

HOW DO PARENTAL, FAMILIAL, AND CHILD CHARACTERISTICS
DIFFERENTIATE CONDUCT-DISORDERED CHILDREN WITH AND WITHOUT
PSYCHOPATHIC TENDENCIES

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ABSTRACT

HOW DO PARENTAL, FAMILIAL, AND CHILD CHARACTERISTICS DIFFERENTIATE CONDUCT-DISORDERED CHILDREN WITH AND WITHOUT PSYCHOPATHIC TENDENCIES

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The present study aimed to investigate the predictors of conduct problems and callous-unemotional (CU) traits in a non-clinic sample of children from different socioeconomic levels. It was hypothesized that conduct problems and CU traits will be associated with different risk factors. Regression analyses were conducted in order to find out the predictors of conduct problems/hyperactivity and CU traits. Results showed some significant differences between risk factors of conduct problems/hyperactivity and CU traits. Predictors according to mothers' and teachers' ratings were not the same, except for some overlapping variables. The findings indicated that teachers could not differentiate conduct problems/hyperactivity symptoms and CU traits appropriately from each other. However, they could make more reliable comparisons between two groups of children with conduct problems who differ on severity of CU levels as compared to mothers. The results were discussed in terms of using of multiple informants for

assessing different problem areas in children. In addition, the study aimed to investigate the differences between three groups of children, namely, children with conduct problems and high CU traits, children with conduct problems and low CU traits, and children without conduct problems and low CU traits were compared on child-related, parenting-related, and other family measures by using multiple factorial analyses of variances. Although significant differences were found between the control group and the two conduct group, the significant differences between the two conduct groups were limited. The results were discussed in terms of treatment needs and possible differences in cultural expression of CU traits.

Keywords: Conduct Problems, Callous-Unemotional (CU) Traits, Risk Factors, Multi-Informant Agreement, Child Psychopathology

ÖZ

EBEVEYNLERE, AİLELERE VE ÇOCUKLARA AİT ÖZELLİKLER DAVRANIM SORUNU GÖSTEREN ÇOCUKLAR İÇİNDE PSİKOPATİ EĞİLİMİ OLANLAR İLE OLMAYANLARI NE ŞEKİLDE AYRIŞTIRMAKTADIR?

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Bu çalışma, farklı sosyo-ekonomik düzeylerden gelen çocuklardan oluşan klinik dışı bir örneklemede, davranım problemlerinin ve acımasız-duyarsız özelliklerin yordayıcılarını araştırmayı amaçlamıştır. Davranım problemlerinin ve acımasız-duyarsız özelliklerin farklı risk faktörleri ile ilişkili olacağı hipotezi geliştirilmiştir. Davranım problemleri/hiperaktivitenin ve acımasız-duyarsız özelliklerin yordayıcılarını belirlemek amacıyla regresyon analizleri uygulanmıştır. Sonuçlar, davranım problemleri/hiperaktivitenin risk faktörleri ile acımasız-duyarsız özelliklerin risk faktörleri arasında anlamlı farklılıklar olduğunu göstermiştir. Ayrıca, bazı örtüşen değişkenlerin olmasına karşın, annelerin ve öğretmenlerin değerlendirmelerine göre farklı yordayıcılar bulunmuştur. Bulgular öğretmenlerin, davranım problemleri/hiperaktivite semptomları ile acımasız-duyarsız özellikleri uygun bir şekilde birbirinden ayırt edemediklerine işaret etmiştir. Ancak annelere nazaran öğretmenler, acımasız-

duyarsız özelliklerin düzeyleri açısından farklılık gösteren davranım problemlili iki grup çocuk arasında daha güvenilir karşılaştırmalar yapabilmektedirler. Sonuçlar, çocuklarda farklı problem alanları değerlendirilirken birden çok kişiden bilgi alınması bağlamında tartışılmıştır. Bunlara ek olarak araştırma, çok faktörlü varyans analizleri yaparak, çocuk ile ilişkili ölçümler, ebeveynlikle ilişkili ölçümler ve diğer aile ölçümleri açısından üç grup çocuk arasında (davranım problemlili bulunan ve yüksek düzeyde acımasız-duyarsız özellikleri gösteren çocuklar, davranım problemlili bulunan ve düşük düzeyde acımasız-duyarsız özellikleri gösteren çocuklar ve davranım problemlili veya acımasız-duyarsız özellikleri bulunmayan çocuklar) karşılaştırma yapmayı hedeflemiştir. Her ne kadar, kontrol grubu ile iki davranım problem grubu arasında anlamlı farklılıklar bulunmuş olsa da, iki davranım problemlili grup arasında görülen anlamlı farklılıklar sınırlıdır. Sonuçlar, tedavi ihtiyaçları ve acımasız-duyarsız özelliklerin kültürel ifadesindeki olası farklılıklar açısından tartışılmıştır.

