev (1999) report that 15 of 18 studies determined executive function deficit in ADHD children. Understanding the associations between executive functions and ADHD seem to be important because persistence of executive motor inhibition deficits are associated with persistence of ADHD symptoms into adulthood (Nigg, Buttler, Huang – Pollack & Henderson, 2002).

Symptoms of ADHD are thought to be related with lesions of prefrontal lobe, caudate nucleus, basal ganglions, parietal lobe, and cerebellum. In a review study, Bradley and Golden (2001) report that the data of the psychophysiological measures are inconsistent with each other: Some indicate diminished central nervous system in ADHD children as a result of dysfunction in the prefrontal region, the reticular activating system and /or their interconnective fibers. Others

indicate that children with ADHD show increased beta wave activity in the left hemisphere as a result of those children's being over aroused in comparison to control subjects.

Epstein et. al. (1997) indicated that, when compared with right visual field, children having ADHD differ from controls by showing less attention to the objects in the left visual field and interprets this result as supportive to the hypothesis asserting posterior right hemisphere involvement.

Despite the findings of genetic studies, in his review study, Joseph (2000) indicated that the results of these studies, which reveal an important role for genetic factors, can be explained by environmental factors and concluded that a role for genetic factors is not supported and that future research should be directed toward psychosocial causes. Even if a role for genetic factors cannot be neglected completely it can be concluded that the results of studies about genetic, biological and brain related factors of ADHD vary on a large scale and generally are related to the behavioral problems in ADHD. This brings the question that; whether these factors are related to specifically ADHD or generally to the externalizing disorders. These factors are shown to be associated with the presence of the behavioral problems but it is also questionable if they have a role on the symptom severity. Another doubtful point arises from the comorbid disorders frequently observed with ADHD: 'are some of these genetic, biological, or brain related factors associated with ADHD or associated with other disorders that frequently accompany ADHD?'

1.4.2. PSYCHOSOCIAL AND ENVIRONMENTAL FACTORS

A study made in Child Mental Health services of Hacettepe University, Turkey, revealed that 20% of the children with ADHD were premature babies (Öktem, 1996). The period of taking mother milk is indicated to be shorter in boys with ADD (approximately 5.5 months), and ADHD (approximately 1 – 2 months) compared to normal comparison group (Öktem & Sonuvar, 1993). The roles of feeding, vitamins, and dyes containing lead are being investigated in the etiology of ADHD. Foodstuffs are also thought to be associated with ADHD (Feingold, 1976). Some researchers suggest that children with ADHD have a tendency to allergic disorders (McGee et. al. 1993).

Adverse family environment (low socio-economic status (SES), marital problems or mental disorder of parents, having a criminal parent...etc) has been shown to increase risks for child ADHD (Rutter & Quinton, 1977). Researchers also stated that there were different interactions between the ADHD children and their parents (Öktem, 1993) especially the interaction between hyperactive adolescents and their parents was much worse (Barkley, et. al.,1991). Results of some studies indicate that mothers of ADHD children were more controlling, authoritative and punishing (Cunningham & Barkley, 1979; Hechtman, 1981, 1996). These results may be interpreted either as low parenting skills leading to ADHD symptoms of children or as having ADHD children raising difficulties in parenting, or both. McCleary and Ridley (1999) stated that parent education program is one of the treatments used in order to reduce the negative sequella of ADHD. Researchers also indicated that parents who participated in their

intervention programs reported improved parenting skills that help them in managing their children with ADHD. Biederman, Milberger et. al. (1995) stated that the environmental factors predicted the poor prognosis of ADHD more than the disorder it self. However, results of the study conducted by Pekcanlar et. al. (1999) did not reveal any dysfunction in family factors in their sample consisting of different age groups, except for some communication and control problems they observed in the 9 – 14 age group.

While the unshared environment can be shown as an underlying cause of HD, shared environment (Nigg & Hinshaw, 1998) was also shown as one of the underlying factors for antisocial behaviors and comorbid disorders of children with ADHD (Edelbrock, Rende, Plomin, & Thompson, 1995; Nigg & Goldsmith, 1998). In accordance with this, a great number of psychopathologies are shown to be more common among the relatives of ADHD children especially among parents compared to relatives of normal comparison samples (Faraone et. al., 1991; Biederman, Faraone, Keenan, & Tsuang, 1991; Biederman, Faraone, Keenan, Steingard, & Tsuang, 1991; Biederman, Faraone, Keenan, Knee, & Tsuang, 1990; Frick et. al., 1995). The reason underlying the great number of psychopathology of either the ADHD proband or the relatives of ADHD proband is still an issue of debate. As parental characteristics, such as personality and psychopathology, are thought to play a great role on the psychosocial development of the child through many ways such as modeling, effecting the child parent interactions; it seems as an important issue to understand. However in order to increase our understanding of this relationship, it seems useful to examine this issue under broader topics.

1.5. PERSONALITY AND PSYCHOPATHOLOGY

1.5.1. PERSONALITY

Personality is often defined as the consistent patterns of thoughts, feelings and actions that people demonstrate (Maddi, 1989 cited in Digman, 1996). Allport (1937) defines personality as a dynamic organization. According to Allport (1937) individual is made up of psychophysical systems, which help him/ her shape his/ her relationships with environment and make his/ her unique adjustment to it. According to Nathan (1988), characteristics of personality traits are being internal, unique, active, enduring, causal and integrating. Ebert et. al. (2002) define personality as stable and distinctive traits of an individual.

The concepts which are used common in different definitions of personality are unique, active, stable, organized, enduring, consistent over time and situations (Sherr & Trull, 1994, Watson, Clark, Harkness, 1994) with special emphasis on stability by means of its association with psychopathology (Costa & McCrae, 1986).

In recent years personality has been explained by a number of broad levels. H. J. Eysenck (1967; S. B. Eysenck, Eysenck, & Barret, 1985) has suggested three factors of personality, namely extraversion, neuroticism, and psychoticism. Later five broad levels were suggested by five-factor model, which received higher acceptance than three-factor model (Costa & McCrae, 1992; Goldberg, 1993). Five dimensions of the Five Factor Model are described as follows:

Extraversion: Deneve and Cooper (1998) define extraversion as the quantity and intensity of relationships, energy level, positive emotionality, and excitement seeking. According to Ebert, Tucker, and Roth (2002), extraversion states how much a person is sociable and assertive.

Openness: Openness is a factor measuring how much a person is curious, interested, original, imaginative, and inventive and how much s/he likes having new experiences including high-risk behaviors. (McCrae, 1996; Ebert, Tucker, Roth, & 2002).

Neuroticism: Neuroticism is defined as the extent of having a tendency to experience negative emotionality (Costa & McCrae, 1992; DeNeve & Cooper 1998; Ebert, Tucker, Roth, 2002).

Agreeableness: Agreeableness is defined with high relationship quality, extent of being tender mindedness and having characteristics related to interpersonal relations such as altruism, empathy, warmth, trust, eagerness to help, and compliance (Costa & McCrae, 1992; DeNeve & Cooper, 1998, Ebert, Tucker, & Roth, 2002).

Conscientiousness: It is defined as the extent of having goal directed, control related traits; being purposeful, strong willed and determined, well organized, responsible, performing tasks, projects and assignments in an efficient, diligent and self controlled way (DeNeve & Cooper, 1998; Ebert, Tucker, Roth, 2002; Nigg, John, Blaskey, 2002).

1.5.2. THE RELATIONSHIP BETWEEN PERSONALITY AND PSYCHOPATHOLOGY

The relation between personality and psychopathology is frequently questioned in literature. Since personality is a factor determining individual differences and since psychopathologies are some sort of these differences, increasing our knowledge about the association between personality and pathology will help us to understand the diathesis and structure of pathology (Watson, Clark, & Harkness, 1994). Researchers discussed the direction of this relation. There are different hypothesis about how the personality and psychopathology are related with each other.

1- Personality is a vulnerability factor for psychopathology in various ways: (Clark, Watson, & Mineka, 1994; Sher & Trull, 1994).

a- Shaping environment (Clark, Watson, & Mineka, 1994)

b- Shaping cognitions, affects, and behavior that are the components of psychopathology when deformed (Sher & Trull, 1994)

c- Congruency Hypothesis: Congruency hypothesis depends on diathesis – stress interaction that is frequently studied in past decades. According to congruency hypothesis some personality characteristics may serve as a vulnerability factor (e.g. Robins, 1990; Blatt & Zuroff, 1992; Segal, Shaw, Vella, & Katz, 1992).

When the person engages in a matching life stress with his/her vulnerability, s/he exhibits a psychopathology. For example, interpersonal stressors matched with sociotropic characteristics or achievement related stressors matched with autonomous characteristics may lead to the development of depression (Kwon &

Whisman, 1998). Kwon and Whisman (1998) suggest that the severity of the interpersonal stressors and achievement related stressors were equally related with sociotropy while achievement related events had higher associations with autonomy.

2- Personality is affected from psychopathology in various ways:

a- It may be a result of the effort people make for compensating and adapting (Clark, Watson, & Mineka, 1994).

b- Having a psychopathology may result in some changes in personality (Clark, Watson, & Mineka, 1994; Maher & Maher, 1994). The study of Sher and Trull (1994) with alcoholics seems to support this hypothesis. Their results indicated that people score high on extraversion related traits such as gregariousness, assertiveness before being alcoholic and they score high on introversion after being alcoholic (Jones, 1968).

3- Both are affected from each other simultaneously (Fernandez & Kleinman, 1994). Recently somatopsychological approach, which suggests simultaneous mind – body distress, receives more acceptance than differentiating the disorders as organic and psychological (Kleinmann, 1988).

4- There may be some common factors underlying both psychopathology and personality:

a- **Genetic Factors:** Eysenck (1956) stated that personality traits are heritable and represent important risk factors for psychopathology. Genetic findings support the existence of possible association between ADHD and personality (Nigg & Goldsmith, 1998). There are researches indicating a ratio of %30-60 for

the role of genetic on the personality characteristics of adults (Carey & Dillalla, 1994). Many personality traits and psychopathology types are shown to be associated with gender (Costa & McCrae, 1992; Sher & Trull, 1994). For example, while women seem to carry on characteristics like ruminative style and neuroticism more frequently, and have higher scores on distress disorders (Nolan, Roberts, & Gotlib, 1998), men seem to be more impulsive and have higher scores on ADHD, APD - CD (Dykman & Johl, 1998).

b- **Biological and Brain Related Factors**: Studies made for identifying the biological or the brain related factors underlying the psychopathology and the personality show that there may be some common factors such as the; (1) the brain systems hypothesized by theorists like Gray (1981) and Cloninger (1986) (behavioral activation system, behavioral inhibition system, novelty seeking), (2) executive functions and (3) motivational system functions (Glass & Stanislav, 1997; Nigg 2000, 2001).

c- **Environmental Factors**: Both personality and psychopathology may result from the same environmental factors (Sher & Trull, 1994). Depression and anxiety symptoms of the child are related with parental criticism, rejection, intrusiveness, lack of warmth (Garber, Robinson, & Valentiner, 2000) and parental inferential feedback (Alloy, Abramson, Tashman et. al. 2001). Living with a mother having psychopathology such as depression may also be a vulnerability factor (Kuyken & Brewin, 1999, Murray, Woolgar & Cooper, 2001). It may result in maladaptive learning experiences and according to Garber, Robinson, & Valentiner (2000) "maladaptive learning experiences with early

attachment figures may lead to dysfunctional assumptions of low self worth and blaming one's character for negative event" both of which are observed in some of the pathologies and personality characteristics commonly.

1.5.3. DISTRESS DISORDERS AND PERSONALITY

Distress disorders have a high comorbidity with ADHD and are prevalent in the relatives of ADHD children. Personality is also a factor frequently indicated to be associated with psychopathology, especially with distress disorders. Therefore, when the aim is to understand the association between parent personality and ADHD, the association of parental distress with both factors must be taken into consideration. Researchers suggest that personality traits and psychological distress and dispositions are associated (Alloy & Clements, 1998; Dykmann & Johll, 1998; Kwon & Whissmann, 1998; Kuyken & Brewin, 1999; Finch & Graziano, 2001; Voelz, Gencöz, Gençöz, Petit, & Joiner, 2001). Investigating this association is considered to be important in understanding the diathesis and the construct of the psychopathology (Watson, Clark, & Harkness, 1994). In this regard, various personality factors including cognitive personality factors are shown to be associated with distress disorders; these are: hopelessness, interpersonal sensitivity, low self esteem, autonomy – sociotropy (Kwon & Whissmann, 1998; McCabe, Blankstein, & Mills, 1999), perfectionism (Norton, Buhr, Cox, Norton, & Walker, 1999), sense of coherence (Edwards & Besseling, 2001), commitment, control, challenge (Kosaka, 1996), five personality dimensions of the Big Five model (Costa & McCrae, 1990).

Among the distress disorders depression has a prevalence of 4-6% and it is shown to shorten the women's life at least 15 years and men's life 11 years (Soykan, 2001). According to the hopelessness theory -based on helplessness theory- hopelessness, which is defined as 'expectation that loss of highly desirable outcome will occur and expectation that nothing is going to change this situation for better' is a cognitive personality type that was shown to be associated with distress disorders (Alloy, Abramson, Metalsky, & Hartlage, 1988; Abramson, Metalsky, & Alloy, 1989; Metalsky & Joiner, 1992). It is suggested that when the negative attributional style interact with highly negative experiences, some individuals become vulnerable to become hopeless and develop symptoms of distress disorders (Metalsky & Joiner, 1992; Alloy & Clements, 1998).

Watson, Clark, and Harkness (1994) argue that there are two independent emotional states of people; Positive Affect (PA), and Negative Affect (NA). Among these dimensions low levels of PA (refers to active enjoyment of life) is generally found to be specific to depression and correlated with low extraversion; NA (refers to feelings such as stress, fear, and anger) is generally found to be a general factor related with both depression and anxiety and positively correlated to neuroticism (Joiner, 2000).

Low premorbid PA is shown to be a risk factor and a sign of poor prognosis (Joiner, 2000). Clark et. al. (1994) indicated that the dimension, which they called Negative Affect/ Neuroticism (NA/ N), could be a vulnerability factor for both negative prognosis of the disorder and being negatively affected from the disorder.

Sense of coherence (SOC) is a new concept, suggested by Aaron Antonovsky (1979, 1983, 1993) and defined as ‘a stress-buffering factor, not a coping strategy itself but the quality of choosing the best coping strategy and composed of three dimensions: Comprehensibility, Manageability, Meaningfulness’ (Sandell, Blomberg, & Lazar, 1998; Antonovsky & Sagy, 2001). Researchers have shown that it played a stress-buffering role and predicted the life quality of hospitalized patients (Edwards & Besseling, 2001; Germeno, Misajo, Cummins, 2001). SOC is reported to have positive correlations with extraversion and general well being, and negative correlations with neuroticism (Loon, Tishuis, Surtees, & Ormal, 2001; Ebert, Tucker, & Roth, 2002).

Attributional style and perfectionism are also shown to be vulnerability factors for distress disorders (Dean & Range, 1999; Norton, Buhr, Cox, Norton, & Walker, 1999; Garber, Robinson, & Valentiner, 2000). Especially attributing negative events as internal, stable and global is found to be highly frequent in depressive or anxiotic people (Garber, Robinson, & Valentiner, 2000).

Among three subtypes of perfectionism -self-oriented, others oriented, socially prescribed- while socially prescribed perfectionism is consistently shown to be positively correlated with distress disorders (Dean & Range, 1999; Norton, Buhr, Cox, Norton, & Walker, 1999), there are contradictory results about the association of self – oriented perfectionism and distress disorders some indicate that there is positive association between them (Blatt, 1995) while some indicate that there is no association (Dean & Range, 1999). In addition some others reveal that self-oriented perfectionism negatively predicts distress disorders (Norton, Buhr, Cox, Norton, &

Walker, 1999). Norton et. al. (1999) state that this difference between these two subtypes may stem from a possible adaptive role of self-oriented perfectionism (Norton, Buhr, Cox, Norton, & Walker, 1999).

The five-factor model of personality was developed through factor analysis of personality adjectives (Digman, 1990; John et. al., 1991; Goldberg, 1993) and shown to have strong empirical support (Costa & McCrae, 1992). Among all five dimensions of personality, extraversion and neuroticism take the greatest interest in recent literature (Ebert, Tucker, & Roth, 2002; Somer & Goldberg, 1999). Somer (1998) indicated that extraversion was associated with positive emotions, good interpersonal interactions; and neuroticism was associated with negative emotions and poor coping.

Researchers using higher order personality traits have generally indicated that distress disorders have positive correlations with neuroticism (Williams, 1990; Larsen, 1992; Fisher, 1993; Goodyear, 1993) and negative correlations with extraversion (Williams, 1990; Costa & McCrae, 1990; Watson, Clark, Harkness, 1994; Saklofke, Kelly and Janzen, 1995; Finch & Graziano, 2001). Behind these direct effects there is some evidence that there may also be some other factors, which mediate the associations between neuroticism and extraversion. For example, Finch and Graziano (2001), in their mediational model, reported that negative social exchange and social support are significant mediators of neuroticism and depression relationship, while the association between extraversion and depression was mediated by only social support satisfaction.

Neuroticism is found to have indirect effects through multiple pathways like negative social interaction and lower levels of support satisfaction, and opposingly to this, extraversion is found to predict depression negatively through positive support satisfaction. Another pathway between neuroticism and depression is rumination. Ruminative response style is reported to have high positive correlations with both neuroticism (Nolen et. al., 1998) and depression (Nolen - Hoeksema et. al., 1994) and shown to be a mediator between them (Nolen et. al., 1998). Nolen et. al. (1998), in their study comprising of two sessions in ten weeks with 135 undergraduate students, have found that neuroticism does not have a direct effect on mood but has a partial indirect effect through cognitions. Researchers indicate that especially cognitions such as ruminative response style mediate the association between neuroticism and depressive symptoms (Nolen et. al., 1998).

1.5.4. THE RELATIONSHIP BETWEEN ADHD AND PERSONALITY DISPOSITIONS

There is some evidence that ADHD is associated with personality characteristics. Some studies associate children's ADHD to their personality characteristics such as negative mood lability, impulsivity, and poor self - regulation (John, Caspi, Robings, Moffitt - Stauthamer, & Loober, 1994; Shea & Fisher, 1996; Kochanska, Murray, & Coy, 1997). In accordance with these studies, May and Boss (2000) examined the associations among ADHD, personality, and comorbid symptoms with 104 subjects. According to their results, participants, who had only ADHD, showed mild histrionic characteristics. The

ones who have comorbid ODD were more likely to be narcissistic, aggressive-sadistic, avoidant, antisocial, negativistic, and self defeating personality features; when any mental disorder other than ODD coexisted with ADHD, avoidant and dependent personality types were more likely to be observed.

EXTRAVERSION – ADHD

Previously H. J. Eysenck (1967), in his three-factor model, had taken extraversion with the impulsivity dimension. Impulsivity includes components such as sensation seeking and disinhibition. Eysenck (1967) has hypothesized that, when compared with introverts, extraverts are under-aroused under low level of stimulation, and are over-aroused under high level of stimulation. Studies show an association between ADHD and being under- aroused, exhibiting more sensation seeking (Hines & Shaw, 1993) and having difficulty in inhibiting their responses under a high level of stimulation (Nigg, 2001).

These findings lead researchers to a conclusion that ADHD and extraversion are positively correlated. However, when we consider that the personality models following 3-factor model (e.g., Goldberg, 1993; Costa and McCrae, 1995) do not include impulsivity into the extraversion dimension and that even the revised form of the three-factor model has dropped it from extraversion dimension (S. B. Eysenck, Eysenck, & Barret, 1985) and also consider that ADHD people lack in having good social contacts (Hoy, Weiss, Minde, & Cohen, 1978) while extraverts are characterized with sociability; it's

not surprising that researches do not support the hypothesis asserting that ADHD and extraversion are positively correlated (Nigg et. al., 2002).

OPENNESS TO EXPERIENCE– ADHD

Since there are few studies examining the relation between openness and ADHD, existing studies did not reveal much data addressing this association either. Shaw and Brawn (1991) have found that ADHD children were more creative than people with IQ's of 115 or above (White, 1999). In addition, Nigg and Hinshaw (1998) have mentioned a possibility that if sensation seeking is considered in the scope of openness, this dimension of personality may be related to antisocial behaviors of children. This brings about the possibility of positive associations between openness and ADHD.

However, there are also findings indicating that school performance of children is positively correlated with openness (John et. al., 1994) whereas negatively correlated with ADHD (Weiss, et. al, 1979; Silver, 1981) lead to a suspect for a possible negative association between openness and ADHD. Thus the existing literature does not give sufficient data to obtain a consistent pattern of findings.

AGREEABLENESS– ADHD

There are few studies examining the association between agreeableness and ADHD. Because of the difficulty of ADHD people in inhibiting responses (Barkley, 1997) and poor social skills (Nigg & Hinshaw, 1998) it can be predicted that agreeableness and ADHD would be negatively correlated. Parental hostility is

known to be positively correlated with the antisocial development of the child (Patterson & Dishion, 1988). Depending on this, low agreeableness in parents is considered to be associated with comorbid ODD/ CD in children (Nigg & Hinshaw, 1998). Nigg et. al. (2002) have found that hyperactivity – impulsivity, oppositional childhood and adult behaviors were negatively correlated with agreeableness. Results of the study conducted by Nigg and Hinshaw (1998) supported these findings by showing that parents of oppositional ADHD children tend to have low agreeableness (Nigg & Hinshaw, 1998).

CONSCIENTIOUSNESS– ADHD

According to Barkley (1997), individuals with ADHD may suffer from inattention when they are presented a self-regulated and goal directed work. Findings of Nigg et. al. (2002) give support to this suggestion. According to their results when conscientiousness develops in the direction of poor control, the ADHD symptoms are the ones relevant to inattention domain. Children with ADHD were found to have dysfunctions in planning, and organizing their responses (Nigg, Hinshaw, Carte, Carte, & Treuting, 1998). Seidman's (1995) results support the existing organizational difficulties in boys with ADHD. Ranseen et. al. (1998) have found that adults suffering from ADHD had lower scores in conscientiousness. Nigg et. al. (2002) also found associations between low adult conscientiousness and ADHD symptoms.

In a study, biological parents of ADHD children were observed to have difficulty at organizing their houses and managing their children (Nigg &

Hinshaw, 1998). Barkley (1996), defined inattention as lack of task or goal oriented persistence. Based on this literature inattention can be expected to be associated with conscientiousness.

NEUROTICISM – ADHD

There are some common features of ADHD and neuroticism. The traits, which constitute neuroticism, are relevant to much pathology, such as mood, personality and somatoform disorders (Watson, Clark, & Harkness, 1994). Symptoms and diagnosis of ADHD are shown to have positive correlations with higher scores in neuroticism dimension (Braaton & Rosen, 1997; Nigg, John, et. al., 2002). There are studies suggesting that neuroticism may affect attention adversely (Derryberry & Reed, 1994). In a review study, White (1999) has reported that a significant ratio of ADHD children has a lifetime history of anxiety disorder. Consistent with this, a study conducted in a two-week period, revealed that affect of boys in grades four and five who score high on the impulsiveness symptoms was more negative and more variable (Shea & Fisher, 1996). Characteristics such as somatic complaints, frankness, emotionality, and impulsiveness are frequently reported to be associated with neuroticism and also found to be highly prevalent among criminal youngs who also scored high in ADHD symptoms (Retz et. al., 2002). Thus neuroticism may be a different form of ADHD in adulthood.

1.6. THE RELATIONSHIP OF CHILDREN'S ADHD WITH PARENTS' PERSONALITY DISPOSITIONS AND PSYCHOPATHOLOGY

How can parents' personality styles affect the children's psychopathology? Nigg and Hinshaw (1998) have suggested 3 possible ways through which parents' personality styles affect the children's psychopathology; these are: modeling, genetic, and influencing parenting style. It is known that both ADHD (Yorbik, 1997) and personality dispositions (Carey & Dilalla, 1994) have high heritability. Studies on molecular genetic also support the hypothesis about the association between ADHD and personality traits (Nigg & Goldsmith, 1998). Besides heritability and genetic findings, the association between parent personality characteristics and child ADHD is also explained by modeling and parenting styles. Some characteristics of the mother may lead to poor modeling or may have inverse effects on parenting. Supporting this view, White (1999) has suggested that individuals with ADHD are more likely to be less reflective.

Hyperactivity is shown to be related with heredity and unshared environment, but the comorbidities and antisocial behavior are shown to be related to shared house environment (Nigg & Hinshaw, 1998) and according to Nigg and Hinshaw (1998) this is a good valid reason for trying to understand the parents' characteristics. Nigg and Hinshaw (1998) state that parents' personality dispositions are considered to play important roles in the children's psychopathology. Supporting this view, maternal characteristics are found to be associated with severity of both ADHD symptoms (Anastapoulos, Guevremont, Shelton & Dupaul, 1992) and the comorbid symptoms (Mash & Johnston, 1983a).

Thus, it can be concluded that, investigating parents' personality traits is important in order to understand the etiology, the prognosis, and manifestation of ADHD. However, as Nigg and Hinshaw (1998) mentioned there are not many studies, examining the association between ADHD and associated problems, and parents' personality, furthermore, the existing studies are conducted with Minnesota Multiphasic Personality Inventory or the Sensation Seeking Scale.

Parental neuroticism is considered to be related with the companionship of children's ODD or CD to ADHD (Nigg & Hinshaw, 1998). There are two possible interactions. 1- Neurotic mothers can be unpredictable for their children, that is why children may exhibit CD and risky behaviors. 2- Neurotic mothers can be overprotective. When parental personality dispositions like neuroticism, low conscientiousness, or low agreeableness accompany childhood ADHD, this results in an increased risk for children to develop antisocial behaviors (Nigg & Hinshaw, 1998).

Parents' antisocial personality disorder is known to be associated with their children's CD and comorbid CD or ODD in ADHD (Lahey et. al., 1988; Nigg & Hinshaw, 1998). Last et. al. (1991) reported that the risk of alcohol and drug dependence was higher among the relatives of participants with anxiety disorder and ADHD compared to psychiatrically healthy controls. Independently from comorbid CD or ODD, childhood ADHD history reported by parents is associated with ADHD diagnosis of children (Faraone, Biederman, Keenan, & Tsuang, 1991). Patterson and Dishion (1988) have shown that parental hostility was associated with antisocial development of child. As hostility is a

characteristic of low Agreeableness, it is not surprising that researchers reported associations between low parent Agreeableness and comorbidity of ODD and CD to ADHD of child, and that low parental Conscientiousness was associated with both ADHD and comorbid antisocial behaviors of children (Nigg & Hinshaw, 1998).

Major depressive episodes or marked anxiety symptoms in the past year were more frequently observed among mothers of ADHD boys compared to mothers of non-ADHD boys. Parental ADHD is shown to be a great risk factor for child's psychological development. In a study comparing the children of people with and without ADHD it was found that the high-risk children exhibited more disruptive behaviors, anxiety and depression symptoms and that, together with all these, failure at school increased in follow up period (Faraone, Biederman, Mennin, Gershon, & Tsuang, 1996). Another study revealed that compared to fathers of non-ADHD boys, childhood ADHD history was more prevalent among fathers of ADHD boys, lower Agreeableness, higher Neuroticism and the higher probability of Generalized Anxiety Disorder were more prevalent among the fathers of boys with ADHD+ODD/CD (Nigg & Hinshaw, 1998).

ADHD is reported to be a risk factor for mood and anxiety disorders in both children and adults and even siblings of people with ADHD (Biederman, Faraone, Keenan & Tsuang, 1991; Biederman et al, 1993; Milberger, Biederman, Faraone, Murphy, & Tsuang, 1995; Faraone, Biederman, Mennin, Garshon, & Tsuang, 1996). ADHD was observed more frequently among the children of people who have anxiety disorder (Sylvester, Hyde, & Reichler, 1987; McClellan

et. al. 1990). Parents of ADHD children were reported to have higher rates of mood and anxiety disorders, alcoholism, and hysteria (Nigg & Hinshaw, 1998). A study indicated that Major Depression (MD), Bipolar Disorders (BD), and Generalized Anxiety Disorder (GAD) were highly prevalent even when the overlapping symptoms were subtracted and the prevalences were 79%, 56%, and 75%, for MD, BD, and GAD, respectively (Milberger, Biederman, Faraone, Murphy, & Tsuang, 1995). Another study conducted with 91 children from 53 families revealed that children of parents with panic disorder or depression scored higher on anxiety, depression and ADHD according to both self and parent reports (Sylvester, Hyde, & Reichler, 1987). Chang et al. (2000) have met ADHD among the 28% of parents who have Bipolar Disorders. The risk of anxiety disorders was found to be higher among the relatives of children with ADD and ADD plus anxiety disorders, and mothers compared to fathers, and sisters compared to brothers, were at an increased risk for developing anxiety disorders (Walker, Lahey, Hynd, & Frame, 1987).

Many studies examining the existence of ADHD or other disorders among the relatives of ADHD children showed that there were differences between the relatives of children only with ADHD and children with ADHD and comorbid CD. For example Lahey, Christ, & Green, (1991) have found that while biological relatives of ADHD children had more ADHD history, relatives of CD children were found to have more CD or substance abuse history (Frick, et. al. 1991).

1.7. THE RELATIONSHIP BETWEEN ADHD AND COPING

Another variable investigated by researchers due to its relationships with general well being and psychopathology, and due to its buffering role, is ‘coping strategies’ (Chiou, Potempa & Buschmann, 1997). Coping negatively predicts unhealthy habits and lifestyle, which carries a notable risk for health (Loon, Tjihuis, Surtees, & Ormel, 2001). Beasley et. al. (2001) have investigated the stress-buffering role of coping style and cognitive hardiness. Results have shown that avoidance style (i.e., emotion oriented coping) had significant direct effect on psychological and general health problem, and also association with elevated scores on measures of distress (Penland, Masten, Zelhat, Fournet, & Callahan, 1999; Beasley et. al., 2001). Researchers also report that task oriented coping (i.e., problem focused coping) was negatively associated with levels of anxiety for males (Beasley et. al. 2001) and positively with general well being (Chiou, Potempa, & Buschmann, 1997; Lee, Park, Choi, Nah, Abbey, & Rodin, 2000;).

Coping styles are also associated with personality traits (Gomez, Halmberg, Bounds, Fullarton, & Gomez, 1999, Murberg & Bru, & Stephens, 2002). Murberg et al. (2002) have argued that, while extraversion had positive correlation with problem oriented coping style, neuroticism had correlations with passive – emotion oriented coping style.

Gomez et. al. (1999) suggested that, for both males and females, while behavioral and cognitive coping styles were positively associated with extraversion; neuroticism was positively associated with avoidance coping. Based on these Gomez et. al. (1999) indicated that the interaction between neuroticism

and extraversion predicted all three coping styles in both males and in neurotic introverts, who experience more maladjustment than neurotic extraverts, stable introverts, and stable extraverts.

Though the association between coping styles and general well-being, some psychological dispositions or personality are widely studied the studies relevant to the association between coping styles and ADHD are very few in number. In addition to this, the ones regarding the association between parent coping styles and child ADHD are much fewer and the existing studies are not conducted with same coping factors. In general studies revealed that the family contacts which may have importance on determining one's perceived coping resources of ADHD children's parents were not much extended and helpful (Cunningham, Bennes, Siegel, 1988).

1.8. THE AIM OF THE PRESENT STUDY

Throughout the literature a wide interest have been focused on ADHD, and its etiology, comorbidity, and associations with pathology in the relatives of people with ADHD. There are very few studies about the associations between ADHD and parental normal-range personality traits such as dimensions of Big Five. Parental affect and coping styles are also ignored in these studies. In the present study ADHD diagnosis and symptom scores, ODD symptom scores, and CD symptom scores are investigated regarding their associations with parental

personality characteristics, coping styles, and distress scores (i.e., depression and anxiety). Thus, in the present study two questions will be investigated:

1- Are personality, coping and distress characteristics of the mothers going to differ for the two groups of the study, namely, ADHD group and normal comparison group?

2- Which mother characteristics will be the predictors of ADHD, ADD, HD, ODD, and CD for the whole group, for ADHD group, and normal comparison group?

CHAPTER II

METHOD

2.1. SUBJECTS

The participants of this study were recruited from Child Mental Health Department of Hacettepe University, İMGE Child Mental Health Center, Association of Attention Deficit and Hyperactivity Disorder, and Nebahat Keskin Elementary School. Mothers of children who had ADHD diagnosis were included into the study. These children were diagnosed by Hacettepe University or İMGE Child Mental Health Center by using DSM-IV diagnostic criteria. In order to prevent the possible effect of treatment, the questionnaires were given at the time their children were diagnosed. Both children with ADHD and comparison group subjects were attending to elementary school classes in between first and fifth grades. The mothers of ADHD children were invited to participate by their psychiatrist or psychologist or by the announcements made in Association of Attention Deficit and Hyperactivity Disorder. The comparison group consists of the students and their parents who met the required criteria and were invited by the teachers of Nebahat Keskin Elementary School. Data was obtained from 231 subjects including mothers of 77 children with ADHD diagnosis (i.e., ADHD

group) and 154 children without any psychiatric diagnosis (i.e., Comparison group). Among 154 non-diagnosed subjects the ones who match best with the 77 ADHD group participants were chosen, considering ages of the children, income of the family, and education of the mother. The remaining 77 children were extracted from the analyses, leaving 77 participants with ADHD diagnosis and 77 participants without any psychiatric diagnosis (i.e., Comparison Group). The inclusion criteria for ADHD group was having an IQ higher than 80 and the criteria for Comparison group was having no diagnosis.

The female male ratio of the subjects' was 26: 74 % (the same ratio for the whole group, ADHD group, and the comparison group, respectively). Among all these subjects the ages of female children ranged from 73 months to 156 months, ($\underline{M} = 105.37$, $\underline{SD} = 19.88$) for the ADHD group the age range is from 73 months to 156 months ($\underline{M} = 104.44$, $\underline{SD} = 20.98$), and for the Comparison Group the age range is between 77 months and 148 months ($\underline{M} = 106.30$, $\underline{SD} = 18.81$). More detailed information about the characteristics of different groups were presented in Table 1. The majority of subjects were the first child of their family (57%, 60%, 53%, for whole group, ADHD group, and the comparison group, respectively) and lived with their own family (94%, 91%, 97% for whole group, ADHD group, and the comparison group, respectively). Among all children, the number of the ones whose mother is not married to his/her biological father ($n = 6, 4, 2$ for whole group, ADHD group, comparison group, respectively) and the number of children who has stepbrother/ sister ($n = 6, 1, 5$ for whole group, ADHD group, comparison group, respectively) is inconsiderably few. The income of the participants' families ranged from 350,000,000 to 5,500,000,000. When all

subjects are taken into consideration the education of subjects' mothers vary between the non literates and the ones who have postgraduate degree, but as can be seen from Table 1 university graduation was the most frequent education level with the percentage of 40.9%, 49.4%, for whole group and comparison group, respectively; and the high school graduate was the second frequent one with the ratio of 38.3%, 33.8% for whole group and comparison group, respectively. For ADHD group high school graduation was the most frequent education level with the percentage of 42.9% university graduation was the second frequent one with the ratio of 32.5%. The ratio for the education levels lower than high school were the least frequent one in all three groups (20.8%, 24.7%, 16.9% for whole group, for ADHD group, comparison group, respectively).

Table 1. The Socio – Demographic Characteristics of The Sample

	WHOLE SAMPLE				CHILDREN WITH ADHD				COMPARISON GROUP			
	n/ %	M	SD	Range	n/ %	M	SD	Range	n/ %	M	SD	Range
SEX	Female	40/ 26%	—	1 - 2	20/ 26%	—	—	1 - 2	20/ 26%	—	—	1 - 2
	Male	114/ 74%	—	1 - 2	57/ 74%	—	—	1 - 2	57/ 74%	—	—	1 - 2
AGE	—	105.37	19.88	73 - 156	—	104.44	20.98	73 - 156	—	106.30	18.81	77 - 148
DIAGNOSE	Diagnosed	50%	—	1 - 2	77/ 100%	—	—	1 - 2	0/ 0%	—	—	1 - 2
	Not diagnosed	50%	—	1 - 2	0/ 0%	—	—	1 - 2	77/ 100%	—	—	1 - 2
ADDITIONAL DIAGNOSE	Non	140/ 90.9%	—	0 - 4	63/ 81.8%	—	—	0 - 4	0	—	—	0
	LD	11/ 7.1%	—	0 - 4	11/ 14.3%	—	—	0 - 4	0	—	—	0
	KGB	1/ 0.6%	—	0 - 4	1/ 1.3%	—	—	0 - 4	0	—	—	0
	Sleep Disorder	1/ 0.6%	—	0 - 4	1/ 1.3%	—	—	0 - 4	0	—	—	0
	Epilepsy	1/ 0.6%	—	0 - 4	1/ 1.3%	—	—	0 - 4	0	—	—	0
	HU	50/ 32.5	—	0 - 4	50/ 64.9%	—	—	1 - 4	0	—	—	0
DIAGNOSED BY	IMGE	26/ 16.9%	—	0 - 4	26/ 33.8%	—	—	1 - 4	0	—	—	0
	AUD	1/ 0.6	—	0 - 4	1/ 1.3%	—	—	1 - 4	0	—	—	0
SIBLING ORDER	1	87/ 56.5%	—	1 - 2	46/ 59.7%	—	—	1 - 2	41/ 53.2 %	—	—	1 - 2
	1+	67/ 43.5%	—	1 - 2	31/ 40.3%	—	—	1 - 2	36/ + & 8 %	—	—	1 - 2
LIVING WITH	All family	145/ 94.2%	—	1 - 3	70/ 90.9%	—	—	1 - 3	75/ 97.4%	—	—	1 - 2
	Mother	8/ 3.2%	—	1 - 3	6/ 7.8%	—	—	1 - 3	2/ 2.6%	—	—	1 - 2
	Father	1/ 0.6%	—	1 - 3	1/ 1.3%	—	—	1 - 3	0	—	—	1 - 2
FREQUENCY OF MEETING WITH PARENT	Stays with father at weekends	2/ 1.3%	—	4 - 8	2/ 2.6%	—	—	4 - 8	0	—	—	7 - 8
	Always stays with father	3/ 1.9%	—	4 - 8	2/ 2.6%	—	—	4 - 8	1/ 1.3%	—	—	7 - 8
	Other	2/ 1.3%	—	4 - 8	1/ 1.3%	—	—	4 - 8	1/ 1.3%	—	—	7 - 8
HAVING STEP BROTHER/ SISTER	Yes	6/ 3.9%	—	0 - 1	1/ 1.3%	—	—	0 - 1	5/ 6.5%	—	—	0 - 1
No	148/ 96.1%	—	0 - 1	76/ 98.7%	—	—	0 - 1	72/ 93.5%	—	—	—	0 - 1
NUMBER OF ENROLLED COURSES	—	4.22	2.30	3 - 13	—	7.25	0.76	3 - 13	—	7.58	2.45	5 - 13

Table 1. Continued

	WHOLE SAMPLE				CHILDREN WITH ADHD				COMPARISON GROUP			
	n/ %	M	SD	Range	n/ %	M	SD	Range	n/ %	M	SD	Range
AGE OF THE MOTHER	---	35.89	5.19	26 - 47	---	35.01	5.54	26-47	---	36.77	4.69	27 - 47
INCOME	---	1493.3309	986.0165	350,000,000 5,500,000	---	1,370,980,000	994,860,700	350,000,000 5,500,000,000	---	1602.0833	972.0545	350,000,000 5,000,000,000
NUMBER OF THE MARRIAGE												
Not married at the Moment	5/ 3.2%	---	---	0 - 3	2/ 2.6%	---	---	0 - 3	3/ 3.9%	---	---	0 - 2
First	145/ 94.2	---	---	0 - 3	72/ 93.5%	---	---	0 - 3	73/ 94.8%	---	---	0 - 2
Second	3/ 1.9%	---	---	0 - 3	2/ 2.6%	---	---	0 - 3	1/ 1.3%	---	---	0 - 2
Third	1/ 0.6	---	---	0 - 3	1/ 1.3%	---	---	0 - 3	0	---	---	0 - 2
EDUCATION OF THE MOTHER												
Under high school	32/ 20.8	---	---	0 - 6	19/ 24.7%	---	---	1 - 3	13/ 16.9%	---	---	1 - 3
High school	59/ 38.3	---	---	0 - 6	33/ 42.9%	---	---	1 - 3	26/ 33.8%	---	---	1 - 3
University	63/ 40.9	---	---	0 - 6	25/ 52.5%	---	---	1 - 3	38/ 49.4%	---	---	1 - 3
Yes	148/ 96.1	---	---	1 - 2	73/ 94.8%	---	---	1 - 2	75/ 97.4%	---	---	1 - 2
No	6/ 3.9	---	---	1 - 2	4/ 5.2%	---	---	1 - 2	2/ 2.6%	---	---	1 - 2
MARRIED WITH FATHER												
Single	1/ 0.6%	---	---	1 - 4	0/ 0%	---	---	1 - 4	1/ 1.3	---	---	1 - 4
Married	148/ 96.1%	---	---	1 - 4	74/ 96.1%	---	---	1 - 4	74/ 96.1 %	---	---	1 - 4
Divorced	3/ 1.9%	---	---	1 - 4	2/ 2.6%	---	---	1 - 4	1/ 1.3 %	---	---	1 - 4
Widowed	2/ 1.3%	---	---	1 - 4	1/ 1.3%	---	---	1 - 4	1/ 1.3%	---	---	1 - 4
Housemate	81/ 52.6%	---	---	1 - 3	48/ 62.3%	---	---	1 - 3	33/ 42.9%	---	---	1 - 3
Retired	6/ 3.9%	---	---	1 - 3	3/ 3.9%	---	---	1 - 3	3/ 3.9%	---	---	1 - 3
Working	67/ 43.5%	---	---	1 - 3	33/ 33.8%	---	---	1 - 3	41/ 53.2%	---	---	1 - 3
MISUNDERSTANDING THE DIRECTIONS												
Yes	14/ 9.1%	---	---	0 - 1	11/ 85.7%	---	---	0 - 1	3/ 3.9%	---	---	0 - 1
No	140/ 90.9%	---	---	0 - 1	66/ 143%	---	---	0 - 1	74/ 96.1%	---	---	0 - 1

2.2. INSTRUMENTS

The questionnaires included seven different parts. The first part contained questions about the socio-demographic characteristics the subjects (**See Appendix A**).

The remaining parts included the inventories, which were Beck Depression Inventory (BDI) (**See Appendix B**), Beck Anxiety Inventory (BAI) (**See Appendix C**), Positive Affect – Negative Affect Schedule (PANAS) (**See Appendix D**), Ways of Coping Inventory (WCI) (**See Appendix E**), Turkish Big Five Inventory (TBFI) (**See Appendix F**), Childhood and Adolescent Rating and Screening Scale (CARSS) (**See Appendix G**).

2.2.1. DEMOGRAPHIC INFORMATION FORM

This is a form consisted of 12 questions among which there were both multiple choice type questions and fill in the blanks type questions. The form was prepared by the investigator with the aim of getting information about the demographic and family characteristics of the subjects (**See Appendix A**).

2.2.2. BECK DEPRESSION INVENTORY (BDI):

Beck Depression Inventory (BDI) was used for assessing the depression symptoms of subjects. It's a four-point response scale measuring the behavioral, cognitive, motivational, and somatic symptoms of depression (Beck, Rush, Shaw, & Emery, 1979). Each item is scored between 0 and 3. The maximum possible

score is 63. All individuals are required to report how they felt in the last week, and 21-symptom category is given with this aim.

The original form of BDI was developed by Beck et. al. (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and revised in 1978 (Beck, Rush, Shaw & Emary, 1979). The 1961 form of BDI was adapted to Turkish by Tegin (1980) and 1979 form was adapted by Hisli (1988, 1989). Tegin (1980) conducted reliability studies for the 1978 version of BDI and found .60 test-re-test reliability, .78 internal consistency in a normal sample, and .61 internal consistency in a depressed sample.

In 1989 researchers conducted split- half reliability for BDI (Aydın & Demir, 1989; Hisli, 1989). Hisli found .74 split-half reliability coefficient for university samples. In order to assess the concurrent validity of BDI its correlation with Minnesota Multiphasic Personality Inventory_ Depression subscale (MMPI_D) was examined and the correlation was found to be .63 for the psychiatric sample, (Hisli, 1988) and .50 for the university sample (Hisli, 1989) and according to results of Hisli, the cut of score of BDI for the Turkish sample was .17.

2.2.3. BECK ANXIETY INVENTORY (BAI):

BAI aims to measure the symptoms of anxiety on a four point response scale and it includes 21-symptom category. Individuals rate their anxiety between 0 and 3. The maximum possible score is 63. Higher scores imply higher anxiety symptoms.

BAI was originally developed by Beck, Epstein, Brown, and Steer in 1988 and standardized by Ulusoy, Şahin and Erkman in 1996. Ulusoy et. al. (1996) conducted reliability analysis for BAI in a psychiatric sample and found internal consistency as .93 and test-retest reliability as .57. The item- total correlations ranged from .45 to .72. The correlation between BAI and BDI was found to be .46, and was found to be .53 between BAI and State Anxiety Scale of State Trait Inventory, and correlation coefficient of .45 was found between BAI and Trait Anxiety Scale of State Trait Inventory (STAI; Spielberger et al., 1970; Turkish adaptation: Öner & Lecompte, 1985).

2.2.4. POSITIVE – NEGATIVE AFFECT SCHEDULE (PANAS):

PANAS is a 5-point Likert Type scale measuring the existence of positive and negative affect. Low Positive Affect predicts depression symptomatology but does not predict anxiety symptoms, however, high negative affect predicts both depression and anxiety symptoms (Gençöz, 2000). It has two separate sub-scales and 10 items for Positive Affect (PA) and 10 items for Negative Affect (NA). The score a subject can get from each affect ranges from 10 to 50. The original scale is developed by Watson, Clark and Tellegen (1998) and was reported to have .88 internal consistency for PA and .87 internal consistency for NA.

Gençöz (2000) conducted the Turkish standardization of PANAS. The internal consistencies of Turkish form were found as .86 for PA and .83 for NA. Test re-test reliability coefficients were found as .40 for PA and .54 for NA. Results of this standardization study revealed item - total correlations as ranging from .33 to .67 for PA and between .35 and .71 for NA. In order to assess the

validity of Turkish PANAS, its correlation with Beck Depression Inventory and Beck Anxiety Inventory scores were studied, and while PA was found to be negatively correlated with both (-.48 and -.22, for BDI and BAI respectively), NA was positively correlated with these measures (.51 and .47, for BDI and BAI respectively). Two factors were revealed by factor analytic studies (i.e., PA and NA). There were 10 items in each factor; PA (1, 3, 5, 9, 10, 12, 14, 16, 17, and 19) and NA (2, 4, 6, 7, 8, 11, 13, 15, 18, and 20). Item 2 (bored), is an example for NA items and item 3 (excited) can be given as an example of PA.

2.2.5. THE TURKISH WAYS OF COPING INVENTORY (TWCI):

WCI used in this study is a 4-point Likert Type Scale consisting of 74 items. The scale aims to measure the cognitive and behavioral coping strategies that people use in stressful situations. Higher scores on each item implies a greater use of that coping strategy. It was originally developed in a yes – no response format by Folkman and Lazarus in 1980 and changed into a four point Likert Type Scale when revised by the same authors in 1985. The revised WCI consisted of 66 items and 8 subscales: problem focused coping, wishful thinking, distancing, emphasizing positive, self blame, tension reduction, self isolation, seeking social support. Studies conducted with WCI indicated that factors of WCI ranged from 4 to 8 (e.g., Bouchard, Sabaurin, Kussier, Wright & Richer, 1997; Jenkins, 1997).

The adaptation of the scale into Turkish, was made by Siva (1991). Siva included 6 additional items covering superstitious beliefs and fatalism. Results of Siva (1991) revealed a Cronbach alpha coefficient .90 and 7 factors.

Gençöz and Gençöz (2002) studied higher order dimensions of coping styles and found that TWCI was composed of 5 primary factors (Problem Focused Coping, Religious Coping, Seeking Social Support, Self-Blame/Helplessness, Distancing) and three second order factors. As the second order factors, Distancing and Religious Coping grouped under the first higher order factor and named as 'Emotion Focused Coping'; Self-Blame/ Helplessness (with a negative loading) and Problem Focused Coping grouped under the second higher order factor, and named as 'Problem Focused Coping'; finally Seeking Social Support emerged under the third factor and named as '(Seeking Social Support): Indirect Coping Style'. In addition to the construct validity, Guttman split-half reliability and criterion validity of these three higher order factors revealed good reliability and validity outcomes. It was also emphasized that these 3 higher order factors constituted independent dimensions of coping styles.

2.2.6. TURKISH BIG FIVE IVENTORY (TBFI):

It is a 5-point Likert Type scale ranging from 1 to 5 and it measures the existence and strength of 5 dimensions of personality which are Extraversion, Neuroticism, Conscientiousness, Agreeableness, and Openness. Higher scores obtained in a subscale imply the strength of that personality dimension. 44 - item English BFI (John, Donahue, & Kentle, 1991) is a short measure, which is economic in usage.

Internal consistencies of the Big Five scales ranged from .80 to .90 (John & Donahue, 1998 cited in Benet–Martinez & John, 1998). Researchers indicated that the correlations between the BFI self report measure and reports from two peers in a college sample was .47, and the correlations between BFI self report measure and reports from five family members and peers in an adult community sample was .61 (John & Donahue, 1998 cited in Benet – Martinez & John, 1998). Benet - Martinez and John (1998), translated this scale to Spanish and found Cronbach alpha coefficient of .87, .80, .86, .84, .86 for extraversion, agreeableness, conscientiousness, neuroticism, and openness, in an English sample. Their results with Spanish sample revealed similar Cronbach alpha coefficients, .84, .65, .76, .81, and .82. for extraversion, agreeableness, conscientiousness, neuroticism, and openness.

In this study 44 item of BFI was translated into Turkish. Initial translations were completed by three independent people – a psychologist, and two graduate students. Than as the second step, the three translators discussed on the items they translated and generated different suggestions for the items. In the third step based on different ideas generated in the second step, a questionnaire which included different possible translations for each item was prepared. The questionnaire was given to five independent people, consisting of two psychologists, two students of English Teaching Department of METU, a student of Department of Political Sciences and Administration in METU; and they were asked to mark the best translation for the original item. On the fourth step, based on the consensus reached on the third step the Turkish version of the BFI was produced and was given to a psychologist for back translation. On the fifth step based on the

differences between the original items and back translation, again, a questionnaire which included different translations for each item was prepared. The questionnaire was given to two students of English Teaching Department of METU. On the final step all the translators came together and reached a consensus for all of the items and the Turkish Big Five Inventory took its final form.

2.2.7. CHILDHOOD AND ADOLESCENT RATING AND SCREENING SCALE (CARSS)

CARSS is developed by depending on the recent diagnostic criteria used by DSM – IV (Turgay, 1995). It is a 4 - point response scale and it includes 3 main and 5 subcategories, and 41 items. The score a subject can obtain from an item ranges between 0 (absent) and 3 (severe). Higher scores indicate higher symptom severity. Participants evaluate the behavior problems of the child.

The psychometric properties of the measure is studied by Ercan et. al. (2001) and the Cronbach alpha coefficients are indicated as .88, .95, .89, .85 for ADD, HD, ODD, CD, respectively.

The reason of using this measure in this study is that other measures used in studies of ADHD are not much specific to ADHD and, as Ercan et. al. (2001) indicate they do not exactly overlap with DSM – IV diagnose criteria.

3.3. PROCEDURE

The sample that the questionnaire was administered was consisted of ADHD Group, and the Comparison Group. The questionnaires were given to mothers of children with ADHD within a week in which their children were diagnosed as

ADHD. For the Comparison Group the questionnaires were given to the teachers and they sent questionnaires to mothers of children. Except for the cover page, which contains the sociodemographic information, the scales were randomized in each booklet, in order to eliminate errors due to the ordering effect. Participating to this study was voluntary. It took about 30 min. to fill out the questionnaires.

3.4 ANALYSES

Prior to the main analysis, reliability analyses were conducted for the Turkish Big Five Inventory (TBF) and CARSS. Then either t-test or Mixed Design ANOVA was utilized in order to examine group differences on personality characteristics, coping ways, depression – anxiety symptoms, and positive–negative affect measures. Following the correlational analysis, as the main analysis, hierarchical regression analysis were performed in order to examine the associative values of parental depression and anxiety symptoms, negative affect – positive affect, coping way, personality characteristics and several control variables (which are children’s sex, age, additional diagnose, and sibling order, moreover age of the mother, education of the mother, and the income of the family) on problems of children. These regression analyses were performed for three times, one for the ADHD group, one for the Comparison Group, and one for the whole group. Only in the regression analysis conducted for the whole group, ‘Group’ which indicated the diagnostic status of the children was also entered among the control variables.

CHAPTER III

RESULTS

Initially data was screened for accuracy of entry, and fit between the distributions of the variables among the subjects used in the study. Among 154 control subjects the ones who had best match with the 77 ADHD group participants were chosen, considering ages of the children, income of the family, and education of the mother. The remaining 77 children were extracted from the analyses, leaving 77 participants with ADHD diagnosis and 77 participants without any diagnosis (i.e., Comparison Group). Among 77 ADHD group participants 39% (n = 30) was found to exhibit ADD symptoms predominantly, 7.8% (n = 6) HD symptoms predominantly, and 53% (n = 41) exhibited combined symptoms. Among ADHD group children, 16% (n = 12) had mothers scoring equal to or higher than 17 on BDI (n = 5, 0, and 7, for predominantly inattentive, predominantly hyperactive children and children exhibiting combined symptoms, respectively) Among Comparison group, 9% (n = 7) of children had mothers scoring equal to or higher than 17 on BDI. Descriptive information for the measures of the study is provided in Table 2.

Table 2. Descriptive information for the measures of the study

	WHOLE SAMPLE			ADHD GROUP			COMPARISON GROUP		
	MEAN	SD	RANGE	MEAN	SD	RANGE	MEAN	SD	RANGE
MATERNAL VARIABLES									
BAI	10.99	10.99	0 – 48	12.65	11.96	0 – 48	9.32	9.75	0 – 40
BDI	8.42	6.74	0 - 32	9.69	6.94	0 – 30	7.16	6.32	0 – 32
PFC	98.44	12.50	72 – 141	96.22	11.48	72 – 135	100.66	13.14	78 – 141
IDC	38.71	6.63	18 – 57	39.47	6.17	25 – 153	37.96	7.03	18 - 57
EFC	54.66	10.27	34 – 103	53.60	9.75	34 – 83	55.73	10.73	37 – 103
TOTAL TWCI	191.81	17.30	144 – 253	189.28	15.68	144 – 235	194.35	18.54	156 – 235
NA	19.53	7.22	10 – 43	21.36	7.90	11 – 43	17.70	5.98	10 – 36
PA	33.27	7.14	13 – 50	31.40	7.06	13 – 49	35.13	6.75	21 – 50
EXTRA-VERSION	28.67	5.61	15 – 40	27.60	5.67	15 – 40	29.75	5.36	15.40
AGREE-ABLENESS	37.43	4.54	21 – 45	37.71	4.59	21 – 45	137.14	4.51	23 – 45
CONSCIEN-TIOUSSNESS	34.78	5.19	13 – 45	33.79	5.79	13- 44	135.78	4.33	26 – 45
NEURO-TICISM	25.24	6.30	8 – 40	26.51	6.18	13 – 40	23.97	6.19	8 – 38
OPENNESS	37.31	6.29	19 – 50	37.16	6.67	22 – 50	37.47	5.93	19 - 50
CHILD RELATED VARIABLES									
ADD	9.92	6.93	0 – 26	14.47	5.51	4 – 26	5.38	4.95	0 – 24
HD	8.25	5.81	0 – 24	10.52	5.41	1 – 24	5.97	5.31	0 – 23
ADHD	19.45	11.83	0 – 50	26.51	9.54	10 - 50	12.39	9.48	0 - 39
ODD	7.62	5.14	0 – 23	8.99	5.43	0 – 23	6.26	4.47	0 – 20
CD	1.16	1.85	0 – 15	1.49	2.29	0 - 15	0.83	1.20	0 – 6

Before the main analyses, reliability analyses were conducted for the Turkish Big Five Inventory (TBFI) and Childhood and Adolescence Rating and Screening Scale (CARSS). Following this procedure, ANOVA was utilized in order to observe the group differences (i.e., ADHD vs. Comparison Group differences) on the measures of the study. Finally as the main analyses, regression analyses were carried out.