Anahtar Kelimeler: Davranım Problemlili, Acımasız-Duyarsız Özellikler, Risk Faktörleri, Birden Çok Kişiden Alınan Bilgi Arasındaki Uyuşma, Çocuk Psikopatolojisi

To my parents İnci & Rıza

&

*To the wonderful, unforgettable years
I spent in Ankara*

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LIST OF ABBREVIATIONS

- DBD:** Disruptive Behavior Disorder
- ADHD:** Attention Deficit Hyperactivity Disorder
- ODD:** Oppositional Defiant Disorder
- CD:** Conduct Disorder
- OD:** Oppositional Disorder
- APD:** Antisocial Personality Disorder
- ADD/H:** Attention Deficit Disorder with Hyperactivity
- ADD:** Attention Deficit Disorder
- HD:** Hyperactivity Disorder
- PARTheory:** Parental Acceptance-Rejection Theory
- SES:** Socioeconomic Status
- PCL-R:** Psychopathy Checklist-Revised
- BIS:** Behavioral Inhibition System
- BAS:** Behavioral Activation System
- VIM:** Violence Inhibition Mechanism
- CU:** Callous Unemotional
- I/CP:** Impulsivity/Conduct Problems
- CP:** Conduct Problems
- APSD:** Antisocial Process Screening Device
- SATI:** School-Age Temperament Inventory
- SDQ:** Strengths and Difficulties Questionnaire
- HEAS:** Hacettepe Emotional Adjustment Scale
- CARSS:** Childhood and Adolescent Rating and Screening Scale
- PARQ:** Parental Acceptance-Rejection Questionnaire
- MMFAD:** McMaster Family Assessment Device
- BSI:** Brief Symptom Inventory

CHAPTER I

INTRODUCTION

One of the most alarming social issues of the past century was the disturbing presence of violence and aggression all around the world. Starting with the World War II and Vietnam War, and recently ensued by ethnic wars in Bosnia and Kosova, in the last decades we witnessed many kinds of cruelty, and nowadays we are being exposed to incredible violence happening next to Turkey in Iraq.

Of course Turkey could not escape from this violent picture. Whether the reason is political or social, violence and cruelty became an ordinary part of our lives. We are today living in a society where people are victimized or even killed because of their thoughts, attitudes, or values, or just because they are walking on the street with their bags on their shoulders, or sometimes in the schools. Thus, today we are all living on a knife edge, both in our country and on the world.

In general, the increasing tendency in aggression within the youth population is a social problem today. Although there is not much statistical data on this increasing trend in aggression and violence among youths in Turkey, according to the Statistics of Criminal Record Department of Ministry of Justice, in a ten years period from 1994 to 2003, the rate of child suspects in child courts increased 400 %. In addition, as reported in the media, the number of school cases involving aggression and violence at or around schools has been dramatically increasing and is still rising. Similarly, in USA, it was reported that the rate of murdering more than doubled between 1982 and 1992 for the age group under 18 (Coie & Dodge, 1998).

Indeed, in many countries, the increasing prevalence of violence and aggression among young people, especially among children, greatly concerns the general population and has been the subject of many research studies on childhood psychopathology in the past few decades. Conduct Disorder and Opposition

Defiant Disorder that are called as Disruptive Behavior Disorders in general, are among the most common childhood mental health problems for referral to treatment services and also in community samples (Frick, 1998a; Kazdin, 1995). In general, the prevalence of conduct disorder in the general population has been estimated at 1 % to 6 %, although rates vary greatly depending on the sample studied and also the diagnostic criteria used (Loeber, Burke, Lahey, Winters, & Zera, 2000).