3.1. Psychometric Characteristics of the Turkish Big Five Inventory (TBFI)

3.1.1. Reliability Analysis for the TBFI:

The number of items and internal consistency (alpha) coefficients of the Neuroticism, Extraversion, Openness, Conscientiousness, and Agreeableness measures are given in Table 3. As can be seen in Table 3, the internal consistency coefficients of the TBFI varied from .51 (for agreeableness) to .75 (for neuroticism).

Table3. Alpha reliabilities of TBFI

Scale	Number of items	α
Neuroticism	8	.75
Extraversion	8	.74
Openness	10	.74
Conscientiousness	9	.66
Agreeableness	9	.51

Note. N = 154 mothers consisting of 77 comparison group mothers and 77 ADHD group mothers.

3.1.2. Validity Analysis For TBFI

For the concurrent validity of TBFI, its correlation with the other variables (i.e. Turkish Ways of Coping Inventory (TWCI), Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), and Positive Affect – Negative Affect Scale (PANAS)) was examined. Table 4 presents Pearson Correlations among the subscales of TBFI and other mother related variables.

As can be seen from Table 4, correlations between the subscales of TBFI and the coping measures indicated that four subscales of TBFI, namely, Extraversion, Agreeableness, Conscientiousness, and Openness ($r_s = .29, .28, .19, p_s < .001$, and

$r = .22$, $p < .01$, respectively) were correlated positively with problem focused coping, while Neuroticism ($r = -.47$, $p < .001$) was negatively correlated with problem focused coping. The only significant correlation of indirect coping was with Neuroticism and it was a positive correlation ($r = .22$, $p < .01$). None of the TBF subscales had significant correlations with emotion-focused coping.

Extraversion, Conscientiousness, and Openness were positively; neuroticism was negatively correlated with Positive Affect ($r_s = .40, .36, .38$, $p_s < .001$, $r = -.20$, $p < .05$, respectively). Neuroticism had positive correlations with Negative Affect and BDI scores ($r_s = .61, .42$, $p_s < .001$, respectively) which were both negatively correlated with Extraversion, Agreeableness, Conscientiousness, and Openness ($r_s = -.36, -.37, -.26$, $p_s < .001$, $r = -.22$, $p < .01$, with negative affect respectively; $r_s = -.25, -.28$, $p_s < .001$, $r_s = -.19$, $p < .05$, $r = -.24$, $p < .01$, with BDI respectively). Furthermore Neuroticism was also positively correlated with BAI ($r = .49$, $p < .001$), which had negative correlations with Agreeableness ($r = -.21$, $p < .01$).

Table 4. Correlations between TBF subscales and scores of TWCI, BDI, BAI, PA and NA

	Extraversion	Agreeableness	Neuroticism	Conscientiousness	Openness
Problem-focused Coping	.29***	.28***	-.47***	.19*	.22**
Indirect Coping	.02	-.06	.22**	-.23	.09
Emotion-focused Coping	-.10	-.05	-.02	.03	-.09

Table 4. Continued

Positive Affect	.40***	.15	-.20*	.36***	.38***
Negative Affect	-.36***	-.37***	.61***	-.26***	-.22**
BDI	-.25***	-.28***	.42***	-.19*	-.24**
BAI	-.09	-.21**	.49***	-.15	-.61

*** $p < .001$, ** $p < .01$, * $p < .05$

Note. TWCI = Turkish Ways of Coping Scale, BDI = Beck Depression Inventory, BAI = Beck Anxiety Inventory, PA = Positive Affect, NA = Negative Affect

3.2. Psychometric Characteristics of Childhood and Adolescence Rating and Screening Scale (CARSS)

3.2.1. Reliability Analysis:

Internal consistency coefficients were examined for each subscale of CARSS. The number of items and alpha coefficients for each subscale of CARSS were presented in Table 5. As can be seen from Table 5, the alpha coefficients were .92, .87, .65, .92 and .90 for ADD, HD, ADHD, ODD, and CD respectively.

Table 5. Alpha reliability coefficients of CARSS

SCALE	Number of items	α
ADD	9	.92
HD	6	.90
ADHD	15	.92
ODD	8	.87
CD	15	.65

Note. N = 154 mothers consisting of 77 comparison group mothers and 77 ADHD group mothers

3.2.2. Validity Analyses for CARSS

3.2.2.1. Criterion Validity of CARSS

For the criterion validity of CARSS, group differences (i.e., ADHD vs. Comparison Group) were examined via independent samples t-test. These analyses yielded significant group differences on all subscales of CARSS. Specifically, the scores on ADHD ($t(152) = 9.21, p < .001$), ODD ($t(152) = 3.40, p < .001$), CD ($t(152) = 2.25, p < .05$), ADD ($t(152) = 10.77, p < .001$), and HD ($t(152) = 9.21, p < .001$) were greater in ADHD group ($M_s = 26.51, 8.99, 1.49, 10.52, \text{ and } 6.03$ respectively) than the scores of the Comparison Group ($M_s = 12.39, 6.26, 0.83, 5.97, \text{ and } 3.35$ respectively). Table 6 summarizes these outcomes.

Table 6. Group differences on subscales of CARSS

	<i>t</i>	MEANS		SD
ADD	10.77**	I	14.47	5.51
		II	5.38	4.95
HD	5.26**	I	10.52	5.41
		II	5.97	5.31
ADHD	9.21**	I	26.51	9.54
		II	12.39	9.48
ODD	3.40**	I	8.99	5.43
		II	6.26	4.47
CD	2.25*	I	1.49	2.29
		II	0.83	1.20

I = ADHD GROUP, II = COMPARISON GROUP

** $p < .001$, * $p < .05$

3.3. Correlations between Subscales of CARSS with Mother Related Variables

Correlations between subscales of CARSS and Mother related variables, namely, BDI, BAI, TWCI, PANAS, and TBF1 were examined.

3.3.1. Correlations between Subscales of CARSS and TBF1

As can be seen in Table 7 ADHD, ODD and CD correlated negatively with scores of extraversion; positively with Neuroticism (for Extraversion $r_s = -.21, -.21, -.23, p < .01$; for Neuroticism $r = .24, p < .001$; $r = .30, p < .01$; $r = .20, p < .05$ respectively). Only ODD and CD had significant and negative correlations with Agreeableness ($r = -.19, p < .05$, $r = -.25, p < .01$ for ODD and CD respectively). None of the CARSS Subscales had positive correlations with Openness or Conscientiousness. There were negative correlations between Openness and two subscales of CARSS; ADHD and ADD ($r = -.19, p < .05$, $r = -.21, p < .01$, respectively). Furthermore, there were significant negative correlations between all subscales of CARSS - namely, ADHD, ODD, ADD, and HD - and Conscientiousness ($r = -.31, p < .001$, $r = -.23, p < .01$, $r = -.31, p < .001$, $r = -.24, p < .01$, respectively) except for CD, which had no significant correlations either with Conscientiousness or Openness.

Table 7. Correlations between subscales of CARSS and TBF1

	ADD	HD	ADHD	ODD	CD
Extraversion	-.25**	.12	-.21**	-.21**	-.23**
Agreeableness	-.07	.10	-.11	-.19*	-.25**
Conscientiousness	-.31***	-.24**	-.31***	-.23***	-.07
Neuroticism	.25**	.18*	.24**	.30***	.20*
Openness	-.21**	-.12	-.19*	-.15	-.15

Note. ADHD = Attention Deficit and Hyperactivity Disorder, ADD = Attention Deficit Disorder, HD = Hyperactivity Disorder, ODD = Oppositional Defiant Disorder, CD = Conduct Disorder

*** $p < .001$ ** $p < .01$, * $p < .05$

3.3.2. Correlations Between Subscales of CARSS and Mothers' BDI, BAI, PANAS, and TWCI Measures

As seen in Table 8 all subscales of CARSS, namely, ADHD, ODD, CD, ADD, and HD positively correlated with Negative Affect, BDI, BAI (correlations with ADHD: $r_s = .31, .30, p_s < .001, r = .24, p < .01$ respectively; correlations with ODD: $r_s = .32, .35, .25, p_s < .001$; correlations with CD: $r_s = .18, .18, .16, p_s < .05$; correlations with ADD: $r_s = .33, .31, p_s < .001, r = .23, p < .01$; correlations with HD: $r = .22, p < .01, r = .20, r = .19, p_s < .05$ respectively). ADHD, ODD, ADD scores had significant negative correlations with Problem Focused Coping and Positive Affect (correlations with PFC: $r = -.23, p < .01, r = -.20, p < .05, r = -.27, p < .001$; correlations with PA: $r = -.27, p < .001, r = -.19, p < .05, r = -.41, p < .001$; respectively). Furthermore, ADD scores were also correlated positively with indirect coping ($r = .17, p < .001$) scores. ADD and ADHD scores were negatively correlated

with Total score of Turkish Ways of Coping Inventory ($r = -.18$, $r = -.16$, $ps < .05$). None of the subscales of CARSS had significant correlations with emotion-focused coping.

Table 8. Correlations between CARSS scores and scores of TWCI, BDI, BAI, PANAS

	ADD	HD	ADHD	ODD	CD
Negative Affect	.33***	.22**	.31***	.32***	.18*
Positive affect	-.41***	-.07	-.27***	.32***	-.04
BDI	.31***	.20*	.30***	.35***	.18*
BAI	.23**	.19*	.24**	.26***	.16*
PFC	-.27***	-.12	-.23**	-.20*	-.15
IDC	.17*	.10	.10	.10	.06
EFC	-.10	-.02	-.06	.01	.08
TWCI	-.18*	-.10	-.16*	-.10	-.04

Note. ADHD = Attention Deficit and Hyperactivity Disorder, ADD = Attention Deficit Disorder, HD = Hyperactivity Disorder, ODD = Oppositional Defiant Disorder, CD = Conduct Disorder

*** $p < .001$, ** $p < .01$, * $p < .05$

3.4. Group Difference on the Mother Related Measures of The Study

Group differences were also examined between mothers' of children with ADHD (i.e., ADHD group) and mothers' of children without ADHD (i.e., comparison group), on the measures of BDI, BAI, PANAS, TWCI, and TBFI.

Group differences on BDI, BAI and PANAS scores were examined by Independent samples t-test, while the group differences on TBFI and TWCI were

examined by Analysis of Variance with Mixed Design, due to the factorial structure of these two measures.

3.4.1. Group Differences on BDI, BAI, and PANAS Measures

The results of independent samples *t* - test yielded significant group differences on BDI ($t(152) = 2.37, p < .05$) and PANAS ($t(152) = -3.35, t(152) = 3.24, ps < .001$, for positive and negative affects, respectively) scores, but not on BAI scores ($t(152) = 1.89, ns$). When compared to comparison group, mothers of ADHD children tended to have significantly greater scores on BDI ($M = 9.69, M = 7.16$, for ADHD and comparison group, respectively) and negative affect ($M = 21.36, M = 17.7$, for ADHD and comparison group, respectively) and lower scores on positive affect ($M = 31.40, M = 35.13$, for ADHD and comparison group, respectively). Table 9 summarizes these findings.

Table 9. Mean differences on BDI, BAI, and PANAS scores

Scale	<i>t</i>	<u>M</u> FOR ADHD GROUP	<u>M</u> FOR COMPARISON GROUP	<i>p</i>
BDI	2.37*	9.69	7.16	.05
BAI	1.89	12.64	9.32	ns.
NA	3.24**	21.36	17.7	.001
PA	-3.35**	31.40	35.13	.001

** $p < .001$, * $p < .05$

3.4.2. Group Differences on the Factors of TBFI

Table 10. Analysis of Variance for Turkish Big Five Inventory

SOURCES	df	SS	MS	F
Group	1	.154	.154	.31
Error	152	75.17	.495	
Turkish Big 5	4	84.55	21.136	54.35*
Turkish Big 5 X Group	4	8.57	2.142	5.51*
Error	608	236.450	.389	

* $p < .001$

Group differences on TBFI subscores were examined by a 2 (Group = ADHD and Comparison Groups) X 5 (TBFI Measures: Extraversion, Neuroticism, Agreeableness, Conscientiousness, and Openness) ANOVA with repeated measures on the last factor. For the factors of TBFI the mean scores were calculated by dividing the total obtained score by the number of items on that factor. Thus, for all TBFI factors, the possible scores ranged from 1 to 5. As can be seen from Table 10 this analysis yielded a significant main effect for TBFI [$F(4, 608) = 54.35$ $p < .001$]. To interpret this main effect for Big Five Factors, Tukey's HSD was conducted at .05 significance level. These post-hoc analyses revealed that mothers tended to rate themselves most strongly on Agreeableness ($M = 4.16$), followed by Conscientiousness ($M = 3.87$), than Openness ($M = 3.73$), Extraversion ($M = 3.58$) and finally on Neuroticism ($M = 3.16$) dimensions. All these differences were significant from each other.

Table 11. Mean scores on dimensions of Turkish Big Five

	Extraversion	Agree- ableness	Conscien- tiousness	Neuroticism	Openness
ADHD GROUP	3.45 bc	4.20 a	3.76 b	3.31 c	3.72 b
COMPA- RISON GROUP	3.72 b	4.13 a	3.98 ab	2.99 d	3.75 b

Note. The mean scores that do not share the same subscript on the same row or on the same column are significantly different from each other, on .05 alpha level of Tukey's HSD

Group main effect [$F(1, 152) = 0.31, ns$] was not found to be significant. However, there was also a significant Group X Turkish Big Five Factors interaction, [$F(4, 608) = 5.51, p < .001$]. The post-hoc analysis following the ANOVA again conducted by Tukey's HSD at .05 alpha level revealed that, as shown in Table 11, ADHD group received greatest scores on Agreeableness ($M = 4.20$) which was significantly different than the all other TBFIF factors. Neuroticism scores of ADHD group were ($M = 3.31$) lower than their Agreeableness, Conscientiousness ($M = 3.76$) and Openness ($M = 3.72$) scores but were not significantly different from their Extraversion scores ($M = 3.45$). Extraversion scores of ADHD group were also not significantly different from either Conscientiousness or Openness scores, which did not significantly differ also from each other. Agreeableness scores of Comparison Group ($M = 4.13$) were greater than Extraversion ($M = 3.72$), Neuroticism ($M = 3.00$), and Openness ($M = 3.75$) scores but it was not significantly different from Conscientiousness scores ($M = 3.98$). Comparison Group subjects tended to have the lowest scores on Neuroticism compared to all other four dimensions. However, there were no significant differences between the Extraversion

and Openness scores of Comparison Group. Furthermore ADHD group received greater scores on Neuroticism than Comparison Group, while there were no significant differences among groups on Agreeableness, Extraversion, Conscientiousness, and Openness measures.

3.4.3. Group Differences on Ways of Coping

Table 12. Analysis of Variance for Ways of Coping Inventory

SOURCES	df	SS	MS	F
Group	1	.199	.199	.836 (ns)
Error	152	36.127	.238	
Coping Ways	2	72.180	36.09	155.56*
Coping Ways X Group	2	1.67	.84	3.603*
Error	304	70.53	.232	

* $p < .05$

A 2 (Group = ADHD, Comparison Groups) X 3 (Factors of Turkish Ways of Coping Inventory (TWCI) = Problem Focused Coping (PFC), Emotion Focused Coping (EFC), Indirect Coping (IDC)) ANOVA with repeated measures on the last factor was performed to reveal the group differences on TWCI measures. For the factors of TWCI the mean scores were calculated by dividing the total obtained score by the number of items on that factor. Thus, for TWCI factors, the possible scores ranged from 1 to 4. As can be seen from Table 12 this analysis indicated a significant main effect for Ways of Coping [$F(2, 304) = 155.56, p < .01$]. To understand the causes of this effect for coping, Tukey's HSD was conducted at .05 significance level. These post-hoc analyses revealed that subjects tended to have higher scores on

PFC ($\underline{M} = 3.40$), than on EFC scores ($\underline{M} = 2.49$), which were also higher than IDC scores ($\underline{M} = 3.23$).

Table 13. Mean scores on dimensions of Ways of Coping Inventory

	PFC	EFC	IDC
ADHD Group	3.32 a	2.44 b	3.29 ac
Comparison Group	3.47 a	2.53 b	3.16 ab

Note. The mean scores that do not share the same subscript on the same row or on the same column are significantly different from each other, according to .05 alpha level of Tukey's HSD.

Group main effect [$F(1, 152) = .84, ns$] was not significant. However, there was also a significant Group X Coping interaction [$F(2, 304) = 155.56, p < .01$]. The Post Hoc analysis following the ANOVA conducted by Tukey's HSD at .05 significance level revealed that, as shown in Table 13 both ADHD and Comparison Group received greater scores on PFC ($\underline{M} = 3.32, \underline{M} = 3.47$, for ADHD and Comparison Groups respectively) than on EFC ($\underline{M} = 2.44, \underline{M} = 2.53$, for ADHD and Comparison Groups respectively). Furthermore EFC scores of ADHD group were greater than their IDC scores, and IDC scores were not significantly different from Problem Focused Coping scores for ADHD Group. However for the Comparison Group IDC scores were not significantly different from both EFC and PFC scores. There were no significant differences among groups on the three subscales of TWCI.

3.5. REGRESSION

15 separate hierarchical regression analyses were conducted for three groups (i.e., ADHD group, Comparison group, and the whole sample) and 5 subscales of Childhood and Adolescence Rating and Screening Scale (CARSS). In order to control for the variance accounted for by possible extraneous variables, the control variables that revealed significant correlations with CARSS (i.e., sex, age, additional diagnose, sibling order, age of the mother, education of mother, and the income of the family) were hierarchically entered into the equation in the first step. Group variable was added into the first block only for the regression analyses conducted for the whole group.

In the second step total BAI and BDI scores, Positive and Negative Affect scores, TBFBI subscale scores (i.e., Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness), total score of TWCI and its three subscales (i.e., problem focused coping, emotion focused coping, and indirect coping) were hierarchically entered into the equation in order to see the factors associated with CARSS.

3.5.1. THE REGRESSION ANALYSES CONDUCTED WITH THE WHOLE GROUP

3.5.1.1. The Regression Analysis of Attention Deficit And Hyperactivity Disorder

In order to examine the associated factors of Attention Deficit and Hyperactivity Disorder for the whole sample, a regression analysis was conducted by using the steps given above. This regression analysis revealed that four variables

significantly predicted and accounted for the 47% of the total variance for the Attention Deficit and Hyperactivity. Among the control variables, Group significantly explained 36% (F change (1, 134) = 76.86, $p < .001$, t (134) = -8.77, $p < .001$; β = -.60) of the total variance. Among the second step measures, Conscientiousness by itself explained 6% (F change (1, 133) = 13.04, $p < .001$, t (133) = -3.61, $p < .001$; β = -.30), Openness explained 3% (F change (1, 132) = 7.05, $p < .001$, t (132) = -2.66, $p < .01$; β = -.23), and Anxiety symptoms explained 2% (F change (1, 131) = 5.50, $p < .05$, t (131) = 2.34, $p < .05$; β = .20) of the total variance. On the final step the significant predictors Attention Deficit and Hyperactivity were Conscientiousness (t (131) = -2.50, $p < .05$; β = .35), Openness (t (131) = -2.69, $p < .01$; β = .35), and Anxiety Symptoms (t (131) = 2.34, $p < .05$; β = .20).

Table 14. Associated Factors of Attention Deficit and Hyperactivity Disorder

	Order of Entry	F Change	df	t (within set)	β	Partial Corr	R^2
I.	Control Variables						
	1. Group	76.86***	1, 134	-8.77	-.60	-.60	.36
II.	Measures						
	2. Conscientiousness	13.04***	1, 133	-3.61	-.24	-.30	.42
	3. Openness	7.05**	1, 132	-2.66	-.18	-.23	.45
	4. BAI	5.50*	1, 131	2.34*	.15	.20	.47

*** $p < .001$, ** $p < .01$, * $p < .05$

3.5.1.2. The Regression Analysis of Oppositional Defiant Disorder

In order to examine the associated factors of Oppositional Defiant Disorder for the whole sample, a regression analysis was conducted by using the steps given above. Results revealed that two variables significantly predicted and totally accounted for the 19% of the total variance for the oppositional defiant disorder. Among the control variables Group significantly explained 7% (F change (1, 134) = 10.84, $p < .001$, $t(134) = -3.29$, $p < .001$; $\beta = -.27$) of the total variance. When the total Depression symptoms entered into the equation, it had a unique contribution of 12% to the explained variance (F change (1, 133) = 18.92, $p < .001$, $t(133) = 4.35$, $p < .001$; $\beta = .35$).

Table 15. Associated Factors of Oppositional Defiant Disorder

Order of Entry	F Change	df	t (within set)	β	Partial Corr	R^2
I. Control Variables						
1. GROUP	10.84*	1, 134	-3.29*	-.27	-.27	.07
II. Measures						
2. BDI	18.91*	1, 133	4.35*	.35	.35	.19

* $p < .001$

3.5.1.3. The Regression Analysis of Conduct Disorder

In order to examine the associated factors of Conduct Disorder for the whole sample, a regression analysis was conducted by using the steps given above. Results

revealed that three variables significantly predicted and accounted for the 12% of the total variance for the conduct disorder. Among the control variables, Income significantly explained 4% (F change (1, 134) = 4.90, $p < .05$, t (134) = -2.21, $p < .05$; $\beta = -.19$) of the total variance. Among the second step measures, Agreeableness explained 5% (F change (1, 133) = 7.64, $p < .05$, t (133) = -2.77, $p < .01$; $\beta = -.23$), Extraversion explained 3% (F change (1, 132) = 4.41, $p < .05$, t (132) = -2.10, $p < .05$; $\beta = -.18$) of the total variance. On the final step the significant predictors of Conduct Disorder were Agreeableness (t (133) = -2.17, $p < .05$; $\beta = -.18$), and Extraversion (t (132) = -2.10, $p < .05$; $\beta = -.18$).

Table 16. Associated Factors of Conduct Disorder

Order of Entry	F Change	df	t (within set)	β	Partial Corr	R^2
III. Control Variables						
1. INCOME	4.90*	1, 134	-2.21 *	-.19	-.19	.04
IV. Measures						
2. AGREE- ABLENESS	7.64**	1,133	-2.77**	-.23	-.23	.09
3. EXTRA- VERSION	4.41*	1,132	-2.10*	-.18	-.18	.12

** $p < .01$, * $p < .05$

3.5.1.4. The Regression Analysis of Attention Deficit Disorder

In order to examine the associated factors of Attention Deficit Disorder for the whole sample, a regression analysis was conducted by using the steps given above. Results revealed that three variables significantly predicted and totally accounted for the 52 % of the total variance for the attention deficit. Among the control variables, Group significantly explained 44% (F change (1, 134) = 106.25, $p < .001$, t (134) = -10.31, $p < .001$; β = -.67) of the total variance. When Positive Affect entered into the equation, it had a unique contribution of 5% to the explained variance (F change (1, 133) = 14.43, $p < .001$, t (134) = -3.80, $p < .05$; t (133) = -3.80, β = -.31), then, Negative Affect explained for 3% (F change (1, 132) = 7.09, $p < .01$, t (132) = 2.66, $p < .01$; β = .23) of the total variance. On the final step the significant predictors of attention deficit were Positive Affect (t (132) = -3.38, $p < .001$; β = -.28), and Negative Affect (t (132) = 2.66, $p < .01$; β = .23).

Table 17. Associated Factors of Attention Deficit Disorder

Order of Entry	F Change	df	t (within set)	β	Partial Corr	R^2
I. Control Variables						
1. GROUP	106.25**	1, 134	-10.31**	-.67	-.67	.44
II. Measures						
2. PA	14.43**	1, 133	-3.80**	.24	-.31	.49
3. NA	7.09*	1, 132	2.66*	-.17	.23	.52

** $p < .001$, * $p < .01$

3.5.1.5. The Regression Analysis of Hyperactivity Disorder

In order to examine the associated factors of Hyperactivity Disorder for the whole sample, a regression analysis was conducted by using the steps given above. Results revealed that two variables significantly predicted and totally accounted for the 20 % of the total variance for the hyperactivity. Among the control variables Group uniquely explained for 15% of the total variance, (F change (1, 134) = 24.31, $p < .001$), t (134) = -4.93, $p < .001$; $\beta = -.39$). When Conscientiousness entered into the equation, it had a unique contribution of 5% to the explained variance (F change (1, 133) = 7.67, $p < .01$), t (133) = -2.77, $p < .01$; $\beta = .23$).

Table 18. Associated Factors of Hyperactivity Disorder

	Order of Entry	F Change	df	t (within set)	β	Partial Corr	R^2
I.	Control Variables						
	1. GROUP	24.31**	1, 62	-4.93**	-.39	-.39	.15
II.	Measures						
	2. CONSCIEN- TIOUSNESS	7.67*	1, 59	-2.77*	-.22	-.23	.20

** $p < .001$, * $p < .01$

3.5.2. THE REGRESSION ANALYSES CONDUCTED WITH THE ADHD GROUP

3.5.2.1. The Regression Analysis of Attention Deficit And Hyperactivity Disorder

In order to examine the associated factors of Attention Deficit and Hyperactivity Disorder for the ADHD group, a regression analysis was conducted by using the steps given above. This regression analysis revealed that only one variable significantly predicted and accounted for the 13% of the total variance for the attention deficit and hyperactivity. None of the control variables significantly explained the total variance. Among the second step measures, Negative Affect explained 13% (F change (1, 62) = 9.01, $p < .01$, t (62) = 3, $p < .01$; $\beta = .36$) of the total variance.

Table 19. Associated Factors of Attention Deficit and Hyperactivity Disorder

Order of Entry	F Change	df	t (within set)	β	Partial Corr	R^2
I. Measures						
1. Negative Affect	9.01*	1, 62	3*	.36	.36	.13

* $p < .01$

3.5.2.2. The Regression Analysis of Oppositional Defiant Disorder

In order to examine the associated factors of Oppositional Defiant Disorder for the ADHD group, a regression analysis was conducted by using the steps given above. Results revealed that three variables significantly predicted and totally

accounted for the 33% of the total variance for the Oppositional Defiant Disorder. None of the control variables significantly explained the total variance. Among the second step measures, Depression symptoms explained 22% of the total variance (F change (1, 62) = 17.26, $p < .001$, t (62) = 4.16, $p < .001$; β = .47), Extraversion explained 6% (F change (1, 61) = 5.09, $p < .05$, t (61) = -2.26, $p < .05$; β = -.28), and Anxiety symptoms further explained 6% (F change (1, 60) = 4.97, $p < .05$, t (60) = 2.23, $p < .05$; β = .28) of the total variance. On the final step significant predictors of the ODD were Depression symptoms (t (60) = 2.12, $p < .001$; β = .26), extraversion t (60) = -2.46, $p < .05$; β = -.30), Anxiety symptoms (t (60) = 2.23, $p < .05$; β = .28).

Table 20. Associated Factors of Oppositional Defiant Disorder

Order of Entry	F Change	df	t	β	Partial Corr	R ²
(within set)						
I. Measures						
1. BDI	17.26**	1, 62	4.16**	.47	.47	.22
2. Extraversion	5.09*	1, 61	-2.26*	-.26	-.28	.28
3. BAI	4.97*	1, 60	2.23*	.26	.28	.33

** $p < .001$, * $p < .05$

3.5.2.3. The Regression Analysis of Conduct Disorder

In order to examine the associated factors of Conduct Disorder for the ADHD group, a regression analysis was conducted by using the steps given above. Results

revealed that only one variable significantly predicted and accounted for the 10% of the total variance for the Conduct Disorder. None of the control variables significantly explained the total variance. Among the second step measures, Extraversion explained 10% (F change (1, 62) = 7.01, $p < .01$, t (62) = -2.65, $p < .01$; $\beta = -.32$) of the total variance.

Table 21. Associated Factors of Conduct Disorder

Order of Entry	F Change	df	t (within set)	β	Partial Corr	R^2
I. Measures						
1. Extraversion	7.01*	1,62	-2.65*	-.32	-.32	.10

* $p < .01$,

3.5.2.4. The Regression Analysis of Attention Deficit Disorder

In order to examine the associated factors of Attention Deficit Disorder for the ADHD group, a regression analysis was conducted by using the steps given above. Results revealed that two variables significantly predicted and totally accounted for the 17% of the total variance for the Attention Deficit Disorder. None of the control variables significantly explained the total variance. Among the second step measures, Positive Affect explained 8% (F change (1, 62) = 5.71, $p < .05$, t (62) = -2.39, $p < .05$; $\beta = -.29$) of the total variance, then, Negative Affect explained for 9% (F change (1, 61) = 6.37, $p < .05$, t (61) = 2.52, $p < .05$; $\beta = .31$) of the total variance. On the final step the significant predictors of attention deficit were Positive

Affect ($t(61) = -2.54, p < .05; \beta = -.30$) and Negative Affect ($t(61) = 2.52, p < .01; \beta = .31$).

Table 22. Associated Factors of Attention Deficit Disorder

Order of Entry	F Change	df	t (within set)	β	Partial Corr	R^2
I. Measures						
1. PA	5.71*	1, 62	-2.39*	.29	-.29	.08
2. NA	6.37*	1, 61	2.52*	-.29	.31	.17

* $p < .05$

3.5.2.5. The Regression Analysis of Hyperactivity Disorder

In order to examine the associated factors of Hyperactivity for the ADHD group, a regression analysis was conducted by using the steps given above. Results revealed that four variables significantly predicted and totally accounted for the 31 % of the total variance for the hyperactivity. Among the control variables sibling order uniquely explained for 7% (F change (1, 62) = 4.39, $p < .05, t(62) = -2.10, p < .05; \beta = -.26$) and education of the mother uniquely explained for 6% (F change (1, 61) = 4.44, $p < .05, t(62) = -2.11, p < .05; \beta = -.26$) of the total variance. When Anxiety entered into the equation, it had a unique contribution of 13% to the explained variance (F change (1, 60) = 10.39, $p < .01, t(60) = 3.22, p < .01; \beta = .38$). Following Anxiety symptoms Conscientiousness uniquely explained for 5% of the total variance, (F change (1, 59) = 4.55, $p < .05, t(60) = -2.13, p < .05; \beta = -.27$).

On the final step the significant predictors of hyperactivity were Anxiety ($t(59) = 3.14, p < .01; \beta = .38$) and Conscientiousness ($t(59) = -2.13, p < .05; \beta = -.27$).

Table 23. Associated Factors of Hyperactivity Disorder

Order of Entry	F Change	df	t (within set)	β	Partial Corr	R^2
I. Control Variables						
1. Sibling Order	4.39 *	1, 62	-2.10*	-.26	-.26	.07
2. Education of the Mother	4.44*	1, 61	-2.11*	-.26	-.26	.13
II. Measures						
3. BAI	10.39**	1, 60	3.22**	.36	.38	.26
4. Conscientiousness	4.55*	1, 59	-2.13*	-.23	-.27	.31

** $p < .01$, * $p < .05$

3.5.3. THE REGRESSION ANALYSIS OF THE COMPARISON GROUP

3.5.3.1. The Regression Analysis of Attention Deficit and Hyperactivity Disorder

In order to examine the associated factors of Attention Deficit and Hyperactivity for the Comparison group, a regression analysis was conducted by using the steps given above. Results revealed that two variables significantly predicted and accounted for the 19% of the total variance for the attention deficit and

hyperactivity. Among the control variables income significantly explained 7% (F change (1, 70) = 4.99, $p < .05$, t (70) = -2.23, $p < .01$; $\beta = -.26$) of the total variance. Among the second step measures, Conscientiousness explained 12% (F change (1, 69) = 10, $p < .01$, t (69) = -3.16, $p < .01$; $\beta = -.36$) of the total variance.

Table 24. Associated Factors of Attention Deficit and Hyperactivity Disorder

Order of Entry	F Change	df	t	β	Partial Corr	R^2
(within set)						
I. Control Variable						
1. Income	4.99*	1, 70	-2, 23*	-.26	-.26	.7
II. Measures						
2. Conscientiousness	10 **	1, 69	-3, 16**	-.34	-.36	.19

** $p < .01$, * $p < .05$

3.5.3.2. The Regression Analysis of Oppositional Defiant Disorder

In order to examine the associated factors of Oppositional Defiant Disorder (ODD) for the Comparison group, a regression analysis was conducted by using the steps given above. Results revealed that only one variable significantly predicted and accounted for the 12% of the total variance for the oppositional defiant disorder. None of the control variables significantly explained the total variance. Among the second step measures, Conscientiousness explained 12% of the total variance (F change (1, 70) = 9.1, $p < .01$, t (70) = -3.02, $p < .01$; $\beta = -.34$).

Table 25. Associated Factors of Oppositional Defiant Disorder

Order of Entry	F Change	df	t	β	Partial Corr	R ²	
(within set)							
V.	Measures						
1.	Conscientiousness	9.1*	1,70	-3.02*	-.34	-.34	.12

* $p < .01$ **3.5.3.3. The Regression Analysis of Conduct Disorder**

In order to examine the associated factors of Conduct Disorder for the Comparison group, a regression analysis was conducted by using the steps given above. Results revealed that three variables significantly predicted and accounted for the 23% of the total variance for the Conduct Disorder. None of the control variables significantly explained the total variance. Among the second step measures, Agreeableness uniquely explained 11% (F change (1, 70) = 8.91, $p < .01$, t (70) = -2.99, $p < .05$; $pr = -.34$), Openness explained 6% (F change (1, 69) = 4.46, $p < .05$, t (69) = -2.11, $p < .05$; $pr = -.25$), and Positive Affect explained further 6% (F change (1, 68) = 5.1, $p < .05$, t (68) = 2.26, $p < .05$; $pr = .26$) of the total variance. On the final step the significant predictors of conduct disorder were Agreeableness (t (68) = -3.59, $p < .001$; $pr = -.40$), Openness (t (68) = -3.06, $p < .01$; $pr = -.35$), and Positive Affect (t (68) = 2.26, $p < .05$; $pr = .26$).

Table 26. Associated Factors of Conduct Disorder

Order of Entry	F Change	df	t	β	Partial Corr	R ²
				(within set)		
I. Control Variables						
II. Measures						
1. Agreeableness	8.91**	1, 62	-2.99**	-.34	-.34	.11
2. Openness	4.46*	1, 69	-2.11*	-.24	-.25	.17
3. PA	5.1*	1, 68	2.26*	.30	.26	.23

** $p < .01$, * $p < .05$

3.5.3.4. The Regression Analysis of Attention Deficit Disorder

In order to examine the associated factors of Attention Deficit Disorder for the Comparison group, a regression analysis was conducted by using the steps given above. Results revealed that three variables significantly predicted and accounted for the 24 % of the total variance for the Attention Deficit Disorder. Among the control variables the income of the family uniquely explained for 7% of the total variance, (F change (1, 70) = 5.44, $p < .05$), t (70) = -2.33, $p < .05$; β = -.27). When the Conscientiousness entered into the equation, it had a unique contribution of 12% to the explained variance (F change (1, 69) = 10.21, $p < .01$, t (69) = -3.20, $p < .01$; β = -.36). Then Positive Affect uniquely explained for 5% (F change (1, 68) = 3.99, $p < .05$, t (68) = -2, $p < .05$; β = -.24) of the total variance. On the final step the significant predictors of attention deficit were Conscientiousness (t (68) = -2.61, $p < .05$; β = -.30), and Positive Affect (t (68) = -2, $p < .05$; β = -.24).

Table 27. Associated Factors of Attention Deficit Disorder

Order of Entry	F Change	df	t (within set)	β	Partial Corr	R ²
I. Measures						
1. Income	5.44*	1, 70	-2.33*	-.27	-.27	.07
2. Conscientiousness	10.21**	1, 69	-3.20**	-.35	-.36	.19
3. Positive Affect	3.99*	1, 68	-2*	-.22	-.24	.24

** $p < .01$, * $p < .05$

3.5.3.5. The Regression Analysis of Hyperactivity Disorder

In order to examine the associated factors of Hyperactivity Disorder for the Comparison group, a regression analysis was conducted by using the steps given above. Results revealed that only one variable significantly predicted and accounted for the 7% of the total variance for the hyperactivity. None of the control variables significantly explained the total variance. Among the second step measures Conscientiousness explained 7% (F change (1, 70) = 4.98, $p < .05$, t (70) = -2.31, $p < .05$; β = -.26) of the total variance.

Table 28. Associated Factors of Hyperactivity Disorder

Order of Entry	F Change	df	t	β	Partial Corr	R ²
(within set)						
Control Variables						
I. Measures						
1. Conscientiousness	4.98*	1, 70	-2.31*	-.26	-.26	.07

*p < .05

3.6. SUMMARY TABLES FOR THE RESULTS

Table29. Summary of Group Differences on the Variables Used in This Study

Scale	Group Difference	Significance
BDI	I > II	p < .05
BAI	I > II	ns
NA	I > II	p < .001
PA	II > I	p < .001
ADD	I > II	p < .001
HD	I > II	p < .001
ADHD	I > II	p < .001
ODD	I > II	p < .001
CD	I > II	p < .001
Problem focused coping		ns
Emotion focused coping		ns
Indirect coping		ns
Extraversion		ns
Agreeableness		ns
Conscientiousness		ns
Neuroticism	I > II	p < .001
Openness		ns

Group 1 = ADHD Group, Group 2 = Comparison Children

Table 30. Summary of Group Differences on the CARSS

MEASURES	GROUP DIFFERENCES	MEANS		SIGNIFICANCE	SD
ADHD	I > II	I	26.51	p < .001	11,83
		II	12.39		
		T	19.45		
ODD	I > II	I	8.99	p < .001	5,14
		II	6.26		
		T	7.62		
CDD	I > II	I	1.49	p < .001	1,85
		II	.83		
		T	1.16		
ADD	I > II	I	14.47	p < .001	6,93
		II	5.38		
		T	9.22		
HD	I > II	I	6.03	p < .001	3,70
		II	3.35		
		T	4.69		

Group 1 = ADHD Group, Group 2 = Comparison Group, T = Total Group

Table 31. Summary of Correlations between TBF1 scores and other mother related variables

	Extraversion	Agreeableness	Neuroticism	Conscientiousness	Openness
Positively correlated with	Problem focused coping	Problem focused coping	Negative Affect	Problem focused coping	Problem focused coping
	Positive affect		BDI BAI	Positive affect	Positive affect
Negatively correlated	Negative Affect	Negative Affect	Problem focused coping	Negative Affect	Negative Affect
	BDI	BDI BAI	Positive affect	BDI	BDI

Table 32. Summary of Correlations between CARSS scores and scores of maternal TBF1

ADD	HD	ADHD	ODD	CD
Extraversion	Conscientiousness	Conscientiousness	Extraversion	Extraversion
Conscientiousness	Neuroticism	Neuroticism	Agreeableness	Agreeableness
Neuroticism		Openness	Conscientiousness	Neuroticism
Openness			Neuroticism	
			Openness	

Table 33. Summary of correlations between CARSS scores and scores of TWCI, BDI, BAI, PANAS, TBF1

ADD	HD	ADHD	ODD	CD
Negative Affect (+)	Negative Affect (+)	Negative Affect (+)	Negative Affect+	Negative Affect+
Positive affect (-)	BDI (+) BAI (+)	Positive affect (-)	Positive affect (-)	Positive affect (-)
BDI (+) BAI (+)		BDI (+) BAI (+)	BDI (+) BAI (+)	BDI (+) BAI (+)
PFC (-) IDC (+) TWCI (-)		PFC (-) TWCI (-)	PFC (-)	

Table 34. Summary of the Regression Analysis of Whole Group

SUBSCALES OF CARSS	ADHD	ODD	CD	ADD	HD
PREDICTORS	GROUP (-)	GROUP(-)	INCOME (-)	GROUP(-)	GROUP (-)
	CONSCIENTIOUSNESS(-)	BDI (+)	AGREEABLENESS (-)	PA (-)	CONSCIENTIOUSNESS (-)
	OPENNESS (-)		EXTRAVERSION (-)	NA (+)	
	BAI (+)				

Table 35. Summary of the Regression Analysis of Diagnosed Group

SUBSCALES OF CARSS	ADHD	ODD	CD	ADD	HD
PREDICTORS	NA (+)	BDI (+)	EXTRAVERSION (-)	PA (-)	SIBLING ORDER (-)
		EXTRAVERSION (-)		NA (+)	EDUCATION OF THE MOTHER (-)
		BAI (+)			BAI (+)
					CONSCIENTIOUSNESS (-)

Table 36. Summary of the Regression Analysis of Comparison Group

SUBSCALES OF CARSS	ADHD	ODD	CD	ADD	HD
PREDICTORS	INCOME (-)	CONSCIENTIOUSNESS (-)	AGREEABLENESS (-)	INCOME (-)	CONSCIENTIOUSNESS (-)
	CONSCIENTIOUSNESS (-)		OPENNESS(-)	CONSCIENTIOUSNESS (-)	
			PA (+)	PA (-)	

CHAPTER IV

DISCUSSION

This study aimed to investigate the effects of parents' personality characteristics, coping styles, distress symptoms in predicting ADHD, ODD and CD symptoms. The sequence of the discussion will be as following: psychometric characteristics of Turkish Big Five Inventory (TBFI), psychometric characteristics of Childhood and Adolescent Rating and Screening Scale (CARSS), group differences for the variables of this study, and the results of the main analysis, that is regression analysis.

4.1. PSYCHOMETRIC CHARACTERISTICS OF TURKISH BIG FIVE

Reliability analyses were conducted in order to examine the psychometric characteristics of TBFI. Alpha coefficient of subscales of TBFI were found as .75, .74, .74, .66, and .51, for Neuroticism, Extraversion, Openness, Conscientiousness, and Agreeableness, respectively. Based on these coefficients, it can be concluded that this measure is internally consistent. In general studies in literature indicate that the internal consistency of Big 5 is high but also in general the alpha coefficients given in literature are higher than the ones found in this study.

Big Five has been studied in many cultures: Tagalog, (Church & Katigbak, 1989), English (Goldberg, 1992), Japanese (Bend et al., 1975), German (Ostendorf, 1990), Dutch (Hoftsee et al., 1992), Turkish (Sommer, 1998; Sommer & Goldberg,

1999; Somer, Korkmaz, & Tatar, 2002). Studies reveal convergent and discriminant, cross instrument and observer validation for all factors (Costa & McCrae, 1995) and indicate that the model is culture and language free (Digman & Shmelyov, 1996). The alpha reliabilities indicated for factors of BFI by relevant studies range from .75 to .90 in Canadian and US samples and the 3-month test retest reliabilities range from .80 to .90 with a mean of .85 (John & Donahue, 1998 cited in Benet – Martinez & John, 1998). Alpha reliabilities of Extraversion and Neuroticism are shown to be higher than .70 (Sheldon, Ryan, Ilardi, & Ilardi, 1997; Somer, 1998; Somer et. al., 2002). In that sense results of the present study seem to be consistent with literature. Because the present study indicated adequate internal consistency for Extraversion and Neuroticism, we may conclude that findings for Extraversion and Neuroticism are consistent with literature.

In the present study the internal consistency coefficients indicated for Openness is .74. This result is consistent with literature because studies indicate internal consistency coefficients ranging between .51 - .84 (John, Caspi, Robins, Moffit, Loeber, 1994; Sheldon, Ryan, & Ilardi, 1997; Somer et. al., 2002). However, the results indicating lower coefficients for Conscientiousness and Agreeableness are slightly surprising when compared to coefficients of Openness, because the studies in relevant literature indicate higher alpha coefficients for Agreeableness and Conscientiousness than Openness (e.g., John & Donahue, 1998; Benet – Martinez & John, 1998). Contrary to the present study, in many studies Openness is consistently found to be the least robust dimension of the big five (Digman, 1990; John, Caspi, Robins, Moffit, Loeber, 1994; Somer, 1998; Somer & Goldberg, 1999).

Even though many studies also indicated that Big 5 was culture and language free, cross situationally stable results reveal that the differences in culture, language, and instruments used, and subject characteristics may play a role on results. We may argue while most of the studies about Big 5 are conducted in Western Cultures a majority of them have Christian Culture and use Indo European language (Somer & Goldberg, 1999). Contrastingly, Turkey is an Islamic culture and uses Altaic language (Somer & Goldberg, 1999). The results of the present study are consistent with the results of Somer and Goldberg (1999)'s study, which gives evidence to the presence of at least some cultural factors. Depending on the conflict experienced in Turkey, between traditionalism and Western-like modernism lifestyles, Somer and Goldberg (1999) revealed in their study conducted with university students that Turkish Factor V, which is called Openness, might reflect more aspects of Openness to experiences.

The contents of the traits measured and subject characteristics may also play a role on different results of this study. Among all five, Conscientiousness is the most work related trait that is shown to predict performance at school among children (Ranseen, et. al., 1998) and performance at work among adults (Barrick & Mount, 1991). Agreeableness is a trait which emphasizes the relationship skills and pattern. The majority of the subjects in this study are non - working mothers while in most of the other studies samples are chosen from university students who are receiving education for careers and are more exposed to interpersonal relationships when compared to non - working mothers. In addition to the reasons reported above, while examining the differences between the findings of the present study and some other studies in literature, it should be also noted that TBF1 was the least understood

measure of the study by the participants. In fact because of misunderstanding the instructions of the scale, subjects made many mistakes in this measure. For this measure subjects were required to choose one of the five points for each item. When subjects filled the measure in a different way (for example, by marking one of the points of the item given as an example and leaving others empty, or circling the number of the items that they chose and not marking any point for any of the items...etc.) they had misunderstanding scores and in many cases it was explained for a second time and required from subjects to answer again. The ratio of misunderstanding was high in both groups but it was higher in mothers of ADHD group (78.57% and 21.43% for ADHD and Comparison Groups, respectively). Thus low alpha coefficients for the last two dimensions of TBFi may stem from cultural differences or a possible attention problem in mothers.

Concurrent validity analysis of the TBFi indicated correlations most of which were consistent with the literature. Extraversion, Openness, and Conscientiousness are found to be associated with Positive Affect. Four subscales of TBFi, namely Agreeableness, Extraversion, Openness, and Conscientiousness showed positive correlations with Problem Focused Coping and negatively related to Negative Affect and Depression. Neuroticism was positively correlated with Negative Affect, Depression, and Anxiety and negatively correlated with Positive Affect and Problem Focused Coping. Neuroticism is frequently shown to be associated with distress symptoms and disorders (e.g. Nolan, et. al. 1998). This result may be associated with the content of Neuroticism domain. Neuroticism is a broad trait, which has some common features with anxiety such as negative affect (Costa & McCrae, 1992, 1995). Hence, this result was consistent with literature.

Though the associations between Big Five and Coping Ways and/ or Positive–Negative Affect were rarely studied, consistent with the results of the present study, in general positive coping skills and positive emotionality are indicated to be correlated with Extraversion (Larsen, 1992, Fisher, 1993; Saklofke, Kelly, & Janzen, 1995). Though one could expect low Anxiety to show significant associations with Extraversion, there was no significant correlation between them. In relevant literature, anxiety has been found to be negatively correlated with extraversion. Extraversion is a domain expressing the extent of how much a person is sociable (Ebert, Tucker, & Roth, 2002). Thus, when the results of the present study are compared with literature, it can also be concluded that having good interactions may be preventing the increases in anxiety symptoms rather than preventing the existence of anxiety symptoms. Therefore, extraversion may be associated with the prognosis of anxiety more than the presence of it. A second possible reason may be explained with cultural differences. In an individualistic culture anxiety symptoms of a person may lead a person to loneliness where as in a collectivist culture it may be a more frequent way especially for women to express their marital, parental or other kinds of distress and it may receive higher approval, acceptance and may even result in having more support from environment.

There is not much result related to the association between – affective state or coping ways. Therefore, it is difficult to compare this result with literature because there is not much study examining the association between three dimensions of Big Five (i.e., Openness, Conscientiousness, and Agreeableness) and distress disorders or coping ways.

Based on the correlations between the five dimensions of TBFİ and other maternal variables of the study it can be concluded that in general results of the present study support concurrent validity of TBFİ.

4.2. PSYCHOMETRIC CHARACTERISTICS OF CHILDHOOD AND ADOLESCENT RATING AND SCREENING SCALE (CARSS) MEASURE

In order to investigate the psychometric properties of CARSS, reliability analysis was conducted, and group differences were examined as the validity study. The study conducted by Ercan et. al., (2001), revealed high internal reliability coefficients such as .88, .95, .89, and .85 for ADD, ODD, HD, and CD, respectively. The results of the present study revealed similar internal reliability coefficients as .92, .90, .87, .65, and .92 for ADD, HD, ODD, CD, and ADHD, respectively. These results indicate that CARSS is an internally consistent measure.

Independent samples of t –test was conducted in order to examine group differences for the criterion validity of CARSS. As expected the results revealed significant group differences on all subscales of CARSS. Compared to the Comparison Group, ADHD group had higher scores on all subscales of CARSS. This result indicates that CARSS has sufficient criterion validity and it can successfully distinguish symptoms of ADHD. This result is consistent with expectations and the results of the study conducted by Ercan et. al. (2001).

4. 3. GROUP DIFFERENCES FOR THE VARIABLES OF THIS STUDY

4.3.1. GROUP DIFFERENCES FOR MOTHERS AFFECTIVE STATE

Independent samples of t – test was conducted for the variables of Depression and Anxiety symptoms, Positive and Negative Affect in order to examine group differences.

Consistent with literature (e.g., Faraone, Biederman, Mennin, Garshon, Tsuang, 1996) the results revealed that mothers of children with ADHD had higher scores on Depression. The association between depression and ADHD may stem from several reasons such as common vulnerability factors, poor parental modeling, poor interaction between the depressive parent and child, the difficulty in managing a child with ADHD, and possible exaggerations on self or child reports made in order to receive help.

One of the common vulnerability factor may be the genetic factor. Both disorders (Carey & Dillalla, 1994) and ADHD (Bradley & Golden, 2001) were shown to be related with genetic factors and to be heritable. Biederman et. al. (1996a) has indicated that ADHD predicts psychopathology in later life. Depression and ADHD have some overlapping symptoms such as inattention. This leads some of the researchers to questions regarding whether depression or some other pathologies are the adult manifestations of ADHD.

Having a depressive mother is a vulnerability factor because depressive people are known to provide poor modeling skills and poor interaction with their children (Garber, Robinson, & Valentiner, 2000). Thus it can be concluded that a child raised by a depressive mother may be disorganized (which is a symptom of

inattention) because of poor modeling in organization and may have behavior problems because of poor interaction.

Stable, global, and internal attribution styles are known as vulnerability factors for depression (Norton, Buhr, Norton, & Walker, 1999; Garber, Robinson, & Valentiner, 2000). Vulnerable mothers may also have stable, global, internal attributions about the diagnostic status of their children, thus they feel themselves responsible for their child's diagnosis. Hopelessness model, a revised form of helplessness model defined as 'expectation that loss of highly desirable outcome will occur and expectation that nothing is going to change this situation better' (Metalsky & Joiner, 1992), states that people who feel hopeless are more vulnerable to depression (Metalsky & Joiner, 1992). In accordance with this model, we may conclude that the managing difficulties of ADHD children may lead to parental distress, as supported by Chronis et. al. (2003), and following some unsuccessful trials for good interaction with their children this stress may lead to feelings of parental helplessness as suggested by Barkley (1990) and inturn higher Depression scores. Supporting this view, McClearly and Ridley (1999) reported that, parents of ADHD children participating parent programs reported feelings of guilt, incompetence, and failure. Prior to the program Schachar (1978) indicated that when the children with ADHD received treatment, the quality of the interaction between child and parent increased.

Considering the results for Negative and Positive Affect, it is indicated that mothers of ADHD group experienced more Negative Affect, and less Positive Affect than the mothers of the Comparison group. There is not much study conducted to detect positive affect and negative affect of mothers of ADHD children. However,

high negative affect and low positive affect are known to be associated with depressive symptoms (Goodyear et. al., 1993), which is shown to be more prevalent among the relatives of ADHD children (Faraone, Biederman, Keenan, & Tsuang, 1991; Faraone, Biederman, Mennin, Garshen, & Tsuang, 1996). Thus the results of the present study for positive and negative affect scores were consistent with the expectations.

The results did not yield group differences on Anxiety symptoms. Contrary to the findings of the present study, literature on ADHD revealed that anxiety is higher among the relatives of ADHD (e.g., Sylvester, Hyde, & Reichler, 1987; Walker, Lahey & Hindframe, 1987; Biederman, Newcorn, & Sprich, 1990; McClellan et. al. 1990) than relatives of the non-diagnosed group. Among all relatives, mothers are shown to be the ones who exhibit anxiety symptoms most (Walker, Lahey & Hindframe, 1987). The possible reason of this difference may be the difference in measuring Anxiety. Though some other studies in literature assessed Anxiety with diagnostic interviews (e.g. Nigg & Hinshaw, 1998), in this study BAI scores were accepted as a criterion of determining Anxiety symptoms.

Another point is that higher anxiety may be related to prognosis of ADHD (instead of predisposing it). It may be predicting the symptom severity or the comorbidity (Biederman et. al., 1995). Podolski and Nigg (2001) found that mothers experienced more distress due to symptom severity of inattention, Hyperactivity, or comorbid symptoms, while the fathers' distress increased only when ODD accompanied ADHD.

4.3.2. GROUP DIFFERENCES FOR MOTHER PERSONALITY TRAITS AND COPING STYLES

Analyses of variance with repeated measures on the last factor was performed for big five personality characteristics and coping styles in order to examine the possible group differences. The results related to personality domains did not yield a main effect for group but there was a significant main effect for big five personality characteristics. Both group of mothers tended to have higher scores on Agreeableness than Extraversion, Openness and Neuroticism. Among all five subscales of TBF1, mothers of two groups differed from each other only on Neuroticism scores. Results failed to support possible group difference for Extraversion, Conscientiousness, Agreeableness, and Openness.

If we consider that ADHD is associated with personality traits in various possible ways - such as being an early precursor of personality characteristics or being a consequence of it -, comparing the results with literature related to adulthood ADHD will also be helpful for understanding the association between parent personality and child ADHD. Some studies revealed associations between low sociability scores - which is related to Extraversion - and ADHD (Nigg et. al., 2002) while some reveal positive associations between high Extraversion scores and ADHD (Parker, Majeski, & Collin, 2004).

The inconsistency of the literature on Extraversion scores and ADHD symptoms may be due to the different personality inventories or diagnostic criteria used in these studies. Some of the researchers suggest an association between Eysenck's Extraversion and sensation seeking (Bullock & Gililand) which is a component of impulsivity dimension of ADHD (White, 1999). Another study

(Parker, Majeski, & Collin, 2004) which found positive correlations between Extraversion and ADHD, used NEO – FFI, which was a short version of NEO – PI – R, in order to assess the personality.

Most of the studies finding no association between ADHD and Extraversion (i.e., Nigg et. al., 2002) most of which were conducted with either diagnosis of ADHD or Achenbach scores. The number of the studies made on parents is restricted but the existing results (Nigg & Hinshaw, 1998) are consistent with the results of the present study. This study was also conducted on children having ADHD diagnosis and revealed no difference between a child's diagnostic status and mothers' Extraversion scores. The present study showed a great consistency with the studies in literature (i.e., Parker et. al., 2004; Nigg & Hinshaw, 1998) by revealing no group differences on Openness either.

The results of the present study indicate that the mothers of ADHD children evaluate them selves as more neurotic compared to the mothers of the Comparison group. As Neuroticism is defined as the extent of having a tendency to experience negative emotionality (Costa & McCrae, 1992; DeNeve & Cooper 1998; Ebert, Tucker, & Roth, 2002), we may conclude that this result is also consistent with studies revealing that Anxiety is more prevalent among relatives of ADHD children (Walker, Lahey, & Hindframe, 1987) and findings indicating that Neuroticism of the mother is associated with child delinquency (Bourdin, Henggeler, & Pruit, 1985) which is shown to frequently occur together with ADHD of the child (Dalteg, Lindgren, & Levander, 1999). Again when we assume that ADHD is either a predisposing factor or a consequence of personality characteristics, we may conclude that findings indicating positive association between adult Neuroticism and adult

ADHD (e.g.; Parker et. al. 2004; Nigg et. al. 2002) also support the results of the study. This association might stem from different factors:

1- Personality characteristics are heritable (Eysenck, 1956; Jang, Livesley, & Vernon, 1996). Heritability may bring about the possibility that ADHD may be a different manifestation of Neuroticism in children or Neuroticism may be a different manifestation of ADHD in adulthood. Supporting this view, Barkley (2003) suggests that ADHD represents an extreme of or delay in a normal trait.