Conduct problems observed in children often worsen over time into more serious forms of antisocial and criminal behaviors. Longitudinal studies conducted on adolescents revealed that antisocial behaviors usually begin with minor delinquent acts in childhood and end in serious criminal activity in adolescence and adulthood (Nagin & Tremblay, 1999). Thus, early childhood conduct problems are significant predictors of antisocial behavior and criminal activity later in adulthood (Loeber, 1990; Quinton, Rutter, & Gulliver, 1990 cited in McCabe, Hough, Wood, & Yeh, 2001). Today, it is well-known that the most chronic and serious adolescent and adult offenders typically begin their antisocial behaviors during childhood (Loeber, Farrington, & Waschbush, 1998, cited in Henggeler & Sheidow, 2003). Robins (1978) suggested that there is one important rule, called the “continuity” rule, of the relation between early and late antisocial behaviors. The continuity rule implies that antisocial behaviors rarely begin in adulthood. This strong continuity from childhood to adulthood urges us to look at today’s antisocial children in order to find tomorrow’s antisocial adolescents and adults and develop preventive strategies.

Conduct problems in childhood are extremely costly both on the individual and on the societal level. On the individual level, not only the victims of the criminal acts suffer physiologically, psychologically, or economically, but also the offenders experience trouble with criminal justice system, and they lose many of their acquisitions, such as their occupation, social relations, etc. Furthermore, they inflict pain for their family members. Besides, at the societal level, the damages and consequences of these actions, such as security problems, treatment costs, or even political consequences, are also very costly. In general because the whole community is often victimized by children with disruptive behavior problems, there

is a strong consensus that these disorders should deserve special attention. Thus, researchers try to explain the origins of conduct problems in children by designating the risk factors that predict the onset and nature of these problems.

On the other hand, psychopathy is another concept, which should be given special attention, because it has harmful consequences for the individual as well as for society. It is well-known that psychopathic offenders more frequently commit crimes, and commit both more types of and more violent crimes as compared to other criminal offenders without psychopathic tendencies (Kosson, Smith, & Newman, 1990; Serin, 1991), indicating that the mechanisms underlying these two types of offenders likely to be different. However, identifying the psychopaths in adulthood does not help much for preventing much of the harmful consequences, because these people constitute the group of patients who are very reluctant for treatment (Lynam, 1996). Thus, early detection of the chronic offenders is very crucial, which can be possible only done by identifying the risk factors of the psychopathic condition.

In Turkey, studies on childhood conduct problems are very limited. Especially, there is no study on psychopathy in children. Thus, the present study aims to investigate the risk factors for conduct problems in children with and without psychopathic tendencies. More specifically, child's temperament, maternal parenting variables of acceptance-rejection and applied punishment styles, parental psychopathology level, and variables associated with family functioning will be examined as risk factors of conduct problems and psychopathy.

1.1 Clinical Diagnoses Related to Disruptive Behavior Disorders

Clinically, disruptive behavior disorders (DBD), sometimes called as disruptive externalizing problems, include behaviors such as noncompliance, aggression, destructiveness, attention problems, hyperactivity, impulsivity, and delinquent acts (McMahon, 1994), that are highly associated with more severe disruptive behaviors and psychiatric diagnoses later in adulthood. In the forth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM IV; American Psychiatric Association, 1994), diagnoses for clinically significant externalizing problems are included in the Attention-Deficit and Disruptive

Behavior Disorder section. Three syndromes, which have high comorbidity with each other, fall under this broad category (Rey, 1993). One of these syndromes is Attention-Deficit Hyperactivity Disorder (ADHD) and the other two disruptive behavior disorders are included in the diagnostic categories of Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) in DSM IV. These last two disorders are especially problematic because of their characteristic symptoms, such as delinquency, antisocial behaviors, aggression, and many other behaviors, which tend to be stable over time and may predict later, more serious adulthood problems (Lambert, Wahler, Andrade, & Bickman, 2001).