2- The misdiagnosis and the overlap between some symptoms of ADHD and characteristics of Neuroticism, for example, rigid and impulsive behaviors are characteristics of both ADHD and Neuroticism (Costa & McCrae, 1995).

4- The lower quality and effectiveness of the relationship between mother and child, may stem from lower parenting abilities due to the parents' distress (Belsky, Crinic, & Gable, 1995) resulting from the managing difficulty and may lead to increase in ADHD symptoms of the child (Podolski & Nigg, 2001).

5- Dissatisfaction with their own parenting skills (Barkley et. al., 1992) may result in higher negative emotions which is a characteristic of Neuroticism.

6- Exaggeration in symptom reports in order to obtain help is also possible because mothers of ADHD children participated this study on the day their children were diagnosed.

The findings for Agreeableness were inconsistent with literature (Nigg & Hinshaw, 1998). This inconsistency between the findings of this study and relevant literature might be due to the structure of 44 BFI, due to cultural differences or sample difference. In the present study 44 BFI resulted in lower reliability when compared with it's adaptations to other cultures (e.g. Benet & John,1995). However,

it should be considered that Agreeableness may be more important for a collectivist culture compared to individualist cultures. Thus all mothers regardless of their child's diagnostic status, tend to exhibit a good amount of Agreeableness. Consistent with this argument, Agreeableness was found to be the most strong personality trait among the mothers of the present study. Unlike the results of the present study, results of Nigg and Hinshaw (1998) revealed that conscientiousness was marginally lower in mothers of children with ADHD diagnosis than in mothers of non-diagnosed children. The inconsistency between the relevant studies in literature and the present study for Conscientiousness may stem from its content; this is the domain, which is thought to be work related (John & Srivastava, 1999), and the majority of the present study's participants were non-working mothers. The convergence may also stem from the difference between personality inventory items, that is 'Tends to be disorganized' (44 BFI) and "I keep my belongings neat and clean" (NEO Inventory, cited by Nigg & Hinshaw, 1998) may be understood differently by the participants.

Another possible reason may be explained by fit model, according to which it can be concluded that mothers of ADHD children may not have different characteristics when compared to mothers of normal children. However, when compared to normal children, children with ADHD are expected to be more vulnerable to experience problems due to some characteristics of their mothers.

Considering the results of coping styles, results revealed that mothers scored higher on Problem Focused Coping (PFC) than Emotion Focused (EFC) regardless of their child's diagnostic status. There was no difference between PFC and Indirect Coping (IDC) scores for mothers of ADHD children, between EFC and IDC scores

of mothers of Comparison group. According to these results both groups use Problem Focused Coping more frequently than emotion-focused coping. However, while mothers of ADHD children use IDC more frequently than EFC, mothers of Comparison children used both coping styles equally.

It is difficult to compare these results with literature because the association between coping ways and ADHD symptoms is not frequently studied. The existing studies reveal that the family contacts which may have importance on determining one's perceived coping resources of ADHD children's parents were not much extended and helpful (Cunningham, Benness, & Siegel, 1988). In normal conditions, having restricted family contacts may cause a person to give up expecting help from environment. However, as mentioned before because of their increased parenting stress, mothers of children with ADHD may more often experience parental helplessness (Barkley, 1990), therefore, may be dissatisfied with their own coping skills. Hence, after using all their own resources, these parents may call help from environment more frequently than staying passive. Thus, when we consider this explanation the results revealing that "all mothers use PFC more frequently than the two other coping styles and while mothers of ADHD children use IDC more frequently than EFC, mothers of Comparison children used both coping styles equally" seems reasonable. This is also consistent with the study of Podolski and Nigg (2001), which revealed that a higher level of maternal distress was associated with use of community resources.

4.4. THE MAIN ANALYSIS

Hierarchical regression analyses were performed in order to examine the associated factors with the sub measures of the CARSS Subscales: symptoms of Attention Deficit and Hyperactivity Disorder, Oppositional Defiant Disorder, and Conduct Disorder. For all of these regression analyses, sex, age of the child, additional diagnosis, sibling order, age of the mother, incomes were entered in the first block hierarchically in order to control for the variance accounted for by the possible significant control variables. Group variable was added to the first block only for the regression analyses conducted for the whole group.

In the second block, the measures of the study were entered into the equation again hierarchically, which were total Anxiety and total Depression symptom scores, Positive and Negative Affect scores, scores of Turkish Big Five and Ways of Coping.

These analyses will frequently be explained in the frame of fit model, which suggests interpreting the child temperament with some aspect of the rearing environment. The expectation in fit model is not to predict ADHD and non – ADHD groups from the difference in their parent personality traits, rather, it is to predict ADHD from the interaction between parent personality and child diagnostic criteria (Nigg & Hinshaw, 1998). For example, high Anxiety symptoms or low Extraversion may be observed in parents of many children but may increase the risk of exhibiting behavioral disturbances (i.e., Oppositional Defiant Disorder and Conduct Disorder) for ADHD children. Results of Nigg and Hinshaw (1998) supported this model by indicating no group differences for mother's Neuroticism but indicating larger predictive role of it on antisocial behaviors for children with ADHD. Similarly

Pekcanlar et. al. (1999) also revealed that they have not encountered problems in family functions of ADHD children.

Associated Factors of ADHD Symptoms

The associated factors of ADHD symptoms in the total group were having ADHD diagnosis, low Conscientiousness, low Openness, and high Anxiety symptom scores of the mother. For the ADHD group the only associated factor of ADHD symptoms was Negative Affect scores of the mothers, whereas for the Comparison group the associated factors were low Income and low Conscientiousness. These findings are partially consistent with literature. Relevant studies in literature indicate that Negative Affect is associated with Depression (Watson, Clark, & Harkness, 1994), and this association is shown to be stronger among the relatives of ADHD children (Faraone, Biederman, Keenan, & Tsuang, 1991). Consistently, the literature shows that parental distress is closely related to ADHD symptoms of the child (Nigg & Hinshaw, 1998). Parental distress may be associated to child ADHD through two ways; it may increase the ADHD symptoms of the child or it may stem from the diagnostic status of the child and higher symptoms of ADHD.

Negative Affect may cause the mother to be unpredictable which may bring out child Anxiety that has overlapping symptoms with ADHD. It's also shown that parents of ADHD children have low parental self-esteem and high distress (Mash & Johnson, 1983). Thus it can be concluded that children with ADHD may be decreasing the self esteem and increasing the Negative Affect of the mother. People with Negative Affect are also known to have a negative view (Gençöz, 2000). Thus it

can also be concluded that mothers of ADHD children may have rated the symptoms of their children as being more severe than they actually are.

The difference between predictors of ADHD and Comparison groups seems to be consistent with literature when evaluated in the frame of fit and vulnerability models. In accordance with diathesis – stress (vulnerability) model, normal children may cope with their mothers' Negative Affect and adapt her behaviors better, while ADHD children are vulnerable and have difficulty in coping with it.

In the Comparison group, low income was associated with ADHD symptoms. This is particularly consistent with literature. Low income is associated with child pathologies (Pace & Mulins, 1999). The prevalence of ADHD is higher in low-income populations (Barkley, 1990). There are different possible reasons of this association. It may cause parental distress, inadequate feeding, and stimulus deprivation. It may also cause distress on parents and both parental distress (Anastapoulos, Guevremont, Shelton, & Dupaul, 1992) and poor environmental factors are shown to be related with symptom scores of ADHD (Öktem, 1993).

Associated Factors of ODD Symptoms

Among the whole group, ODD was predicted by child's ADHD diagnosis and higher Depression symptom scores of the mother. In ADHD group, ODD symptom scores of children were predicted by high Depression and Anxiety symptom scores, low Extraversion scores of mothers and in the Comparison group, only by low Conscientiousness score of mothers. The results revealing that ODD symptoms were associated with mothers' scores of low Extraversion, high

Depression and Anxiety symptoms only in ADHD diagnosed group, is partly consistent with literature.

The association between ODD symptom scores of ADHD children and Depression and Anxiety symptom scores of their mothers may be due to possible common genetic liability (Faraone, Keenan, & Tsuang, 1991), poor interaction between ADHD child and depressive or anxious mother which may result in maladaptive learning experiences (Garber, Robinson, & Valentiner, 2000), or increase in managing difficulty, all of which were shown to be associated with comorbid ODD symptoms.

Severity of behavior disturbances is associated with environmental factors including parental stress (Mash & Johnston, 1983a; Biederman et. al., 1995; McCleary & Ridley, 1999). Researchers indicated that as ODD accompanies ADHD, parental distress scores increases (Nigg & Hinshaw, 1998). Parents of ADHD + ODD children are shown to have higher distress as compared to parents of children only with ADHD and normal groups (Johnston, 1996; Podolski & Nigg, 2001). Nigg and Hinshaw (1998) found that relatives of probands of children with ADHD and ODD were more neurotic than the relatives of children only with ADHD. This may result in poor interaction between mother and child, which may cause inadequacy in parenting or misleading the child who is already vulnerable. Consistently, in the present study it was found that parents of ADHD children had higher Depression scores than parents of the Comparison group.

The Association Between Extraversion and Both of Two Behavioral Disturbances (ODD/ CD).

Extraversion is the domain, which measures the quantity and intensity of relationships, energy level, positive emotionality, excitement seeking (DeNeve & Cooper, 1998), and the level of a person's sociability and assertiveness (Ebert, Tucker, & Roth, 2002). Behavioral disorders are characterized by antisocial attitudes, aggressive and harmful behaviors towards people and animals, having frequent arguments with other people, destructing property, deceitfulness and theft, and serious violations of rules. Even, the definitions of Extraversion and behavioral disorders seem strongly contrasting to each other. It is difficult to imagine a person who shows aggression to people and destructs property, to be sociable at the same time. Parallel with this, we may expect to observe low Extraversion attitudes in someone who has behavioral problems.

Results of the present study revealed that low Extraversion scores of mothers of ADHD group, associated with both higher ODD and CD scores. Studies in literature indicate either positive correlation with Extraversion and ADHD (White, 1999) or no correlation (e.g., Nigg & Hinshaw, 1998). Only a few studies reported negative correlations between some characteristics of Extraversion (such as sociability) and ADHD (Nigg, et. al., 2002). The main reason underlying these contrasting findings is the difference of the measures used in the studies which include impulsivity (which is also observed in CD) facet consisting of sensation seeking and disinhibition domains while others excluded this facet. A more detailed discussion of this issue exists under the title of 'Extraversion – ADHD' in Chapter 1. The findings of the present study revealing negative correlations between

Extraversion scores of mothers and behavioral disturbances symptom scores (i.e., ODD and CD) of ADHD children are particularly consistent with more recent studies, indicating negative correlations between social skills of extravert people and ADHD (Costa & McCrae, 1995, Nigg et. al., 2002). Considering the association of Extraversion with social skills we may state two possible explanations for the relevant results of this study:

1- Considering the fit model, we may argue that ADHD children already have some social skill problems, so they need more modeling and better guiding to prevent the development of symptoms of behavioral disturbances. Supporting this, the positive emotion facet scale of Extraversion (in Neo-PI-R) is associated with the item 'perceptive of interpersonal cues' in California Q Set (Costa & McCrae, 1995). Normally developing children may obtain cues related to social skills from environment. In accordance with the fit model, we may conclude that this may stem from the adaptability and tolerance of normal children to their mothers' low Extraversion. A child without an ADHD diagnosis may learn social skills through many ways like modeling father or other significant people, observing the surrounding, even if s/he has an introvert mother. Whereas ADHD diagnosed children may be more vulnerable and be adversely affected by poor social skills of their mothers by means of poor modeling or poor relationship it causes. Thus parental difficulty on these skills may increase the behavioral disturbance symptoms of the child with ADHD.

2- Children with ADHD argue with others and give harm to environment. As Podolski and Nigg (2001) state, parents of these children may experience social withdrawal because of the socially disapproved behaviors of their children.

Another factor causing that the association of low Extraversion and behavioral disturbances may stem from shared etiology; both low Extraversion and behavioral disturbances are shown to be associated with disinhibition (White, 1999).

A different possible explanation may be that low Extraversion may affect the parenting styles. Extraversion includes characteristics such as warmth and empathy (Costa & McCrae, 1995). Introvert mothers may lack these characteristics. Studies indicated that children with CD were more likely to have Antisocial Personality Disorder (Lahey et. al., 1988; Frick et. al., 1991) and childhood behavior problems.

Extraversion was not found to be associated with ADHD symptoms of neither the ADHD diagnosed group nor the normal Comparison group, but it had significant associations only when behavioral disturbances accompanied ADHD. This may again be linked to the factors discussed above, i.e., genetic factors, increased managing difficulties, affected parenting styles and increased compensating difficulty of the child due to his/ her symptoms severity, or the interaction of all.

According to the ANOVA results discussed before, mothers of children with ADHD were not different from mothers of Comparison group. In terms of these results it may not be right to indicate that ADHD children with accompanying ODD/ CD symptoms had mothers scoring low on Extraversion but it can be concluded that ADHD children are more vulnerable and may be affected more adversely from low Extraversion characteristics of their mother.

The Links Between Behavioral Disturbances and Two Characteristics of Big Five (i.e., Agreeableness and Conscientiousness)

Among the Comparison group, consistent with the relevant studies in literature (i.e., Nigg & Hinshaw, 1998), low mother Agreeableness and Conscientiousness were associated with behavioral disturbances of children. Nigg and Hinshaw (1998) argued that low Agreeableness and low Conscientiousness could be expected to predict the comorbid behavioral disturbances of children who had ADHD diagnosis. In the present study these qualities of the mothers were specific to the Comparison Group. A possible reason for this difference between these studies may stem from the sample and method differences. In the present study there were only two groups, ADHD diagnosed and normal Comparison groups, and only a scale measuring ODD/ CD symptoms. In the studies of Nigg and Hinshaw (1998) there were also groups consisted of subjects with ODD/ CD diagnosis, whose overt antisocial behaviors were observed from the sidelines of the classroom and playground. Results may differ between ADHD diagnosed children with comorbid ODD/ CD diagnosis and ADHD diagnosed children with comorbid ODD/ CD symptom scores and also between the data obtained from only reports of mothers and data supported by professional observation.

Associated Factors of CD for Whole and Comparison Groups

Among the whole group, CD was associated with low Income, low Agreeableness, and low Extraversion scores, whereas for the Comparison group low Agreeableness scores, high Positive Affect, and low Openness scores were associated with symptoms of CD. Agreeable people are known to have high

relationship quality, known to be tender minded and, to be good on interpersonal relations (DeNeve & Cooper, 1998; Ebert, Tucker & Roth, 2002), however, as mentioned before, CD people are not good in social skills. Therefore, these dimensions also seem to be contrasting to each other.

When the association between parental personality and CD symptoms in the child is considered, it may be concluded that a disagreeable mother will experience difficulty in having a good interaction with her child is considered, being a good model to him/ her for social skills. The low empathy, low trust dimensions of low Agreeableness is linked to personality disorders (Watson, Clark, & Harkness, 1994). Consistent with this, parental hostility, which is shown to be associated with low Agreeableness of the parent, is reported to be positively correlated with the behavioral disturbances of the child (Patterson & Dishion, 1988).

While having low Extraversion may result in not being a good model, having low Agreeableness, which is related with hostility (Costa & McCrae, 1995) may also result in being a bad model. Consistently with fit and vulnerability models, having a disagreeable mother may be evaluated as a more difficult and challenging factor.

Depending on the restricted relevant literature, one could expect that CD symptoms comorbid with ADHD diagnosis would also be predicted by low Agreeableness (Nigg et. al. 2002; Nigg & Hinshaw, 1998). However, the results did not indicate so. This may stem from several reasons. CD is frequently linked to genetic factors (e.g., Frick, Lahey, Christ, & Green, 1991). If the association between CD symptom scores and Extraversion arises from common genetic factors, it may be possible that CD symptom score of ADHD children is not affected from environmental factors.

It may also stem from the possible differences in socialization process between ADHD and developmentally normal children. In order to learn the rights and the wrongs, all children need to be bounded by their parents (McKenzie,2000). ADHD children, especially ones with comorbid behavioral disturbances may need these limitations more than the 'healthy' children. A mother scoring low on Agreeableness and Openness may also be restrictive. These characteristics of the mother may be disturbing for normal controls but they may be preventing factors from existence or increasing behavioral disturbances for ADHD diagnosed children. A similar explanation may be made for the positive correlation between Positive Affect and CD symptoms of Comparison children. A very happy and carefree mother may have flexible discipline and this may result in behavioral problems of child.

This view is consistent with the results of the present study revealing that low Openness of the mother was associated with CD symptoms of non-diagnosed children. To my knowledge, there is not much study relevant to the association between Openness and CD symptom scores. Another reason of the association between low Openness of the mother and CD symptoms of the children lies in the definition of Openness. Openness refers to the curiosity, originality of a person and how much a person is interested, inventive, and imaginative. Depending on this definition, we may suggest a possible explanation for the results of the present study. Mothers scoring low on Openness may be too strict and/or too refusal to child's original inventive ideas and behaviors and that may lead a mother who is vulnerable (because of the stress of raising a child with ADHD) to experience low parenting effectiveness (O'Leary, 1995) and, inturn, may lead to aggressive and antisocial behaviors of children.

CD was the only dimension, on which the symptom scores were not associated with the 'group' variable, among the whole group. This result indicated that the existence of CD symptoms was not associated with the diagnostic status of the child. Hence this result does not support the findings indicating that children with ADHD exhibit CD symptoms more frequently than Comparison children (Biederman, Newcorn, & Sprich, 1991; Milberger et al., 1995). However, it seems consistent with the study of Faraone et. al. (1997) and Taylor, (1994) both of which revealed that ADHD alone and ADHD + CD/ APD (Anti-Social Personality Disorder) are different disorders and when compared to relatives of non-diagnosed children or children with only ADHD, CD is more prevalent among relatives of both, children with CD and children with ADHD+CD. It also should not be neglected that among the whole group CD was associated with parent's low Agreeableness, Extraversion, and Income, either. Both low Extraversion and low Agreeableness are shown to be associated with CD symptoms (as previously discussed), of children and low income is associated with child pathologies (Pace & Mulins, 1999). Therefore, when considered all together, it can also be concluded that when there are such powerful environmental factors children -regardless of their diagnostic status- may exhibit aggressive and antisocial behaviors.

These results altogether may be interpreted as such; the children with ADHD are more easily affected from environmental factors and are more vulnerable. They also have more tendency to be confused and to develop behavioral problems as a response their mothers' characteristics (like low Extraversion) which fit with their diagnostic status. However, ADHD is not directly associated with CD symptoms.

Non-diagnosed children may also develop CD symptoms against some characteristics of their mothers and under certain environmental factors.

Associated Factors of HD

Among the whole group, having an ADHD diagnosis, and low Conscientiousness scores predicted Hyperactivity Disorder symptom scores. The predictors of Hyperactivity Disorder symptom scores were the being the first child, parental low education and higher Anxiety symptom scores for only ADHD diagnosed group, Conscientiousness for mothers of both groups.

There is no link between being the first child and Hyperactivity in literature but parents are generally inexperienced when they are raising their first child and may make some mistakes on him/her. They are more ready to feel distressed following their children's illness or different behaviors and they have a tendency to restrict them more, to expect adult like behaviors from him/her more often than their latter children (Yörükoğlu, 2003). Considering these features we may reach three kinds of conclusions:

- 1- When the first child of a mother has an ADHD diagnosis, inexperienced mother may experience higher distress when compared to the mothers whose second or the latter children have ADHD diagnosis. Due to her lack of knowledge about the normal development of a child, and higher distress stemming from the managing difficulty she experiences, she may make more mistakes in her interaction with her child that may result in increased Hyperactivity symptom scores.

2- Again due to her lack of knowledge about the normal development of a child the inexperienced mother whose first child has ADHD diagnosis may report his/her Hyperactivity symptoms as higher than they actually are.

Another variable which is not studied much in literature regarding of it's association with ADHD is the education of the mother. People with ADHD are known to have education problems and difficulty in graduating from high school (Nigg et. al., 2002). As ADHD is shown to be frequent among the relatives of children with ADHD (Milberger, Biederman, Faraone, Murphy, & Tsuang, 1995), it may be possible that mothers of these children also had difficulty in continuing their education.

Even if mothers of ADHD children do not differ on their characteristics from mothers of normal children, it may be possible that compared to the normal child, a child with ADHD is differently affected from the education level of the mother, because a higher educated mother may be better in managing.

Consistent with the present study, according to the results of relevant studies, Anxiety is also another factor associated with ADHD symptoms either in probands or in his/her relatives (Walker, Lahey, Hynd, & Faraone, 1987). Anxiety and HD may have some overlapping symptoms such as rigidity. The association between Anxiety and Hyperactivity may be due to these overlapping symptoms. As parents of children with ADHD have higher rates of childhood ADHD history (Faraone, Biedrman, Keenan, & Tsuang, 1991), Anxiety symptom scores of the mother may be due to her possible ADHD symptoms or the ADHD symptoms of the child may stem from underlying Anxiety symptoms.

Conscientiousness scores of the mother are found to be negatively associated with Hyperactivity symptom scores of the children in both groups of mothers. Studies reveal a high, consistent association between low Conscientiousness score of the mother and Hyperactivity of the child (Nigg & Hinshaw, 1998; Nigg et. al. 2002). From the relevant literature, we already know that Hyperactivity symptoms are frequently related to a disorder of executive functions, which are responsible for organizing, planning etc. Supporting these findings, studies in literature indicated that low Conscientiousness is associated with the same neural systems (Nigg, 2000). Thus it can be concluded that, both HD of children and Conscientiousness score of the mother are associated with the same kind of genetic and brain related factors.

It should also be considered that if a mother has low Conscientiousness, she may be evaluating her child more hyperactive depending on her own deficiency in parenting skills. On the other hand, as the symptom severity is shown to be associated with self-esteem (McClearly & Ridley, 1999), a difficult child may decrease the parenting self esteem of a mother and increase the parental helplessness and may cause a mother to evaluate herself more negatively. When this association is considered for the children with ADHD it may also stem from the coping problems and decreased quality of interaction between a mother who has difficulty in managing and a child who is already difficult to manage.

Associated Factors of ADD

Among the whole group, being in ADHD group, low Positive Affect, and high Negative Affect were associated with the ADD scores. For ADHD group, the associated factors were low PA and high NA, for normal Comparison group, the

associated factors were low family income, low parental Conscientiousness and low PA. To my knowledge, the association between child ADHD and parental PA or NA was not studied before and for this reason, a comparison of findings with literature cannot be made. The possible associations between NA and inattentive symptom scores were discussed while discussing the predictors of ADHD. Because PA and NA are not the opposite poles of each other but are different dimensions (Gençöz, 2000), they deserve different attention and the association of low PA can not be described by saying 'the same with NA'. Positive Affect is related with high energy level. Positive Affect scores of mothers are associated with ADD symptom scores of both groups. This may be explained by three possible factors:

- 1- ADD symptoms may be very tiring for mothers and the active energy level that is indicated to be related with Positive Affect (Gençöz, 2000) of the mother decreases as the symptomatology increases.
- 2- Both ADHD symptoms in the child (Milberger, Biederman, Faraone, Murphy, & Tsuang, 1995) and low PA of the mother are associated with higher depressive symptom scores of mothers (Watson, Clark, & Harkness, 1994). Thus Depression may be mediating this association.
- 3- Low PA of the mother may be associated with a poor interaction between parent and child.

Among the Comparison group, low family income was associated with ADD symptom scores of the child. As stated before low income is associated with child pathologies (Pace & Mulins, 1999). Hence this result is consistent with literature, either.

The Association of Conscientiousness ADHD, ODD, ADD, and HD SCORES of Comparison Group.

When compared from the viewpoint of Conscientiousness, as mentioned before Conscientiousness is the trait which seems to be the most related one to parenting skills. Nigg and Hinshaw (1998) have stated that individuals who lack this trait have difficulty in organizing their home and managing their children. The normal group may exhibit ADHD related problems - though they do not have the diagnosis – because of interactions and leading problem of the mother. Consistently with this view, Costa and McCrae (1995) indicated that Conscientiousness had significant negative correlations with California Q Set items such as low consistency and dependability (which may make the mother more unpredictable), high deceitfulness (which is also a characteristic of CD symptoms and which may cause bad modeling), and low manipulateness (which may bring out increased managing difficulty). A second reason may be the wrong evaluation of the mother. Due to the managing difficulty she experiences with her child, a mother scoring low on Conscientiousness may perceive the ADHD symptoms of the child higher than the real level of it.

On the other hand, depending on the same reason low Conscientiousness of the mother would be expected to be related with these symptoms of ADHD children as well. However results did not reveal so. In fact the results are consistent with fit model (Nigg & Hinshaw, 1998) that while symptom severity of, for example, ADHD is related even with NA of the mother, the ADHD of normal control group is associated with a broader personality domain (i.e., Conscientiousness) of the mother.

Literature shows that mothers of ADHD children tend to perceive their parenting skills lower (Mash & Johnson, 1983). Therefore it may be thought that

regardless of the symptom severity of their children, mothers of ADHD children may have evaluated their Conscientiousness low. This may be the reason underlying the results indicating that Conscientiousness is associated with ADHD, ODD, ADD, and HD symptoms of Comparison children but not of ADHD children.

None of the coping styles predicted the subscales of CARSS in any of the groups; ADHD Group, Comparison Group, Total Group. The literature about the child ADHD and parent coping is very restricted and the existing studies have used different questionnaires and because they found different coping factors these studies also revealed results about different coping styles. Parker, Endler, and Bagby (1993) state that researchers studying with Ways of Coping Scale should conduct factor analysis on their own samples. To make a comment about the association of parent coping and ADHD needs further investigation.

4.5. Limitations of the Study

There are several limitations of the present study. The first one concerns the generalization of the results. Since the study undertook an investigation of the association between mother characteristics and ADHD and comorbid symptoms of children diagnosed by Child Mental Health Department of Hacettepe University and by IMGE Child Mental Health Center and children receiving education from Nebahat Keskin Elementary School, the results cannot be generalized to all children and their parents. What is more, because the findings of the present study are correlational in nature, caution must be exercised in drawing causal conclusions.

The findings of the present study may have some assessment problems. In order to measure the personality, Big Five Inventory was translated to Turkish. However, because of the limited time there was no chance of studying the test-retest reliability of it. Thus, compared to the other measures of the study TBFI had the highest rate of being misunderstood. Mother characteristics were measured only by self-reports and child symptoms were measured by mothers' reports. It would have a valuable contribution if mother characteristics were also assessed by spouse reports and if father and teacher ratings for ADHD symptoms of child were used.

4.6. Therapeutic Implications

According to the estimates of American Psychiatry Association (1994), 3 – 5% of the school age children suffer from ADHD. ADHD is reported to be the most frequent reason of the referral to the child health services (Barkley, 1996). According to results of some studies 80% of the children having ADHD still exhibit similar symptoms in adolescence, a period of particular stress and impairment (Weiss & Murray, 2003). Öktem (1996) has reported that the estimated prevalence of ADHD among adults is 2%.

Childhood ADHD is shown to be associated with poor adult psychosocial life conditions (Dalteg, Lindgren, & Levander, 1999). Some of the ways that adults manifest their symptoms are adjustment and employment problems, relationship difficulties, car accidents and other psychiatric complications (Manuzza & Klein, 1999). It is suggested that even the individuals who do not carry on a diagnosable ADHD to adulthood, manifest subthreshold problems like inattention, impulsivity, mood disorders, and other adaptation or health problems (Nigg, John, Blaskey,

Pullock, & Willcut, 2002). ADHD is shown to be a great risk factor for other psychopathological symptoms such as antisocial disorder and criminal acts (Levin et. al., 1998).

In this regard it seems important to understand the factors playing role on the manifestation of ADHD. The results of the present study indicate that affective state of the mother has a role on predicting the comorbid ODD symptoms of the child with ADHD and that low Extraversion of mother is associated with both ODD and CD symptoms of the child with ADHD. In addition to this the results of the present study support the findings indicating that Conscientiousness of the mother was associated with parenting skills. Consequently, it may be useful to refer a mother with Negative Affect to individual therapy, the mother with low Extraversion to programs increasing social skills for herself and her child, the mother with low Conscientiousness to parenting education programs.

Thus based on the results of the present study it can be concluded that in order to understand the ADHD and comorbid symptoms of the child it seems important to take the mother characteristics and affective state in consideration.

4.7. Suggestions for Future Research

This study investigated the association between ADHD, comorbid symptoms and mother characteristics. Future research dealing with ADHD may include father characteristics as well. This would enhance our understanding of ADHD and comorbid symptoms. Since the self-reports may be biased future researches may be conducted using both self and spouse reports.

In this study there were only two groups; ADHD diagnosed children and non-diagnosed children. Future research including two more groups as ODD and CD diagnosed children is needed to gain a better understanding of the predictive role of parent characteristics on the prognosis of ADHD and the existence of comorbid disorders.

In order to assess the symptom severity of children, it would be useful for future researches to obtain ratings also from fathers and teachers. It would also have a valuable contribution if future researches include spouse reports when assessing parental characteristics. In order to increase our knowledge about the etiology future researches may classify ADHD diagnosed children such as 'predominantly inattentive, predominantly hyperactive, and combined' and investigate group differences between these three groups of children on maternal characteristics. In addition, longitudinal studies may also enhance our knowledge about the factors affecting the prognosis of ADHD. Thus future studies are needed to clarify further and expand findings of the study.

REFERENCES

- Abramson, L. Y., Metalsky, G. L. & Alloy, L. B. (1989). Hopelessness depression: A theory based subtype of depression. Psychological Review, 96, 358 – 372.
- Alloy, L. B., Abramson, L. Y., Metalsky, G. L., & Hartlage, S. (1988). The hopelessness theory of depression: Attributional aspects. British Journal of Psychology, 27, 5 – 21.
- Alloy, A., Abramson, L.Y., Tashman, N.A., Berrebbi, D.S., Hogan, E., Whitehouse, W. G., Crossfield A. G. & Morocco, A. (2001). Developmental origins of cognitive vulnerability to depression: parenting, cognitive, vulnerability to depression: Parenting, cognitive and inferential feedback styles of the parents of the individuals at high and low cognitive risk for depression. Cognitive Therapy & Research, 25, 397 – 423.
- Alloy, L. B. & Clements, C. M. (1998). Hopelessness Theory of Depression: Tests of the symptom component. Cognitive Therapy & Research, 22(4), 303 – 335.
- Allport, G. W. (1937). Personality: A psychological interpretation. New York: Holt.
- American Psychiatric Association (1994). Diagnostic and statistical manual of mental disorders (4th ed.) Washington DC: Author.
- Anastopoulos, A. D., Shelton, T. L., DuPaul, G. J., & Guevremont, D. C. (1993). Parent training for attention-deficit hyperactivity disorder: Its impact on parent functioning. Journal of Abnormal Child Psychology, 21, 581–596.
- Anderson, J. C., Williams, S., McGree, R., et. al. (1987). DSM – III Disorders in preadolescent children: prevalence in a large sample from the general population. Archives of General Psychiatry, 44, 69 – 76.
- Antonovsky, A. (1979). Health, stress and coping. San Francisco: Joss – Bass.
- Antonovsky, A. (1983): The sense of coherence: Development of a research instrument. The William S. Schawartz Newsletter & Research Reports (Tel Aviv University), 1, 11 – 22.
- Antonovsky, A. (1993). The structure & properties of the sense of coherence scale. Social Sciences Med., 36, 725 – 733.
- Antonovsky, H., Sagy, S. (2001). The development of a sense of coherence & its impact on responses to stress situations. The Journal of Social Psychology, 126(2), 213 – 225.

- Aydın, G. & Demir, A. (1989). ODTÜ öğrencilerinde depresif belirtilerin yaygınlığı (prevalence of depressive symptoms among students of METU). Journal of Humanity Sciences, 8, 27-40.
- Barkley, R. A., Dupaul, G. J. & McMurray M. B. (1990). Comprehensive evaluation of attention deficit disorder with and without hyperactivity as defined by research criteria. Journal of Consulting and Clinical Psychology, 58, 775 – 789.
- Barkley R. A. (1990). Attention-deficit hyperactivity disorder: a hand-book for diagnosis and treatment. New York: The Guilford Press.
- Barkley, R. A. (1996). Attention-deficit/hyperactivity disorder. In E. J. Mash & R.A. Barkley (Eds.), Child psychopathology, (pg. 63 – 112). New-York: Guilford Press.
- Barkley, R A., Guvremont, D. C., Anastopoulos, A. D., & Fletcher, K. E. (1992). A comparison of three family therapy programs for treating family conflicts in adolescents with Attention- Deficit Hyperactivity Disorder. Journal of Consulting and Clinical Psychology, 60, 3, 450-462.
- Barkley, R. A., Murphy, K., Kwasnik, D. (1996). Psychological adjustment and adaptive impairment in young adults with ADHD. Journal of Attention Disorders, 1, 41 - 54.
- Barkley, R. A. (1997). Behavioral inhibition, sustained attention, and executive functions: Constructing a unifying theory of ADHD. Psychological Bulletin, 121, 65 – 94.
- Barkley, R. A. (2003). Issues in the diagnosis of attention deficit/ hyperactivity disorder in children. Brain and Development, 25, 77 – 83.
- Barkley, R. A., Fischer, M., Edelback, C.S. et. al. (1991). The adolescent outcome of hyperactive children diagnosed by research criteria III; mother child interactions, family conflicts, and maternal psychopathology. Journal of Child Psychology and Psychiatry, 32, 233 – 255.
- Beasley, M.,Thompson, T., & Davidson, J. (2001). Resilience in response to life stress: the effects of coping style and cognitive hardness. Personality and Individual Differences. Article in Press, Uncorrected Proof
- Beck, A. T., Epstein, N., Brown, G., Steer, r. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. Journal of Consulting and Clinical Psychology, 56, 893 - 897.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961) an inventory for measuring depression. Archives of General Psychiatry, 4, 561 - 571.

- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive Therapy for Depression*. New York: Guilford.
- Belsky, J., Crnic, K., & Gable, S. (1995). The determinants of coparenting in families with toddler boys: Spousal differences and daily hassles. *Child Development*, *66*, 629-642.
- Benet-Martinez, V. & John, O. P. (1998). Los Cinco Grandes Cultures and Ethnic Groups Multitrait Multimethod Analyses of the Big Five in Spanish and English. *Journal of Personality and Social Psychology*, *75*, 729 –750.
- Benet, V. & Waller, N. G. (1995). The big seven model of personality description: Evidence for Its cross – cultural generality in Spanish Sample. *Journal of Personality and Social Psychology*, *69*(4), 701 – 718.
- Biederman, J. (1997). ADHD across life cycle. *Biological Psychiatry*, *42*: Is – 2975.
- Biederman, J., Faraone, S. V., Keenan, K., Steingard, R., & Tsuang, M. T. (1991). Familial Association Between Attention Deficit Disorder and Anxiety Disorders. *American Journal of Psychiatry*, *148*, 251 – 256.
- Biederman, J., Faraone, S. V., Milberger, S., Jetton, G. J., Chen, L., Mick, E, Greene, R. W., Russel, R. L. (1996). Is childhood oppositional defiant disorder a precursor to adolescent conduct disorder? Findings from a year follow – up study of children with ADHD. *Journal of American Academy Child Adolescence Psychiatry*, *35*, 1193 –1204.
- Biederman, J., Faraone, S. V., Spencer, T., Wilens, T., Norman, D. & Lapey, K. A. (1993). Patterns of comorbidity, cognition, and psychosocial functioning in adults with attention deficit hyperactivity disorder. *American Journal of Psychiatry*, *150*, 1792-1798.
- Biederman, J., Milberger, S., Faraone, S. V., Kiely, K., Guite, J., Mick, E., Ablon, S., Warburton, R., Reed, E. (1995). Family – environmental risk factors for attention – deficit hyperactivity disorder. A test of Rutter’s indicators of adversity. *Archives of General Psychiatry*, *52*, 464 – 470.
- Biederman, J., Munir, K., Knee, D., Habelow, W., Armento, M., Autor, S., Hoge, S. K., Waternaux, C. (1986). A family study of patients with attention deficit disorder and normal controls. *Journal of Psychiatric Research*, *20*, 263 – 274.
- Biederman, J., Munir, K., Knee, D., (1987). Conduct and oppositional disorder in clinically referred children with attention deficit disorder: a controlled family study, *Journal of American Academy of Child and Adolescence Psychiatry*, *26*, 724 – 727.

- Biederman, J., Faraone, S. V., Keenan, K., Tsuang, M. T. (1991). Evidence of familial association between attention deficit disorder and major affective disorders. Archives of General Psychiatry, 48, 633 – 642.
- Biederman, J., Faraone, S.V., Keenan, K., Benjamin, J., Krifcher, B., Moore, C., Sprich, S., Ugalia, K., Jellinek, M. S., Steingard, R., Spencer, T., Norman, D., Kolodny, R., Kraus, I, Perrin, J., Keller, M. B., Tsuang, M. T. (1992). Further evidence for family – genetic risk factors in attention deficit hyperactivity disorder (ADHD): Patterns of comorbidity in probands and relatives in psychiatrically and pediatrically, referred samples. Archives of General Psychiatry, 49, 728 – 738.
- Biederman, J., Faraone, S. V., Keenan, K., Knee, D. A., & Tsuang, M. T. (1990). Family genetic and psychosocial risk factors in DSM-III attention deficit disorder. Journal of the American Academy of Child and Adolescent Psychiatry, 29, 526 - 533.
- Biederman, J., Faraone, S. V., Keenan, K., Steingard, R., & Tsuang, M. T. (1991). Familial association between attention deficit disorder (ADD) and anxiety disorder. American Journal of Psychiatry, 48, 633 - 642.
- Biederman, J., Newcorn, J., & Sprich, S. (1991). Comorbidity of attention deficit hyperactivity disorder with conduct, depressive, anxiety, & other disorders. American Journal of Psychiatry, 148, 564 – 577.
- Biederman, J., Faraone, S. V., Keenan, K., & Tsuang, M. T. (1991). Evidence of familial association between attention deficit disorder and major affective disorders. Archives of General Psychiatry, 48, 633 - 642.
- Biederman, J., Faraone, S. V., Spencer, T., Wilens, T., Nick, E., and Lopey, K. A. (1994). Gender differences in a sample of adults with attention deficit hyperactivity disorder. Psychiatry Research, 53, 13 – 29.
- Biederman, J., Faraone, S., Milberger, S., Guite, J., Mick, E., Chen, L., Mennin, D., Marrs, A., Ouellette, C., Moore, P., , Spencer, T., Norman, D., Wilens, T., Kraus, I., Perrin, J. (1996a). A prospective 4-year follow-up study of attention- deficit hyperactivity and related disorders. Archives of General Psychiatry 53, 437–446.
- Blatt, S. J. (1995) . The destructiveness of perfectionism: Implications for the treatment of depression. American Psychologist, 50, 1003-1020.
- Blatt, S. & Zuroff, D. (1992). Interpersonal relatedness and self – definition: Two prototypes for depression. Clinical psychology review, 12, 527 – 562.
- Blum, N. J. & Mercugliano, M. (1997). Attention deficit/ Hyperactivity Disorder. In M. L. Batshaw (ed.), Children with disabilities (4th ed.) Boltamaire MD: Paul H. Brookes Publishing Co.

- Bond, M. H, Nakazato, H. S. & Shiraishi, D. (1975). Universality and distinctiveness in dimensions of Japanese person perception. Journal of Cross Cultural Psychology, 6, 346-355.
- Borduin, C. M., Henggeler, S. W., & Pruitt, J. A. (1985). The relationship between juvenile delinquency and personality dimensions of family members. The Journal of Genetic Psychology, 146, 563 - 565.
- Borland, B. L. & Heckman, H. K. (1996). Hyperactive boys and their brothers: A 25 year follow-up study, Archives of General Psychiatry, 33, 669-675.
- Bouchard, G., Sabourin, S., Lussier, Y., Wright, J., & Richard, C. (1997). Testing the theoretical models underlying the Ways of Coping Questionnaire with couples. Journal of marriage and the family, 59, 409 – 418.
- Braaton, E. B. & Rosen, L. A. (1997). Emotional reactions in adults with symptoms of attention deficit hyperactivity disorder. Personality and Individual Differences, 22, 355 – 361.
- Bradley, J. D. D. & Golden, C. J. (2001). Biological contributions to the presentation and understanding of Attention Deficit/ Hyperactivity Disorder: A review. Clinical Psychology Review, 21, 907 – 929.
- Brebner, J. (2001). Personality and stress coping. Personality and Individual differences, 31, 317 – 327.
- Bullock, W. A. & Gilliland, K. (1993). Eysenck's arousal theory of introversion - extraversion a converging measures investigation Journal of Personality and Social Psychology, 64, 113 – 123.
- Carey, G. & DiLalla, D. L. (1994). Personality and psychopathology: Genetic perspectives. Journal of Abnormal Psychology, 103, 32 – 43.
- Cadoret, R. J., Langbehn, D., Caspers, K., Troughton, E. P., Yucuis, R., Sandhu, H. K., Philbert, R. (2003). Associations of the serotonin transporter promoter polymorphism with aggressivity, attention deficit, and conduct disorder in an adoptee population. Comprehensive Psychiatry, 44(2), 88 – 101.
- Chang, K. D., Steiner, H., Ketter, T. A., (2000). Psychiatric phenomenology of child and adolescent bipolar offspring. Journal of the American Academy of Child and Adolescent Psychiatry, 39, 453 – 460.
- Chiou, A., Potempa, K. & Buschman, M. B. (1997). Anxiety, depression and coping methods of hospitalized patients with myocardial infarction in Taiwan. Int. J. Stud., 34, 305 – 311.

- Chronis, A. M., Pelham, W. E., Jr., Gnagy, M. E., Roberts, E. J., & Arnoff, H. (2003). The impact of late – afternoon stimulant dosing for children with ADHD on parent and parent – child domains. Journal of Clinical Child and Adolescent Psychology, *32*, 118 – 126.
- Church, A. T. & Kratigbak, M. S. (1989). Internal, external, and self-report structure of personality in a non-Western culture: An investigation of cross-language and cross-cultural generalizability. Journal of Personality and Social Psychology, *57*, 857-872.
- Clark, L. A., Watson, D., Mineka, S. (1994). Temperament, personality, and the mood and anxiety disorders. Journal of Abnormal Psychology, *103*, 103 – 116.
- Cloninger, C. R. (1986). A unified biological theory of personality and its role in development of anxiety states. Psychiatric Developments, *3*, 167 – 226.
- Costa, P. T., & McCrae, R. R. (1985). The NEO personality inventory manual. Odessa, FL: Psychological Assessment Resources.
- Costa, P. T. & McCrae, R. R. (1986). Personality stability and its implications for clinical psychology. Clinical Psychology Review, *6*, 407 – 423.
- Costa, P. T. & McCrae, R. R. (1990). Personality disorders and the five – factor model of personality. Journal of Personality Disorders, *4*, 362 – 371.
- Costa, P. T. & McCrae, R. R. (1992). NEO – PI – R: Professional manual (Odessa, FL: psychological Assessment Resources).
- Costa, P. T., & McCrae, R. R. (1995). Domains and facets: Hierarchical personality assessment using the revised NEO Personality Inventory. Journal of Personality Assessment, *64*, 21 – 50.
- Cunningham, C. E., & Barkley, R. A. (1979). The interactions of normal and hyperactive children and their mothers in free play and structured tasks. Child Development, *50*, 217 – 224.
- Dalteg, A. & Levander, S. (1998) ' 12000 crimes by 75 Borstal Boys: a 20 – year follow – up'. The Journal of Forensic Psychiatry, *9*, 39 – 57.
- Dalteg, A., Lindgren, M., and Levander, S. (1999). Retrospectively rated ADHD is linked to specific personality characteristics and deviant alcohol reactions. The Journal of Forensic Psychiatry, *10*, 623 –634.
- Dean, P J. & Range, L. M. (1999). Testing the escape theory of suicide in an outpatient clinical population. Cognitive Therapy & Research, *23*, 561 – 572.

- Deneve, K. M. & Cooper, H. (1998). The Happy Personality. A Meta – Analysis of 137 personality traits and subjective well – being. Psychological Bulletin, 124(2), 197 – 229.
- Derryberry, D. & Reed, M. A. (1994). Temperament and attention: Orienting toward and away from positive and negative signals. Journal of Personality and Social Psychology, 66, 1128 – 1139.
- Digman, J. M. (1990). Personality structure. Emergence of the five factor model. Annual Review of Psychopathology, 41, 417 – 440.
- Digman, J. M. & Shmelyov, A. G. (1996). The structure of temperament and personality in Russian children. Journal of Personality and Social Psychology, 71(2), 341 – 351.
- Dupaul, G. J. & Barley, R. A. (1992). Situational variability of attention problems: psychometric properties of the revised home and school situations questionnaires. Journal of Clinical Child Psychology, 21, 178 – 188.
- Durston, S., Tottenham, N. T., Thomas, K. M., Davidson, M. C., Eigsti, I. M., Yang, Y., Ulug, A. M., & Casey, B. J. (2003). Differential Patterns of striatal activation in young children with and without ADHD. Biological Psychiatry, article in press.
- Dykman, R., & Ackerman, P. T., (1991). ADD and specific reading disability: Seperate but often overlapping disorders. Journal of Learning Disabilities, 24, 96 – 103.
- Dykman, B. M. & Johll, M. (1998). Dysfunctional attitudes and vulnerability to depressive symptoms: A 14 – week longitudinal study. Cognitive Therapy and Research, 22(4), 337 – 352.
- Ebert, S. A., Tucker, D. C. & Roth, D. L. (2002). Psychological resistance factors as predictors of general health status and physical symptom reporting. Psychology, Health & Medicine, 7, 363 – 375.
- Edelbrock, C., Rende, R., Plomin, R., & Thompson, L. A. (1995). A twin study of competencies and problem behavior in childhood and early adolescence. Journal of Child Psychology and Psychiatry, 36, 775-785.
- Ercan, E. S., Amado, S., Somer, O. Çıkoğlu, S. (2001). Development of a test battery for the assessment of attention deficit hyperactivity disorder. Çocuk ve Gençlik Ruh Sağlığı Dergisi, 8, 132 – 143.
- Erman, Ö., Turgay, A., Öncü, B., Urdarivic (1999). Comorbidity in children and adolescents with attention deficit hyperactivity disorder: age and gender differences. Çocuk ve Gençlik Ruh Sağlığı Dergisi, 6, 12 – 17.

- Epstein, J. N., Conners, K. C., Ernhardt, D., & March, J. S. (1997). Asymmetric hemispheric control of visual spatial attention deficit hyperactivity disorder. Neuropsychology, 11 (4), 467 – 473.
- Eysenck, H. J. (1956). The inheritance of extraversion – introversion. Acta Psychologica, 12, 95 – 110.
- Eysenck, H. J. (1967). The biological basis of personality. (Springfield, IL: Charles C. Thomas).
- Eysenck, S. B., Eysenck, H. J., & Barret, P. (1985). A revised version of the psychoticism scale. Personality and Individual Differences, 6, 21-29.
- Edwards, D., Besseling, E. (2001). Relationship between depression, anxiety, sense of coherence, social support & religious... South African Journal of Psychology, 31(4), 62 – 72.
- Faraone, S. V., Biederman, J., Mennin, D., Gershon, J. & Tsuang, M. T. (1996). A prospective four – year follow-up study of children risk for ADHD: psychiatric, Neuropsychological and psychosocial outcome. Journal of American Academy of Child and Adolescent Psychiatry, 35(11), 1449 – 1459.
- Faraone, S. V., Biederman, J., Jetton, J. G. & Tsuang, T. M. (1997). Attention deficit disorder and conduct disorder: longitudinal evidence for a familial subtype. Psychological Medicine, 27, 291 – 300.
- Faraone, S. V., Biederman, J., Keenan, K. B. A., & Tsuang, M. T. (1991). A family – genetic study of girls with DSM – III Attention Deficit Disorder. American Journal of Psychiatry, 148, 112 – 117.
- Faraone, S. V., Biederman, J., Chen, W. J., Milberger, S., Warburton, R., & Tsuang, M. T. (1995). Genetic heterogeneity in attention deficit hyperactivity disorder (ADHD): Gender, psychiatric comorbidity, and maternal ADHD. Journal of Abnormal Psychology, 104, 334-345.
- Faraone, S. V., Biederman, J., Keenan, K., & Tsuang, M. T. (1991). Separation of DSM-III attention deficit disorder and conduct disorder: Evidence from a family-genetic study of American child psychiatric patients. Psychological Medicine, 21, 109 - 121.
- Feingold, B. F. (1976). Hyperkinesis and learning disabilities linked to the ingestion of artificial food colors and flavors. Journal of Learning Disabilities 58 (154).
- Fernandez, R. L. & Kleinman, A. (1994). Culture, Personality and Psychopathology. Journal of Abnormal Psychology, 103, 67 – 71.

- Finch, J. F. & Graziano, W. G. (2001). Predicting depression from temperament, personality, and patterns of social relations. Journal of Personality, *69*, 27 – 55.
- Fisher, B. E. (1993). Junior Eysenck Personality Questionnaire Neuroticism, depressive symptoms and sleep disturbance in elementary school age children. Personality and Individual Differences, *15*, 233 - 235.
- Folkman, S. & Lazarus, R.S. (1980). An Analysis of Coping in a middle aged community sample. Journal of Health and Social Behavior, *21*- 219 – 239.
- Folkman, S. & Lazarus, R.S. (1985). If it changes it must be process: study of emotion and coping during three stages of a college examination. Journal of Personality and Social Psychology, *48*(1), 150-170.
- Fones, C. S. L., Pollack, M. H., Suswein, L. & Otto, M. (2000). History of childhood at deficit hyperactivity disorder (ADHD) features among adults with panic disorder. Journal of Affective Disorders, *58*, 99 – 106.
- Frick, P. J., Lahey, B. B., Christ, G. A. M., Loeber, R., Green, S. (1991). History of childhood behavior problems in biological relatives of boys with attention deficit hyperactivity disorder and conduct disorder. Journal of Clinical Child Psychology, *20*, 445 – 451.
- Garber, J. & Robinson, N.S. (1997). Cognitive vulnerability in children at risk for depression. Cognition & Emotion, *11*, 619 – 635.
- Gençöz, T. (2000). Pozitif ve negatif duygu ölçeği geçerlik ve güvenilirlik çalışması. Türk Psikoloji Dergisi, *15* (46), 19 – 26.
- Gençöz, T. (2002). Discriminant validity of low positive affect: is it specific to depression. Personality and Individual Differences, *32*, 991 – 999.
- Gençöz, T. & Gençöz, F. (2004). Hierarchical dimensions of coping styles: An unpublished study conducted with Turkish University students. Unpublished manuscript.
- Germeno, D., Misajon, R., & Cummins, R. A. (2001). Quality of life & sense of coherence in people with arthritis. Journal of Clinical Psychology in Medical Settings, *8*, 253 – 261.
- Gittelman, R., Manuzza, S, Shenker, R., Bonagura, N., (1985). Hyperactive boys almost grown up. Archives of General Psychiatry *42*, 937 – 947.
- Glass, T. A.; Kasl, S. V. et. al. (1997). Stressful life events and depressive symptoms among the... Journal of Aging & Health, *9*, 1, 70-90

- Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. Psychological Assessment, 4(1), 26 – 42.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. American Psychologist, 48, 26 – 34.
- Gomez, R., Holmberg, K., B., Bounds, J., Fullarton, C., & Gomez, A. (1999). Neuroticism and extraversion as predictors of coping styles during early adolescence. Personality and Individual Differences, 27, 3 –17.
- Goodyear, I. M., Ashby, L., Altham, P. M. E., Vize, C. & Cooper, P. J. (1993). Temperament and major depression in 11to 16 year olds. Journal of Child Psychology and Psychiatry, 34, 1409 - 1423.
- Gray, J. A. (1981). A critique of Eysenck's theory of personality: In H. J. Eysenck (Ed.). A model of personality (pg. 23 – 39). Berlin Springer.
- Hechtman, L. (1981). Families of hyperactives. In: Greenley J, editor research in community and mental health., vol: 2,(pg. 275 – 292). Greenwich CT: JAI Press.
- Hechtman, (1996). Families of children with attention deficit hyperactivity disorder: A review. Canadian Journal of Psychiatry, 41, 350 – 360.
- Hines, A. M. & Shaw, G.A. (1993). Intrusive thoughts, drugusing and sensation seeking in college students. Bulletin of the Psychonemic Society, 31, 541–544.
- Hisli, N. (1988). Beck Depresyon Envanterinin geçerliliği üzerine bir çalışma. Psikoloji Dergisi, 6, 118-122.
- Hisli, N. (1989). Beck Depresyon Envanteri'nin üniversite öğrencileri için geçerliği güvenilirliği. Psikoloji Dergisi, 7, 3-13.
- Hofstee, W. K. B., de Raad, B. & Goldberg, L. R. (1992). Integration of the Big Five and circumplex approaches to trait structure. Journal of Personality and Social Psychology, 63, 146-163.
- Hoy, E., Weiss, G., Minde, K. & Cohen, N. (1978). The hyperactive child at adolescence: emotional, social and cognitive functioning. Journal of Abnormal Child Psychology,6, 311 –324.
- Jang, K. J., Livesly, W. J. & Vernon, P. A. (1996). Heritability of the big five personality dimensions and their facets: A twin study. Journal of Personality, 64, 577-591.
- Johansen, E., B., Aase, H., Meyer, A., & Sagvolden, T. (2002). Attention deficit hyperactivity disorder behaviour explained by dysfunctioning reinforcement & extinction process. Behavioral Brain Research, 130, 37 – 45.

- John, O. P., Donahue, E. M. & Kentle, R. L. (1991). The "Big Five" Inventory— Versions 4a and 54. (Berkeley: University of California, Berkeley, Institute of Personality and Social Research).
- John, O. P., Caspi, A., Robins, R. W., Moffitt, T. E. & Stuythamer – Loeber, M. (1994). The little Five: Exploring the nomological network of the five – factor model of personality in adolescent boys. Child Development, 65, 160 – 178.
- John, O. P. & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives (In L. A. Pervin & O. P. John (Eds.), Handbook of personality: Theory & research (2nd ed., pg. 102 – 138). New York Guilford Press).
- Johnston, C. (1996). Parent characteristics and parent –child interactions in families of non-problem children and ADHD children with higher and lower levels of oppositional-defiant behavior, Journal of Abnormal Child Psychology, 24, 85 - 104.
- Joiner, Jr. T. E., Christopher, J. R (2000). Tripartite model of depression and anxiety in youth psychiatric patients with diagnostic status and future symptoms. Journal of Clinical Child Psychology, 29(3), 372 - 382.
- Jones, M. C. (1968). Personality correlates and antecedents of drinking patterns in adult males. Journal of Consulting and Clinical Psychology, 32, 2 – 12.
- Joseph, J. (2000). Not in their genes: A critical view of the genetics of attention deficit hyperactivity disorder. Developmental Review, 20, 5539 – 567.
- Kent, L., Craddock, N. (2003). Is there a relationship between attention deficit hyperactivity disorder and bipolar disorder. Journal of Affective Disorders, 73, 211 – 221.
- Kessler, R. C., Nelson, C. B., McGonagle, K. A., Edlund, M. J., Richard, F. G., Leaf, P. J., (1996). The epidemiology of co-occurring addictive and mental disorders: implications for prevention and service utilization. American Journal of Orthopsychiatry, 66, 17 - 31.
- Kirley, A. (2002), Hawi, Z., Daly, G., McCarron, M., Mullins, C., Milter, N., Waldman, I., Fitzgerald, M., & Gill, M. (2002). Dopaminergic System Genes in ADHD: Toward a biological hypothesis. Neuropsychopharmacology, 27, 607 – 609.
- Kochanska, G., Murray, K. & Coy, K. C. (1997). Inhibitory control as a contributor to conscience in childhood: From toddler to early school age. Child Development, 68, 263 – 277.