1.1.1 Attention Deficit and Hyperactivity Disorder

ADHD is one of the most frequent reasons for the referral to and also the most common diagnoses given in child mental health clinics (Barkley, 1997). ADHD is characterized by a chronic and pervasive pattern of inattention and/or hyperactivity-impulsivity that is more frequent and severe than is thought to be developmentally normal or appropriate. The clinical appearance of the ADHD is motor restlessness, difficulty in remaining seated, poor impulse control, and difficulty in focusing. The diagnostic criteria of ADHD according to DSM-IV (APA, 1994) are having either inattention or hyperactivity-impulsivity symptoms that were present before the age of 7. In addition, these symptoms, which are inconsistent to the developmental level of the child, should be present within the last 6 months in two or more different settings. The DSM-IV distinguishes between three subtypes of the ADHD: Primarily Inattentive Type, in which inattention symptoms are dominant and hyperactivity-impulsivity symptoms are not severe enough to get a diagnosis, Primarily Hyperactive-Impulsive Type, in which contrary to the Primarily Inattentive Type, hyperactivity-impulsivity symptoms are dominant and inattention symptoms are not severe enough to get a diagnosis, and lastly the Combined Type, in which both inattention and hyperactivity-impulsivity symptoms are dominant and severe enough to get a diagnosis.

The prevalence of ADHD among the school age children is 3-5 %, with a 1 / 4 female-male ratio (Barkley, 1990). In a study, Kent and Craddock (2003) reported the ratio as 1 / 3 among school-age children. The most replicable gender

difference in ADHD is its greater prevalence among boys (Faraone et al., 2001; Öktem & Sonuvar, 1993). Faraone et al. (2001) reported that while in community samples the female-male ratio is 1 / 4, in clinic samples the ratio is 1 / 9. The difference between the clinic and community-based gender ratios suggests that as compared to boys, girls with ADHD are less likely to be referred to child clinics. A meta-analysis conducted by Gaub and Carlson (1997) indicated that as compared to boys, girls with ADHD have greater intellectual impairments and higher levels of mood disorders, but lower levels of hyperactivity and conduct problems, which are the most common reasons for referral to clinics (Abikoff & Klein, 1992). Thus, the low comorbidity of ADHD with conduct problems in girls could be one important reason why girls are less likely to be found in clinical samples.

1.1.2 Oppositional Defiant Disorder

In the current DSM-IV, ODD is defined as “a recurrent pattern of negativistic, defiant, disobedient, and hostile behavior toward authority figures” (APA, 1994, p.91). It is characterized by symptoms such as arguing with authority figures, refusal to comply with rules and requests, losing temper, irritability, externalizing blame for misbehavior, deliberately doing things that annoy other people, appearing angry or resentful that persist for at least 6 months. In order to give the clinical diagnosis of ODD, at least four of the eight criteria given in Table 1, must be met.

Table 1. DSM-IV Criteria for Oppositional Defiant Disorder

- (1) often loses temper
 - (2) often argues with adults
 - (3) often actively defies or refuses to comply with adults' requests or rules
 - (4) often deliberately annoys people
 - (5) often blames others for his or her mistakes or misbehavior
 - (6) is often touchy or easily annoyed by others
 - (7) is often angry and resentful
 - (8) is often spiteful or vindictive
-

The average age of onset for ODD is 6, usually an earlier age of onset as compared to CD. However, findings of many studies consistently show that oppositional behaviors usually appear first in preschool years (Campbell, 1990).

However, it is important to distinguish ODD from normal oppositional behavior, which is often displayed throughout the developmental period experienced by most children. Problem behaviors seen in ODD are more severe and frequent than the normal oppositional behaviors, and also they result in significant functional impairment (Vitiello & Jensen, 1995). However, the severity and seriousness of the aggression found among CD children is not present in children diagnosed with ODD.

ODD is a common disorder, with prevalence rates range from 2 % to 16 % in the child population (APA, 1994). In a review of five studies, Rey (1993) found that the prevalence of ODD in the general population of children between 4 and 18 year of ages ranges between 1.7 % and 9.9 %. In another study, Waldman and Lilienfeld (1991) reported the prevalence rate as 7 % in boys aged 8-12. Moreover, in another epidemiological study conducted on adolescents between 13 and 18 ages, Cohen et al. (1993) found that the prevalence of ODD is 12.3 %. In this study, ODD appeared as the most frequent disorder among the adolescents.

ODD is more frequently diagnosed in boys than in girls (Rey, 1993). However, the gender difference tends to disappear in adolescence (Johnston & Ohan, 1999). In studies of children 12 years or younger, ODD prevalence in boys was more than double than for girls (Anderson, Williams, McGee, & Silva, 1987), while studies of adolescents showed a higher prevalence of ODD in girls (Kashani et al., 1987; McGee et al., 1990).