- Kosaka, M. (1996). Relationship between hardiness and psychological stress response. Journal of Performance Studies, 3, 35 – 40.
- Klein, R. G., & Mannuzza, S. (1991). Long-term outcome of hyperactive children: A review. Journal of the American Academy of Child and Adolescent Psychiatry, 30, 383 - 387.
- Kleinman, A. (1988).* Rethinking Psychiatry: From cultural category to personal experience. New York Free press.
- Kuyken,W. &Brewin, C. R. (1999). The relation of early abuse to cognition and coping in depression. Cognitive Therapy and Research, 23 (6), 665 – 677.
- Kwon, P. & Whisman, M. A. (1998). Sociotropy and autonomy as vulnerabilities to specific life events: issues in life event categorization. Cognitive Therapy and Research, 22 (4), 353 – 362.
- Lahey, B. B., Piacentini, J. C., McBurnett, K., Stone, P., Hartdagen, S., & Hynd, G. (1988). Psychopathology in the parents of children with conduct disorder and hyperactivity. Journal of the American Academy of Child and Adolescent Psychiatry, 27, 163-170.
- Larsen, R. J. (1992). Neuroticism and selective encoding and recall of symptoms: Evidence from a combined concurrent-retrospective study. Journal of Personality and Social Psychology, 62,480 - 488.
- Last, C. G., Hersen M., Kazdin, A., Orvaschel, H., Perrin.,S. (1991). Anxiety Disorders in children and their families. Archives of General Psychiatry, 48, 928 – 934.
- Lee, S. Y., Park, M. C., Choi, S. C., Nah, Y. H., Abbey, S. E., & Rodin, G. (1999). Stress coping and depression in non – ulcer dyspepsia patients. Journal of Psychometric Research, 49, 93 – 99.
- Levin, F. R. Evans, S. M., Kleber, H. D. (1998). Prevalence of adult attention – deficit hyperactivity disorder among cocaine abusers seeking treatment. Drug and Alcohol Dependence 52, 15 – 25.
- Lilienfeld, S. O., & Waldman, I. D. (1990). The relationship between childhood attention-deficit hyperactivity disorders and adult antisocial behavior reexamined: The problem of heterogeneity. Clinical Psychology Review, 10, 699-725.
- Loeber, R. (1991). Development and risk factors of juvenile antisocial behavior and delinquency. Clinical Psychology Review, 10, 1-41.

- Loeber, R., & Schmalting, K. B. (1985). Empirical evidence for overt and covert patterns of antisocial conduct problems: A meta-analysis. Journal of Abnormal Child Psychology, 13, 337-352.
- Loon, A. J. .M., Tjihuis, M., Surtees, P. G. (2001). Personality & coping: their relationship with lifestyle risk factors for cancer. Personality and Individual Differences, 31, 541 – 553.
- Maher & Maher (1994). Personality and psychopathology: A historical Perspective. Journal of Abnormal Psychology, 103, 72 – 77.
- Manuzza, S., Klein, R. G., Bonagura , N.i Malloy, P., Giampino, T. L., Addali, K. A. (1991). Hyperactive Boys Almost Grown Up. Archives of General Psychiatry, 48, 77 – 83.
- Manuzza, S., Klein, R. G. (1999). Adolescent & adult outcomes in attention deficit hyperactivity disorders (pp. 279 – 294) New York: Kluwer Academic, Plenum Publishers.
- Manuzza, S., Klein, G. R., Bessler, NJ. A., Malloy, P. & Lapadulla, M. (1998). Adult Psychiatric status of hyperactive boys grown up. American Journal of Psychiatry status of hyperactive boys grown up. American Journal of Psychiatry, 155, 493 – 498.
- Mash E.J., Johnson C. (1983a). Parental perceptions of child behavior problems, parenting self-esteem and mothers' reported stress –in younger and older hyperactive and normal children. Journal of Consulting and Clinical Psychology, 51, 86 – 99.
- May, B. & Bos, J. (2000). Personality characteristics of ADHD adults assessed with the million clinical multioxical inventory – II; Evidence of four distinct subtypes. Journal of Personality Assessment, 75(2), 237 – 248.
- McCabe, R. E., Blankstein, K. R. & Mills, J. S. (1999). Interpersonal sensitivity and social problem solving: relations with academic and social self-esteem, depressive symptoms, and academic performance, Cognitive Therapy and Research, 23 (6), 587 – 604.
- McClearly, L., Ridley, T. (1999). Parenting adolescents with ADHD: evaluation of a psycho-education group. Patient Education and Counseling, 38, 3 – 10.
- McClellan, J.M., Rupert, M. P., Reichler, R. J., & Sylvester, C. E. (1990). Attention deficit disorder in children at risk for anxiety and depression. Journal of American Academy of Child and Adolescent Psychiatry 29, 534–539.

- McCracken, J. T. (2000). Attention deficit disorders. In B.J. Sadock and V. A. Sadock (Eds.) *Kaplan and Sadock's Comprehensive textbook of Psychiatry*, 2, New York: Lippicott Williams and Wilkins (pg. 2679 – 2688).
- McCrae, R., R. & Costa, P. T., Jr. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, 52, 81 – 90. METH
- McCrae, C. (1996). Social consequences of experiential openness. *Psychological Bulletin*, 120, 323 – 337.
- McGee R., Stanton, W. R., Sears, M. R. (1993). Allergic disorders and attention deficit in children. *Journal of Abnormal Child Psychology*, 21(1), 79 – 86.
- McKenzie, R. (2000). *Çocuğunuza Sınır Koymak*. Hekimler Yayın Birliğı, Ankara.
- Metalsky, G. I. & Joiner, T. E., Jr. (1992). Vulnerability to depressive symptomatology: A prospective test of the diathesis – stress and causal mediation components of the hopelessness theory of depression. *Journal of Personality and Social Psychology*, 63(4), 667 – 675.
- Milberger, S., Biederman, J., Faraone, S. V., Murphy, J. & Tsuang, M. T. (1995). Attention deficit hyperactivity disorder and comorbid disorders: Issues of overlapping symptoms. *American Journal of Psychiatry*, 152, 1793 – 1799.
- Milich, R., Loney, J., Landau, S. (1982). Independent dimensions of hyperactivity and aggression: A validation with playroom observation data. *Journal of Abnormal Psychology*, 91, 183 – 198.
- Muglia, P., Jain, U., Macciardi, F., & Kennedy, J. L. (2000). Adult attention deficit hyperactivity disorder and the dopamine D4 receptor gene. *American Journal of Medicine and Genetics*, 96, 273 – 277.
- Murberg. T. A., Bru, E., Stephens, P. (2002). Personality and coping among congestive heart failure patients. *Personality and Individual Differences*, 32(5), 5, 775 - 784.
- Murphy, K. & Barkley, R. A. (1996). Attention deficit hyperactivity disorder adults: comorbidities and adaptive impairments. *Comprehensive Psychiatry*, 37, 393 – 401.
- Murray, L., Woolgar, M., & Cooper, P., Hipwell, A. (2001). Cognitive vulnerability to depression in 5 – year – old children of depressed mothers. *Journal Child Psychology and Psychiatry*, 42, 891 – 899.
- Nathan, P. E. (1988). The addictive personality is the behavior of the addict. *Journal of Consulting and Clinical Psychology*, 56, 183 – 188.

- Nigg, J. T. (2000). On inhibition/ disinhibition in developmental psychopathology: views from cognitive and personality psychology and a working inhibition taxonomy. Psychological Bulletin, 126, 220 – 246.
- Nigg, J. T. (2001). Is ADHD a disinhibitory disorder? Psychological Bulletin, 127, 571 – 598.
- Nigg, T. J., Butler, K. M., Huang - Pollock, L. C., & Henderson M. J. (2002). Inhibitory Processes in Adults with persistent childhood onset ADHD. Journal of Consulting and Clinical Psychology, 70(1), 153- 157.
- Nigg, J. T. & Goldsmith, H. H. (1998). Developmental psychopathology, personality, & temperament: Reflections on recent behavior genetic research. Human Biology, 70, 387 – 412.
- Nigg, J. T., Hinshaw, S. P., Carte, E. T., & Treuting, J. J. (1998) Neuropsychological correlates of childhood Attention-Deficit/ Hyperactivity Disorder: Explainable by Comorbid Disruptive Behavior or reading problems? Journal of Abnormal Psychology, 107, 468 – 480.
- Nigg, J. T. & Hinshaw, S. P. (1998). Parent personality traits and psychopathology associated with antisocial behaviors in childhood Attention – Deficit Hyperactivity Disorder. Journal of Child Psychology and Psychiatry, 39, 145 – 159.
- Nigg, J., John, O. P., Blaskey, L. G., Pullock, H, H.l.c., & Willcut, E. (2002). Big Five Dimensions & ADHD symptoms links between personality traits & clinical symptoms. Journal of Persoanlity & Social Psychology, 83, 451 – 469.
- Nolan, S. A., Roberts, J. E. & Gotlib, I. H. (1998). Neuroticism and ruminative response style as predictors of change in depressive symptomatology. Cognitive Therapy and Research, 22(5), 445 – 455.
- Nolen – Hoeksema, S., Parker, L. E. & Larson, J. (1994). Ruminative coping with depressed mood following loss, Journal of Personality and Social Psychology, 67, 92 – 104.
- Norton, G.R., Buhr, K., Cox, B. J., Norton, P. J., & Walker, J. R. (1999). The role of depressive versus anxiety – related cognitive factors in social anxiety. Personality and Individual Differences, 38, 309 – 314.

- Ostendorf, F. (1990). Sprache und personlikeitstructur: Zur validitat des Funf-Factoren Modells der personlikeit ([Language and personality structure: Toward a validation of the Five-Factor model of personality]. Regensburg, Germany: Verlag) Presley, R. & Martin, R. P. (1994). Toward a structure of preschool temperament: Factor structure of the Temperament Assessment Battery for Children. Journal of Personality, 62, 415-448.
- Öktem, F. (1996). Dikkat eksikliği bozukluğu. Katkı Pediatri Dergisi, 5, 826 – 849.
- Öktem, F. (1993). Dikkat Eksikliği Hiperaktivite Bozukluğu. Türk Psikiyatri Dergisi, 2: 113 – 119.
- Öktem, F. & Sonuvar, B. (1993). Dikkat eksikliği tanısı olan çocukların özellikleri. Türk Psikiyatri Dergisi, 4, 267 – 272.
- Öner, Ö., Aysev, A. (1999). Dikkat eksikliği ve Hiperaktivite Bozukluğu ve yürütücü işlevler. Çocuk ve Gençlik Ruh Sağlığı Dergisi, 6, 114 – 120.
- Öner, N., & LeCompte, A. (1985). Durumluluk Sürekli Kaygı Envanteri el kitabı. İstanbul: Boğaziçi Üniversitesi.
- Pace, T. M. & Mulins, L. L. (1999). The relationship between children's emotional and behavioral problems and the social responses of elementary school teachers. Brief research report. Contemporary Educational Psychology 24, 140–155
- Pallant, J. F., Lae, L. (2002). Sense of coherence well-being, coping & personality factors: further evaluation of the sense of coherence scale. Personality & Individual Differences, 33, 39 – 48.
- Parker, D.A.J., Majeski, S. A., & Collin, T. V. (2004). ADHD symptoms and personality: relationships with the five-factor model. Personality and Individual Differences, 36, 977 – 987.
- Parker, J. K. D. A., Endler, N. S. & Bagby, R. M. (1993). If it changes, it might be unstable: examining the factor structure of the ways of coping questionnaire. Psychological Assessment, 5, 361 – 368.
- Patterson, G. R. & Dishion, T. J. (1988). Multilevel family process models: Traits, interactions, and relationships. In R. Hinde & J. Stevenson – Hinde (Eds.), Relationships within families: Mutual influences (pg. 283 – 310). Oxford: Clarendon press.
- Pekcanlar, A., Turgay, A., Miral, S., Baykara, A. (1999). Family functioning in Attention Deficit and Hyperactivity Disorder. Çocuk ve Gençlik Ruh Sağlığı Dergisi, 6, 99 – 107.

- Penland, E. A., Masten, W. G., Zelhart, P., Fournet, G. P., Callahan, T. A. (2000). Possible selves, depression and coping skills in university students. Personality and Individual Differences, 29, 963 – 969.
- Penley, A. J. & Tomaka, J. (2002). Associations among the big five, emotional responses, and coping with acute stress. Personality and Individual Differences, 32, 1215 – 1228.
- Podolski, C., L. & Nigg, J. T. (2001). Parent Stress and Coping in Relation to Child ADHD Severity and Associated Child Disruptive Behavior Problems. Journal of Clinical Child Psychology, 30, 503 – 513.
- Retz, W., Thome, J., Blocher, D., Bader, M., Rösler, M. (2002). Association of attention deficit hyperactivity disorder psychopathology & personality traits with the serotonin transporter promoter region polymorphism. Neuroscience Letters, 319, 133 – 136.
- Reiger, D. A., Farmer, M. E., Rae, D. S., et al. (1990). Comorbidity of mental disorders with alcohol and other drug abuse: results from the epidemiologic catchment area (ECA) study. Journal of American Medical Association, 264, 2511 – 2518.
- Robins, C. (1990). Congruence of personality and life events in depression. Journal of Abnormal Psychology, 393 – 397.
- Rutter M. Quinton D. (1977). Psychiatric Disorder. Ecological Factors and Concepts of Causation. Amsterdam, The Netherlands, North – Holland Publishing Co.
- Sagvolden, T., Sergeant, J. A. (1998). Attention deficit hyperactivity disorder - from brain dysfunctions to behavior. Behavior Brain Research, 94, 1 – 10.
- Saklofke, D. H., Kelly, I. W. & Janzen, B. L. (1995) Neuroticism, Depression, and Depression Proneness. Personality and Individual Differences, 18, 27-31.
- Sandell, R., Blomberg, J., & Lazar, A. (1998). The factor structure of Antonovsky's sense of coherence scale in Swedish clinical and nonclinical samples. Personality and Individual Differences, 24, 5, 701- 711.
- Schachar, R., Taylor, E., et. al. (1978). Changes in family function and relationships in children who responded to methylphenidate. Journal of American Academy of Child and Adolescent Psychiatry, 26, 728 – 732.
- Segal, Z., Shaw, B., Vella, D., & Katz, R. (1992). Cognitive and life stress predictors of relapse in remitted unipolar depressed patients: Test of the congruency hypothesis. Journal of Abnormal Psychology, 101, 26 – 36.

- Seidman, L. J., Benedict, K. B., Biederman, J. H., Seiverd, K., Milberger, S., Norman, D., Mick, E. E. & Faraone, S. V. (1995). Performance of children with ADHD ON THE Rey – Ostrieth Complex Figure: a pilot neurological study. Journal of Child Psychology & Psychiatry & Allied Disciplines, 36, 1459 – 1473.
- Shaw, G. A. & Brown, G. (1991). Laterality, implicit memory, & attention disorder. Educational Studies, 17, 15 – 23.
- Shea, T. & Fisher, B. E. (1996). Self ratings of mood levels and mood variability as predictors of Junior I - & impulsivity and ADHD classroom behaviors. Personality and Individual Differences, 20, 209 – 214.
- Sher, J. K. & Trull, J. T. (1994). Personality and disinhibitory psychopathology: Alcoholism and antisocial personality disorder. Journal of Abnormal Psychology, 103, 92 – 102.
- Sheldon, K. M., Ryan, R. M., Rawstorne, & Ilardi, B. (1997). Trait and true self cross-role variation in the Big-Five personality traits and its relations with psychological authenticity and subjective well-being. Journal of Personality and Social Psychology, 73(6), 1380 – 1393.
- Silver, L. B. (1981). The relationship between learning disabilities, hyperactivity, distractibility, and behavioral problems. Journal of American Academy and Child Psychiatry, 20, 385 – 397.
- Siva, N. A. (1991). İnfertilite’de stresle başetme, öğrenilmiş güçlük ve depresyonun incelenmesi. Yayınlanmamış doktora tezi, Hacettepe Üniversitesi, Ankara.
- Somer, O. & Goldberg, L. R. (1999). The structure of Turkish trait descriptive adjectives. Journal of Personality & Social Psychology, 76 (3), 431 – 450.
- Somer, O. (1998). Türkçe’de kişilik özelliği tanımlayan sıfatların yapısı ve beş factor modeli. Türk Psikoloji Dergisi, 13(42), 17 – 32.
- Somer, O., Korkmaz, M., & Tatar, A. (2002). Beş Faktör Kişilik Envanteri’nin Geliştirilmesi- I: Ölçek ve alt Ölçeklerinin oluşturulması. Türk Psikoloji Dergisi, 17(49), 21 – 33.
- Soykan, A. (2001). Psikiyatriye Giriş El Kitabı. Birinci Basamak Sağlık Hizmetlerinde Psikiyatri Girişim Yayıncılık. Ankara.
- Spielberger, C. D., Gorsuch, R. L., & Lushene, R. E. (1970). Manual for state-trait anxiety inventory. California Consulting Psychologists press.
- Sürücü, Ö. (2003). Anababa – öğretmen el kitabı. Dikkat Eksikliği Hiperaktivite Bozukluğu. Yapa Yayın, İstanbul, Turkey.

- Svebak, S., Sendene, K., Hausken, T., Sereide, O., & Berstad, A. (2000). The significance of personality in pain from gallbladder stones. Scand J Gastroenterol, *35*, 759 – 764.
- Swanson, J., Deutsch, C., Cantwell, D., Roser, M., Kennedy, J. L., Barr, C. L., Moyzis, R., Schuck, S., Flodman, P., Spance, N. A., Wasdell, M. (2001). Genes & attention deficit hyperactivity disorder. Clinical Neurosciences Research, *207* – 216.
- Sylvester, C. E., Hyde, T. S. & Reichler, R. J. (1987). The diagnostic interview for children and personality inventory for children in studies of children at risk for anxiety disorders or depression. Journal of American Academy Child adolescent Psychiatry, *26*, 668 – 675.
- Szamatri, P., Boyle, M., & Offord, D. (1989). ADHD and conduct disorder: Degree of diagnostic overlap and differences among correlates. Journal of American Academy Child Adolescence Psychiatry, *28*, 865 – 872.
- Şenol, S. (1997). Dikkat Eksikliği Yıkıcı Davranış Bozukluklarının Klinik Özellikleri. Aynı grup ve diğer DSM – IV tanılarıyla birliktelikleri riskleri ve tedavi eğilimlerinin belirlenmesi belirlenmesi. Çocuk Psikiyatrisi Bilim Dalı, Ankara.
- Tannock R. (1998). Attention deficit hyperactivity disorder: advances in cognitive, neurobiological and genetic research. Journal of Child Psychology and Psychiatry, *39*, 65 – 99.
- Taylor, E. (1994). Similarities & differences in DSM – IV & ICD 10 diagnostic criteria. Child & Adolescent Psychiatric Clinics of North America, *3*, 209 – 226.
- Tegin, B. (1980). Depresyonda bilişsel bozukluklar: Beck modeline göre bir inceleme. Yayınlanmamış Doktora Tezi, Ankara: H. Ü. Psikoloji Bölümü.
- Turgay, A., Gordon, E., Victor, M. (1994). ADHD & comorbidity in the study group. Abstract published in the APA, Annual Meetings New Research Section. Washington.
- Turgay, A. (1995). Çocuk ve Ergenlerde davranım bozuklukları için DSM-IV'e dayalı tarama ve değerlendirme ölçeği (yayınlanmamış ölçek). Integrative Therapy Institute Toronto, Canada.
- Walker, J. L., Lahey, B. B., Hynd, G. W., & Frame, C. L. (1987). Comparison of Specific patterns of antisocial behavior in children with conduct disorder with or without coexisting hyperactivity. Journal of Consulting and Clinical Psychology, *55*, 910 – 913.

- Watson, D., Clark, L. A., & Harkness, A.R. (1994). Structures of personality and their relevance to psychopathology. Journal of Abnormal Psychology, 103, 18 – 31.
- Watson, D., Clark, L. A., Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. Journal of Personality and Social Psychology, 54, 1063- 1070.
- Wender, P. H. (2000). Adult manifestations of Attention Deficit/ Hyperactivity Disorder. In B.J. Sadock and V. A. Sadock (Eds.) Kaplan and Sadock's Comprehensive textbook of Psychiatry, 2, New York: Lippicott Williams and Wilkins, (pg. 2688 – 2692).
- Weiss, M., Murray, C: (2003). Assessment & management of attention deficit hyperactivity disorder in adults, CMAJ, 168(6), 715 – 722.
- Weiss, G., Hechtman, L., Perlman, T. et. al. (1979). Hyperactives as young adults: a controlled prospective ten – year follow-up of 75 children. Archives of General Psychiatry, 36, 675 – 681.
- White, J. D. (1999). Personality, temperament and ADHD: A review of the literature. Personality and Individual Differences, 27, 589 – 598.
- World Health Organisation (1993). In: the ICD – 10 Classification of Mental and Behavioral Disorders: Diagnostic Criteria for Research. WHO, Geneva.
- Wilens, T., Spencer, T. J., Biederman, J., (1995). Are attention deficit and hyperactivity disorder and the psychoactive substance use disorders really related? Harv. Rev. Psychiatry, 3, 160-162.
- Willcutt, E. G. & Pennington, B. F. (2000). Comorbidity of reading disability and attention deficit/ hyperactivity disorder: Differences by gender and subtype. Journal of Learning Disabilities, 33, 179 – 191.
- Willcutt, E. G., Pennington, B. F., Boada, R., Ogline, J. S., Tunick, R. A. and Chhabildas, N, A., Olson, R. K. (2001). A comparison of the cognitive deficits in reading disability and Attention – deficit/ Hyperactivity Disorder. Journal of Abnormal Psychology, 110, 157 – 172.
- Williams, D. G. (1990). Effects of Psychoticism, Extraversion, and Neuroticism in current mood: A statistical review of six studies. Personality and Individual Differences, 11, 615 - 630.
- Wodushek, T. R., Neumann, C. S. (2003). Inhibitory Capacity of Adults with symptoms of Attention Deficit and Hyperactivity Disorder. Archives of Clinical Neuropsychology, 317 – 330.

- Ranseen, J. D., Campbell, D. A. & Baer, R. A. (1998). NEO – PI R profiles of adults with attention deficit disorder. Assessment, 5, 19 – 24.
- Ulusoy, M., Şahin, N., & Erkmen, H. (1996). Turkish version of Beck Anxiety Inventory: Psychometric properties. Journal of Cognitive Psychometric properties. Journal of Cognitive Psychotherapy: An International Quartely.
- Van der Meere, J. J. (1996). The role of attention. In S. Sandberg (Ed.), Hyperactivity disorders of childhood (pg. 111 – 148), Cambridge, England: Cambridge University Press.
- Voelz, Z. R. Gencoz., F., Gencoz, T., Pettit, J. W., Perez, M. & Joiner, Jr. T. E. (2001). Patterns of Hemispheric Perceptual Asymmetries: Left Hemispatial Biases Predict Changes in Anxiety and Positive Affect in Undergraduate Women. Emotion 1(4), 339-347
- Yorbık, Ö. Akın, & R. Yavaş, İ. (1997). Hypothesis about possible etiologic factors and pathogenesis of attention deficit hyperactivity disorder. Çocuk ve Gençlik Ruh Sağlığı Dergisi, 4, 171 –178.
- Yörükoğlu, A. (2003). Çocuk Ruh Sağlığı: çocuğun kişilik gelişimi eğitimi ve ruhsal sorunları (26. edition). Özgür Yayınları. İstanbul.

APPENDICES

APPENDIX A DEMOGRAPHIC INFORMATION SHEET (DEMOGRAFİK BİLGİ FORMU)

Bu araştırma çocukların ve annelerin duygu, düşünce ve tutumlarını incelemek amacıyla yapılmaktadır. Bu amaçla çeşitli gruplarda toplanan soruları cevaplamanız istenmektedir. Bu soruların doğru ya da yanlış cevaplanması söz konusu değildir. Önemli olan samimi düşüncelerinizi açıklıkla belirtmenizdir. Lütfen size verilen formlardaki açıklamaları dikkatlice okuyunuz ve size en uygun gelen seçeneği işaretleyiniz. Lütfen soruları eksiksiz cevaplayınız. Burada vereceğiniz tüm bilgiler sadece araştırma amaçlı kullanılacak ve kesinlikle gizli tutulacaktır. Zaman ayırdığınız ve çalışmaya katkıda bulunduğunuz için teşekkür ederim.

Psikolog Ş.Gülin Evinç

**Ortadoğu Teknik Üniversitesi
Psikoloji Bölümü**

ÇOCUĞUNUZLA İLGİLİ BİLGİLER:

Değerlendirilen çocuğunuzun,

Adı, Soyadı:

Cinsiyeti:

Doğum tarihi:

Bugünün tarihi:

Değerlendirilen çocuğunuz dahil tüm çocuklarınızın yaş ve cinsiyeti?

1. Yaş:	Cinsiyet:	2. Yaş:	Cinsiyet:	3. Yaş:	Cinsiyet:
4. Yaş:	Cinsiyet:	5. Yaş:	Cinsiyet:	6. Yaş:	Cinsiyet:

Değerlendirilen çocuğunuz kaçınıcı?

Değerlendirdiğiniz çocuğunuzun son karnesinde toplam kaç ders vardı?

Değerlendirdiğiniz çocuğunuzun son karnesindeki dersleri ve bu derslerden aldığı notları yazınız.

<u>Ders</u>	<u>Çocuğunuzun aldığı not</u>
1-	
2-	
3-	
4-	
5-	
6-	
7-	
8-	
9-	
10-	

SİZİNLE İLGİLİ BİLGİLER:

1- Adınız, Soyadınız:

3- Mesleğiniz:

2- Yaşınız:

4- Eğitim durumunuz:

5-Medeni durumunuz?

- Okur yazar değil
- Okur yazar
- İlkokul mezunu
- Ortaokul mezunu
- Lise mezunu
- Yüksek okul/ Üniversite mezunu
- Diğer (belirtiniz).....

Evli:
Bekar:
Boşanmış:
Dul:

6- Ailenizin aylık ortalama geliri:

7- Şu anda evliyseniz bu kaçınıcı evliliğiniz?

8- Evliyseniz, şu anda değerlendirdiğiniz çocuğunuzun babasıyla mı evlisiniz?

- Evet
- Hayır

9- Değerlendirdiğiniz çocuğunuz kiminle yaşıyor?

10- Şu anda değerlendirdiğiniz çocuğunuzun babasıyla evli değilseniz; çocuğunuz ne sıklıkta sizde, ne sıklıkta babasında kalıyor?

- Hiçbir zaman bende kalmaz
- Hiçbir zaman babasında kalmaz
- Haftada bir gün bende kalır
- Haftada bir gün babasında kalır
- Hafta içi her gün bende, hafta sonları babasında kalır.
- Hafta içi her gün babasında, hafta sonları bende kalır.
- Her zaman bende kalır
- Her zaman babasında kalır
- Diğer (belirtiniz).....

11- Çocuğunuzun babasının ya da sizin başka eşlerden çocuklarınız var mı?

- Evet
- Hayır

12- 11. soruya cevabınız evet ise yaş ve cinsiyetlerini yazınız.

Sizin çocuklarınızın,Babasının çocuklarının,Yaşı CinsiyetiYaşı Cinsiyeti1-
2-
3-
4-1-
2-
3-
4-

APPENDIX B
BECK DEPRESSION INVENTORY
(BECK DEPRESYON ENVANTERİ)

Aşağıda, kişilerin ruh durumlarını ifade ederken kullandıkları bazı cümleler verilmiştir. Her madde, bir çeşit ruh durumunu anlatmaktadır. Her maddede o duygu durumunun derecesini belirleyen 4 seçenek vardır. Lütfen bu seçenekleri dikkatlice okuyunuz. Son bir hafta içindeki (şu an dahil) kendi duygu durumunuzu göz önünde bulundurarak , size uygun olan ifadeyi bulunuz. Daha sonra, o madde numarasının karşısında, size uygun ifadeye karşılık gelen seçeneği bulup işaretleyiniz.

- 1- A) Kendimi üzgün hissetmiyorum.
 B) Kendimi üzgün hissediyorum.
 C) Her zaman için üzgünüm ve kendimi bu duygudan kurtaramıyorum.
 D) Öylesine üzgün ve mutsuzum ki dayanamıyorum.
- 2- A) Gelecekte umutsuz değilim.
 B) Geleceğe biraz umutsuz bakıyorum.
 C) Gelecekte beklediğim hiçbir şey yok.
- 3- A) Kendimi başarısız görmüyorum.
 B) Çevremdeki bir çok kişiden daha fazla başarısızlıklarım oldu sayılır.
 C) Geriye dönüp baktığımda çok fazla başarısızlığımın olduğunu görüyorum.
 D) Kendimi tümüyle başarısız bir insan olarak görüyorum.
- 4- A) Her şeyden eskisi kadar zevk alabiliyorum.
 B) Her şeyden eskisi kadar zevk alamıyorum.
 C) Artık hiçbir şeyden zevk alamıyorum.
 D) Bana zevk veren hiçbir şey yok. Her şey çok sıkıcı.
- 5- A) Kendimi suçlu hissetmiyorum.
 B) Arada bir kendimi suçlu hissettiğim oluyor.
 C) Kendimi çoğunlukla suçlu hissediyorum.
 D) Kendimi her an için suçlu hissediyorum.
- 6- A) Cezalandırıldığımı düşünmüyorum.
 B) Bazı şeyler için cezalandırılabileceğimi hissediyorum.
 C) Cezalandırılmayı bekliyorum.
 D) Cezalandırıldığımı hissediyorum.
- 7- A) Kendimden hoşnudum.
 B) Kendimden pek hoşnut değilim.
 C) Kendimden hiç hoşlanmıyorum.
 D) Kendimden nefret ediyorum.
- 8- A) Kendimi diğer insanlardan daha kötü görmüyorum.
 B) Kendimi, zayıflıklarım ve hatalarım için eleştiriyorum.
 C) Kendimi hatalarım için her zaman suçluyorum.
 D) Her kötü olayda kendimi suçluyorum.
- 9- A) Kendimi öldürmek gibi düşüncelerim yok.
 B) Bazen kendimi öldürmeyi düşünüyorum fakat bunu yapamam.
 C) Kendimi öldürebilmeyi isterdim.
 D) Bir fırsatını bulursam kendimi öldürürdüm.
- 10- A) Her zamankinden daha fazla ağladığımı sanmıyorum.
 B) Eskisine göre şu sıralar daha fazla ağlıyorum.
 C) Şu sıralar her an ağlıyorum.
 D) Eskiden ağlayabilirdim ama şu sıralar istesem de ağlayamıyorum.

- 11- A) Her zamankinden daha sinirli değilim.
 B) Her zamankinden daha kolayca sinirleniyor ve kızıyorum.
 C) Çoğu zaman sinirliyim.
 D) Eskiden sinirlendiğim şeylere bile artık sinirlenemiyorum.
- 12- A) Diğer insanlara karşı ilgimi kaybetmedim.
 B) Eskisine göre insanlarla daha az ilgiliyim.
 C) Diğer insanlara karşı ilgimin çoğunu kaybettim.
 D) Diğer insanlara karşı hiç ilgim kalmadı.
- 13- A) Kararlarımı eskisi kadar kolay ve rahat verebiliyorum.
 B) Şu sıralarda kararlarımı vermeyi erteliyorum.
 C) Kararlarımı vermekte oldukça güçlük çekiyorum.
 D) Artık hiç karar veremiyorum.
- 14- A) Dış görünüşümün eskisinden daha kötü olduğunu sanmıyorum.
 B) Yaşlandığımı ve çekiciliğimi kaybettiğimi düşünüyorum ve üzülüyorum.
 C) Dış görünüşümde artık değiştirilmesi mümkün olmayan olumsuz değişiklikler olduğunu hissediyorum.
 D) Çok çirkin olduğumu düşünüyorum.
- 15- A) Eskisi kadar iyi çalışabiliyorum.
 B) Bir işe başlamam için kendimi daha fazla zorlamam gerekiyor.
 C) Hangi iş olursa olsun, yapabilmek için kendimi çok zorluyorum.
 D) Hiçbir iş yapamıyorum.
- 16- A) Eskisi kadar rahat uyuyabiliyorum.
 B) Şu sıralar eskisi kadar rahat uyuyamıyorum.
 C) Eskisine göre bir veya iki saat erken uyanıyor ve tekrar uyumakta zorluk çekiyorum.
 D) Eskisine göre çok erken uyanıyor ve tekrar uyuyamıyorum.
- 17- A) Eskisine kıyasla daha çabuk yorulduğumu sanmıyorum.
 B) Eskisinden daha çabuk yoruluyorum.
 C) Şu sıralarda her şey beni yoruyor.
 D) Öyle yorgunum ki hiçbir şey yapamıyorum.
- 18- A) İştahım eskisinden pek farklı değil.
 B) İştahım eskisi kadar iyi değil.
 C) Şu sıralarda iştahım epey kötü.
 D) Artık hiç iştahım yok.
- 19- A) Son zamanlarda pek fazla kilo kaybettiğimi sanmıyorum.
 B) Son zamanlarda istemediğim halde üç kilodan fazla kaybettim.
 C) Son zamanlarda beş kilodan fazla kaybettim.
 D) Son zamanlarda yedi kilodan fazla kaybettim.
- Daha az yiyerek kilo kaybetmeye çalışıyorum. EVET () HAYIR () –
- 20- A) Son zamanlarda cinsel yaşantımda dikkatimi çeken bir şey yok.
 B) Eskisine göre cinsel konularla daha az ilgileniyorum.
 C) Şu sıralarda cinsellikle pek ilgili değilim.
 D) Artık, cinsellikle hiçbir ilgim kalmadı.
- 21- A) Sağlığım beni pek endişelendirmiyor.
 B) Son zamanlarda ağrı, sızı, mide bozukluğu, kabızlık gibi sorunlarım var.
 C) Ağrı, sızı gibi sıkıntıları beni epey endişelendirdiği için başka şeyleri düşünmek zor geliyor.
 D) Bu tür sıkıntılar beni öylesine endişelendiriyor ki , artık başka bir şey düşünemiyorum.

APPENDIX C
BECK ANXIETY INVENTORY
(BECK KAYGI ENVANTERİ)

Aşağıda insanların kaygılı ya da endişeli oldukları zaman da yaşadıkları bazı belirtiler verilmiştir. Lütfen her maddeyi dikkatle okuyunuz. Daha sonra her maddedeki belirtinin (bugün dahil) son bir haftadır sizi ne kadar rahatsız ettiğini aşağıdaki ölçekten yararlanarak maddelerin yanındaki cevabı yuvarlak içine alarak belirleyiniz.

0. Hiç 1. Hafif derecede 2. Orta derecede 3. Ciddi derecede Sizi ne kadar rahatsız etti

1) <u>Bedeninizin herhangi bir yerinde uyuşma veya karıncalanma</u>	0	1	2	3
2) <u>Sıcak ateş basmaları</u>	0	1	2	3
3) <u>Bacaklarda halsizlik titreme</u>	0	1	2	3
4) <u>Gevşeyememe</u>	0	1	2	3
5) <u>Çok kötü şeyler olacak korkusu</u>	0	1	2	3
6) <u>Baş dönmesi veya sersemlik</u>	0	1	2	3
7) <u>Kalp çarpıntısı</u>	0	1	2	3
8) <u>Dengeyi kaybetme duygusu</u>	0	1	2	3
9) <u>Dehşete kapılma</u>	0	1	2	3
10) <u>Sinirlilik</u>	0	1	2	3
11) <u>Boğuluyormuş gibi olma duygusu</u>	0	1	2	3
12) <u>Ellerde titreme</u>	0	1	2	3
13) <u>Titreklilik</u>	0	1	2	3
14) <u>Kontrolü kaybetme korkusu</u>	0	1	2	3
15) <u>Nefes almada güçlük</u>	0	1	2	3
16) <u>Ölüm korkusu</u>	0	1	2	3
17) <u>Korkuya kapılma</u>	0	1	2	3
18) <u>Midede hazımsızlık ya da rahatsızlık hissi</u>	0	1	2	3
19) <u>Baygınlık</u>	0	1	2	3
20) <u>Yüzün kızarması</u>	0	1	2	3
21) <u>Terleme</u>	0	1	2	3

APPENDIX D
POSITIVE AND NEGATIVE AFFECT SCALE
(POZİTİF VE NEGATİF DUYGULANIM ÖLÇEĞİ)

Bu ölçek farklı duyguları tanımlayan bir takım sözcükler içermektedir. Geçtiğimiz hafta nasıl hissettiğinizi düşünüp her maddeyi okuyun. Uygun cevabı her maddenin yanında ayrılan yere (puanları daire içine alarak) işaretleyin. Cevaplarınızı verirken aşağıdaki puanları kullanın.

1. Çok az veya hiç
2. Biraz
3. Ortalama
4. Oldukça
5. Çok fazla

- | | | | | | | | | | | |
|------------------------------|-------|---|-------|---|-------|---|-------|---|-------|---|
| 1. İlgili | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 2. Sıkıntılı | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 3. Heyecanlı | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 4. Mutsuz | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 5. Güçlü | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 6. Suçlu | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 7. Ürkmüş | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 8. Düşmanca | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 9. Hevesli | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 10. Gururlu | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 11. Asabi | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 12. Uyanık | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 13. Utanmış | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 14. İlhamlı | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| (yaratıcı düşüncelerle dolu) | | | | | | | | | | |
| 15. Sinirli | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 16. Kararlı | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 17. Dikkatli | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 18. Tedirgin | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 19. Aktif | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |
| 20. Korkmuş | _____ | 1 | _____ | 2 | _____ | 3 | _____ | 4 | _____ | 5 |

APPENDIX E
WAYS OF COPING INVENTORY
(BAŞETME YOLLARI ÖLÇEĞİ)

AÇIKLAMA

Bir genç olarak çeşitli sorunlarla karşılaşılıyor ve bu sorunlarla başa çıkabilmek için çeşitli duygu, düşünce ve davranışlardan yararlanıyor olabilirsiniz.

Sizden istenilen karşılaştığımız sorunlarla başa çıkabilmek için neler yaptığımızı göz önünde bulundurarak, aşağıdaki maddeleri cevap kağıdı üzerinde işaretlemenizdir. Lütfen her bir maddeyi dikkatle okuyunuz ve cevap formu üzerindeki aynı maddeye ait cevap şıklarından birini daire içine alarak cevabınızı belirtiniz. Başlamadan önce örnek maddeyi incelemeniz yararlı olacaktır.

ÖRNEK:

	Hiç uygun değil	Pek uygun değil	uygun 3	oldukça uygun	çok uygun
Madde 4. İyimser olmaya çalışırım.	1.....	2.....	3.....	4.....	5.....

Hiç uygun değil	Pek uygun değil	oldukça uygun	çok uygun
-----------------------	-----------------------	------------------	--------------

1. Aklımı kurcalayan şeylerden kurtulmak için değişik işlerle uğraşırım.....1.....2.....3.....4.....5
2. Bir sıkıntı olduğumu kimsenin bilmesini istemem 1.....2.....3.....4.....5
3. Bir mucize olmasını beklerim.....1.....2.....3.....4.....5
4. İyimser olmaya çalışırım.....1.....2.....3.....4.....5
5. “Bunu da atlarsam sırtım yere gelmez” diye düşünürüm.....1.....2.....3.....4.....5
6. Çevremdeki insanlardan problemi çözmede bana yardımcı olmalarını beklerim.....1.....2.....3.....4.....5
7. Bazı şeyleri büyütmemeye üzerinde durmamaya çalışırım.....1.....2.....3.....4.....5
8. Sakin kafayla düşünmeye ve öfkelenmemeye çalışırım.....1.....2.....3.....4.....5
9. Bu sıkıntılı dönem bir an önce geçsin isterim.....1.....2.....3.....4.....5
10. Olayın değerlendirmesini yaparak en iyi kararı vermeye çalışırım.....1.....2.....3.....4.....5
11. Konuyla ilgili olarak başkalarının ne düşündüğünü anlamaya çalışırım.....1.....2.....3.....4.....5
12. Problemin kendiliğinden hallolacağına inanırım.....1.....2.....3.....4.....5
13. Ne olursa olsun kendimde direnme ve mücadele etme gücü hissederim.....1.....2.....3.....4.....5
14. Başkalarının rahatlamama yardımcı olmalarını beklerim.....1.....2.....3.....4.....5
15. Kendime karşı hoşgörülü olmaya çalışırım.....1.....2.....3.....4.....5
16. Olanları unutmaya çalışırım.....1.....2.....3.....4.....5
17. Telaşımı belli etmemeye ve sakın olmaya çalışırım.....1.....2.....3.....4.....5
18. “Başa gelen çekilir” diye düşünürüm.....1.....2.....3.....4.....5
19. Problemin ciddiyetini anlamaya çalışırım.....1.....2.....3.....4.....5
20. Kendimi kapana sıkışmış gibi hissederim.....1.....2.....3.....4.....5

	Hiç uygun değil	Pek uygun değil	uygun	oldukça uygun	çok uygun
21. Duygularımı paylaştığım kişilerin bana hak vermesini isterim.....	1	2	3	4	5
22. Hayatta neyin önemli olduğunu keşfederim.....	1	2	3	4	5
23. “ Her işte bir hayır vardır ” diye düşünürüm.....	1	2	3	4	5
24. Sıkıntılı olduğumda her zamankinden fazla uyurum.....	1	2	3	4	5
25. İçinde bulunduğum kötü durumu kimsenin bilmesini istemem.....	1	2	3	4	5
26. Dua ederek Allah’tan yardım dilerim.....	1	2	3	4	5
27. Olayı yavaşlatmaya ve böylece kararı ertelemeye çalışırım.....	1	2	3	4	5
28. Olanla yetinmeye çalışırım.....	1	2	3	4	5
29. Olanları kafama takıp sürekli düşünmekten kendimi alamam.....	1	2	3	4	5
30. İçimde tutmaktansa paylaşmayı tercih ederim.....	1	2	3	4	5
31. Mutlaka bir yol bulabileceğime inanır, bu yolda uğraşırım.....	1	2	3	4	5
32. Sanki bu bir sorun değilmiş gibi davranırım.....	1	2	3	4	5
33. Olanlardan kimseye söz etmemeyi tercih ederim.....	1	2	3	4	5
34. “ İş olacağına varır ” diye düşünürüm.....	1	2	3	4	5
35. Neler olabileceğini düşünüp ona göre davranmaya çalışırım.....	1	2	3	4	5
36. İşin içinden çıkamayınca “ elimden birşey gelmiyor ” der, durumu olduğu gibi kabullenirim.....	1	2	3	4	5
37. İlk anda aklıma gelen kararı uygulam.....	1	2	3	4	5
38. Ne yapacağıma karar vermeden önce arkadaşlarımla fikrini alırım.....	1	2	3	4	5
39. Herşeye yeniden başlayacak gücü bulurum.....	1	2	3	4	5
40. Problemin çözümü için adak adarım.....	1	2	3	4	5
41. Olaylardan olumlu birşey çıkarmaya çalışırım.....	1	2	3	4	5
42. Kırgınlığımı belirtirsem kendimi rahatlamış hissederim.....	1	2	3	4	5
43. Alın yazısına ve bunun değişmeyeceğine inanırım.....	1	2	3	4	5
44. Soruna birkaç farklı çözüm yolu ararım.....	1	2	3	4	5
45. Başına gelenlerin herkesin başına gelebilecek şeyler olduğuna inanırım.....	1	2	3	4	5
46. “ Olanları keşke değiştirebilseydim ” derim.....	1	2	3	4	5
47. Aile büyüklerine danışmayı tercih ederim.....	1	2	3	4	5
48. Yaşamla ilgili yeni bir inanç geliştirmeye çalışırım.....	1	2	3	4	5
49. “ Herşeye rağmen elde ettiğim bir kazanç vardır ” diye düşünürüm.....	1	2	3	4	5
50. Gururumu koruyup güçlü görünmeye çalışırım.....	1	2	3	4	5
51. Bu işin kefaretin (bedelini) ödemeye çalışırım.....	1	2	3	4	5
52. Problemi adım adım çözmeye çalışırım.....	1	2	3	4	5
53. Elimden hiç birşeyin gelmeyeceğine inanırım.....	1	2	3	4	5
54. Problemin çözümü için bir uzmana danışmanın en iyi yol olacağına inanırım.....	1	2	3	4	5
55. Problemin çözümü için hocaya okunurum.....	1	2	3	4	5
56. Herşeyin istediğim gibi olmayacağına inanırım.....	1	2	3	4	5
57. Bu dertten kurtulayım diye fakir fukaraya sadaka veririm.....	1	2	3	4	5
58. Ne yapılacağını planlayıp ona göre davranırım.....	1	2	3	4	5
59. Mücadeleden vazgeçerim.....	1	2	3	4	5
60. Sorunun benden kaynaklandığını düşünürüm.....	1	2	3	4	5

61. Olaylar karşısında “ kaderim buymuş ” derim.....1.....2.....3.....4.....5
62. Sorunun gerçek nedenini anlayabilmek için
başkalarına danışırım.....1.....2.....3.....4.....5
63. “ Keşke daha güçlü bir insan olsaydım ”
diye düşünürüm.....1.....2.....3.....4.....5
64. Nazarlık takarak, muska taşıyarak benzer
olayların olmaması için önlemler alırım.....1.....2.....3.....4.....5
65. Ne olup bittiğini anlayabilmek için sorunu enine
boyuna düşünürüm.....1.....2.....3.....4.....5
66. “ Benim suçum ne ” diye düşünürüm.....1.....2.....3.....4.....5
67. “ Allah’ın takdiri buymuş ” diye kendimi
teselli ederim.....1.....2.....3.....4.....5
68. Temkinli olmaya ve yanlış yapmamaya çalışırım.....1.....2.....3.....4.....5
69. Bana destek olabilecek kişilerin varlığını bilmek
beni rahatlatır.....1.....2.....3.....4.....5
70. Çözüm için kendim birşeyler yapmak istemem.....1.....2.....3.....4.....5
71. “ Hep benim yüzümden oldu ” diye düşünürüm.....1.....2.....3.....4.....5
72. Mutlu olmak için başka yollar ararım.....1.....2.....3.....4.....5
73. Hakkımı savunabileceğime inanırım.....1.....2.....3.....4.....5
74. Bir kişi olarak iyi yönde değiştiğimi ve
olgunlaştığımı hissederim.....1.....2.....3.....4.....5

APPENDIX F
TURKISH BIG FIVE INVENTORY
(TÜRKÇE BÜYÜK BEŞLİ ÖLÇEĞİ)

Aşağıda size uyan ya da uymayan pek çok kişilik özelliği bulunmaktadır. Lütfen her ifadenin yanına, o ifadeye ne kadar katıldığınızı belirten bir numara yazınız.

Örneğin;

‘__Başkalarıyla işbirliği yapmayı seven biri’ maddesinin başındaki çizgiye, bu maddeye kesinlikle katılmıyorsanız (1), biraz katılmıyorsanız (2), ne katılıyorum ne katılmıyorum diyorsanız (3), biraz katılıyorsanız (4), kesinlikle katılıyorsanız (5) yazınız.

<u>Kesinlikle</u> <u>katılmıyorum</u>	<u>Biraz</u> <u>katılmıyorum</u>	<u>Ne katılıyorum</u> <u>ne katılmıyorum</u>	<u>Biraz</u> <u>katılıyorum</u>	<u>Kesinlikle</u> <u>katılıyorum</u>
1	2	3	4	5

Kendimi biri olarak görüyorum.

- | | |
|--|---|
| <p>1) __Konuskan</p> <p>2) __Başkalarında hata bulmaya eğilimli</p> <p>3) __Bir işi titiz yapan</p> <p>4) __Depresyonda, hüzünlü</p> <p>5) __Yeni fikirler üreten, orijinal</p> <p>6) __Sosyal ilişkilerinde yakınlaşmaktan kaçınan</p> <p>7) __Yardımsever ve diğerlerine karşı bencil olmayan</p> <p>8) __Bazen dikkatsiz olabilen</p> <p>9) __Rahat ve stresle başa çıkabilen</p> <p>10) __Bir çok farklı konuya meraklı</p> <p>11) __Enerji dolu</p> <p>12) __Başkalarıyla kavga başlatan (kavgacı)</p> <p>13) __Güvenilir bir çalışan</p> <p>14) __Gergin olabilen</p> <p>15) __Zeki, derin düşünen</p> <p>16) __Çevresine coşku yayan</p> <p>17) __Bağışlayıcı, affedici bir yapıya sahip</p> <p>18) __Dağmık olmaya eğilimli</p> <p>19) __Endişeli</p> <p>20) __Canlı bir hayal gücü olan</p> <p>21) __Kolaylıkla sessizleşebilen</p> <p>22) __Genellikle güvenilir</p> | <p>23) __Tembelliğe eğilimli</p> <p>24) __Duygusal olarak çabuk değişmeyen, kolay üzülmeyen</p> <p>25) __Yaratıcı</p> <p>26) __Kendini kabul ettiren, güçlü bir kişiliğe sahip</p> <p>27) __Soğuk ve mesafeli olabilen</p> <p>28) __Başladığı işi azimle, bitirene kadar sürdüren</p> <p>29) __Birden bire canı sıkılabilen</p> <p>30) __Sanatsal ve estetik deneyimlere değer veren</p> <p>31) __Bazen utangaç ve duygularını pek dışa vurmayan</p> <p>32) __Hemen herkese karşı düşünceli ve nazik</p> <p>33) __İşleri etkili bir biçimde yapan</p> <p>34) __Gergin durumlarda sakin kalabilen</p> <p>35) __Rutin işleri tercih eden</p> <p>36) __Cana yakın, sosyal</p> <p>37) __Başkalarına karşı bazen kaba</p> <p>38) __Planlar yapan ve onlara uyan</p> <p>39) __Kolayca gerginleşen</p> <p>40) __Fikir yürüten ve fikirlerini açıklamayı seven</p> <p>41) __Az sayıda sanatsal ilgisi olan</p> <p>42) __Başkalarıyla işbirliği yapmayı seven</p> <p>43) __Dikkati kolay dağılabilen (Kolayca dikkati dağılabilen)</p> <p>44) __Sanat, müzik ve edebiyatta bilgili</p> |
|--|---|

APPENDIX G

**CHILDHOOD AND ADOLESCENT RATING AND SCREENING SCALE
(YIKICI DAVRANIM BOZUKLUKLARI İÇİN DSM-IV'E DAYALI
TARAMA VE DEĞERLENDİRME ÖLÇEĞİ)**

Aşağıdaki sorular şu an değerlendirmesini yaptığımız çocuğun/ gencin sık rastlanan davranış sorunlarının bazılarını gözden geçirecek ve değerlendirecektir. Lütfen her bir soruda size en uygun gelen seçeneği işaretleyiniz.

I. BÖLÜM

A. DİKKATSİZLİK

Sorun	Sorunun derecesi			
	YOK	BİRAZ	FAZLA	ÇOK FAZLA
1- Dikkatini ayrıntılara veremez ya da okul ödevlerinde, işinde ya da diğer etkinliklerde dikkatsizce hatalar yapar.....	0.....	1.....	2.....	3
2- Üzerine aldığı görevlerde ya da oynadığı oyunlarda dikkatini sürdürmede zorluk çeker.....	0.....	1.....	2.....	3
3- Kendisine doğrudan hitap edildiğinde dinlemiyormuş gibi görünür.	0.....	1.....	2.....	3
4- Yönergeleri gerektiği gibi izlemez ve okul ödevlerini, ufak tefek işleri ya da iş yerindeki görevlerini tamamlayamaz.....	0.....	1.....	2.....	3
5- Görev ve etkinliklerini düzenlemekte güçlük çeker.....	0.....	1.....	2.....	3
6- Uzun süreli dikkat gerektiren işlerden (okul ödevi ev ödevi gibi) kaçınır, bunlardan hoşlanmaz ve bunlara karşı isteksizdir.....	0.....	1.....	2.....	3
7- Üzerine aldığı görev ya da etkinlikler için gerekli olan eşyaları (kalem, kitap, oyuncak, araç- gereç gibi) kaybeder.....	0.....	1.....	2.....	3
8- Dikkati kolayca dağılır.	0.....	1.....	2.....	3
9- Günlük etkinliklerde unutkanır.	0.....	1.....	2.....	3

B- AŞIRI HAREKETLİLİK - DÜRTÜSELLİK
AŞIRI HAREKETLİLİK

Sorun	Sorunun derecesi			
	YOK	BİRAZ	FAZLA	ÇOK FAZLA
10- Elleri ayakları kıpır kıpırdır ya da oturduğu yerde kıpırdanır.....	0.....	1.....	2.....	3
11- Sınıfta ya da oturması gereken diğer durumlarda yerinde oturamaz.....	0.....	1.....	2.....	3
12- Uygun olmayan durumlarda sağa sola koşturur ya da tırmanır (gençlerde ya da erişkinlerde huzursuzluk ile sınırlı olabilir).	0.....	1.....	2.....	3
13- Sakince oyun oynamakta ya da boş zaman etkinliklerine katılmakta güçlük çeker.....	0.....	1.....	2.....	3
14- Hep hareket halindedir ya da sanki motor takılmış gibi davranır.....	0.....	1.....	2.....	3
15- Çok konuşur.....	0.....	1.....	2.....	3

DÜRTÜSELLİK

Sorun	Sorunun derecesi			
	YOK	BİRAZ	FAZLA	ÇOK FAZLA
16- Sorulan soru tamamlanmadan yanıt verir.....	0.....	1.....	2.....	3
17- Sırasını beklemekte güçlük çeker.....	0.....	1.....	2.....	3
18- Başkalarının sözünü keser ya da yaptıklarının arasına girer (başkalarının konuşmaları ya da oyunlarına burnunu sokar).....	0.....	1.....	2.....	3

II. BÖLÜM

Sorun	Sorunun derecesi			
	YOK	BİRAZ	FAZLA	ÇOK FAZLA
19- Kontrolünü kaybeder.....	0.....	1.....	2.....	3
20- Erişkinlerle tartışır.....	0.....	1.....	2.....	3
21- Kurallara ve isteklere karşı çıkar ya da reddeder.....	0.....	1.....	2.....	3
22- Başkalarını isteyerek rahatsız eder.....	0.....	1.....	2.....	3
23- Hataları ya da yanlış davranışları için başkalarını suçlar.....	0.....	1.....	2.....	3
24- Alıngandır ve başkaları tarafından kolayca kızdırılır.....	0.....	1.....	2.....	3
25- Kızgın ve güceniktir.	0.....	1.....	2.....	3
26- Çoğu zaman kincidir ve intikam almak ister.....	0.....	1.....	2.....	3

III. Bölüm

Sorun

Sorunun derecesi

YOK BİRAZ FAZLA ÇOK FAZLA

A. İnsanlara ve hayvanlara karşı saldırganlık

- 27- Kabadayılık eder, tehdit eder ya da gözdağı verir.....0.....1.....2.....3
- 28- Kavga dövüş başlatır.....0.....1.....2.....3
- 29- Başkalarına ciddi biçimde fiziksel zarar verecek silah (sopa, taş, kırık şişe, bıçak, tabanca vb.) kullanır.....0.....1.....2.....3
- 30- İnsanlara fiziksel olarak acımasız davranır.....0.....1.....2.....3
- 31- Hayvanlara fiziksel olarak acımasız davranır.....0.....1.....2.....3
- 32- Başkalarının gözü önünde hırsızlık (saldırarak soygun, çanta kapıp kaçma, tehditle soyma, silahlı soygun) yapar.....0.....1.....2.....3
- 33- Başka birisini cinsel etkinlikte bulunmak için zorlar.....0.....1.....2.....3

B- Mala zarar verme

- 34- Ciddi hasar vermek amacıyla yangın çıkarır.....0.....1.....2.....3
- 35- Başkalarının malına mülküne isteyerek zarar verir (yangın çıkarma dışında).....0.....1.....2.....3

C- Dolandırıcılık ya da hırsızlık

- 36- Başkalarının evine, binasına ya da aracına zorla girer.0.....1.....2.....3
- 37- Bir şey elde etmek, bir çıkar sağlamak ya da sorumluluklarından kaçmak için yalan söyler (başkalarını atlatır).....0.....1.....2.....3
- 38- Hiç kimse görmeden değerli şeyler çalar (mağazalardan mal çalma, sahtekarlık).....0.....1.....2.....3

D. Kuralları ciddi biçimde bozma

- 39- 13 yaşından öncesinden başlayarak, ailesinin yasaklarına karşın geceyi dışarıda geçirir.0.....1.....2.....3
- 40- Anne babasının ya da onların yerini tutan kişilerin evinde yaşarken en az iki kez geceleyin evden kaçtı (ya da uzun süreli dönmemişse bir kez).....0.....1.....2.....3
- 41- 13 yaş öncesinden başlayarak okuldan kaçır.....0.....1.....2.....3