1.1.3 Conduct Disorder

Conduct disorder is defined as "a repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated" (APA, 1994, p.85). The criteria of clinical symptoms of CD are grouped in four major areas: aggression to people and animals, destruction of property, deceitfulness or theft, and serious violations of rules (see Table 2).

Table 2. DSM-IV Criteria for Conduct Disorder

Aggression to people and animals

- (1) often bullies, threatens, or intimidates others
- (2) often initiates physical fights
- (3) has used a weapon that can cause serious physical harm to others
- (4) has been physically cruel to people
- (5) has been physically cruel to animals
- (6) has stolen while confronting a victim
- (7) has forced someone into sexual activity

Destruction of property

- (8) has deliberately engaged in firesetting, with the intention of causing serious damage
- (9) has deliberately destroyed others' property (other than by firesetting)

Deceitfulness or theft

- (10) has broken into someone else's house, building, or car
- (11) often lies to obtain goods or favors or to avoid obligations
- (12) has stolen items of nontrivial value without confronting a victim

Serious violations of rules

- (13) often stays out at night despite parental prohibitions, beginning before age 13 years
 - (14) has run away from home overnight at least twice while living in parental or parental surrogate home (or once without returning for a lengthy period)
 - (15) is often truant from school, beginning before age 13 years
-

In order to give the clinical diagnosis of CD, at least three of fifteen symptoms must have been present within the last year and one criterion must have been present within the past six months. Another criterion for the CD diagnosis is that the behaviors have caused significant impairment in different functioning domains, such as social, familial, academic, or occupational. These behaviors occur across multiple settings, including home, school, and community and are more serious than the problematic behaviors seen in ODD. It is suggested that while 90% of the children diagnosed with CD also met the diagnostic criteria for ODD in early ages, majority of children with ODD do not necessarily develop CD (Lahey & Loeber, 1994). The diagnostic criteria of CD does not require any specific set of core symptoms, so no subtypes are defined according to symptom profile. This makes it possible that while one child may be diagnosed with CD due to his or her aggressive symptoms, such as bullying or using a weapon, another child may be

diagnosed with CD due to his or her nonaggressive symptoms, such as staying out late at night without permission, or stealing without confrontation. Whereas, another child may have both aggressive and nonaggressive symptoms of CD and may get the diagnosis (Tackett, Krueger, Sawyer, & Graetz, 2003).

CD has two subtypes that differ in age of onset; one is Childhood-Onset type and the other is Adolescence-Onset type. This subtyping is based on the appearance of at least one of the conduct problems before age of 10. While in young children, clinical features of CD may include disobedience, defiance, bullying, overt aggression toward peers, and cruelty toward animals, in later ages in addition to increased symptom severity, repeated lying, stealing, truancy, aggression toward authority figures, destruction of property, staying out late or running away, substance abuse, and impulsive sexual behavior become evident (Johnston & Ohan, 1999). CD can occur in a mild, moderate, or severe form depending on the symptoms' severity, which is indicative for antisocial behaviors and criminal offences later in adulthood (Vitiello & Jensen, 1995). Studies show that although only 25-40 % of adolescents with CD develop antisocial problems in adulthood almost all adults with antisocial behaviors have a previous CD history (Johnston & Ohan, 1999).

CD is among the most frequently referred problem in child outpatient clinics (Frick, 1998a). The field trials for DSM-IV found the overall prevalence rate of 28.6 %, with 22.9 % for the Childhood-Onset type and 5.0 % for the Adolescent-Onset type (Lahey et al., 1998). Epidemiological studies also show that CD is one of the most prevalent problems during childhood and adolescence, with estimated rates of 9 % for males and 2 % for females in community samples (Frick, 1998a; Kazdin, 1995). Similarly, Vitiello and Jensen (1995) reported that while in prepubertal children, the prevalence of CD is between 1.9 and 8 % in boys and between 0 and 1.9 % in girls, the prevalence rates among adolescents are between 3.4 and 10.4 % and between 0.8 and 8 % for boys and girls, respectively.

Although prevalence rates of CD vary from study to study due to differences in sampling and methodological differences, it is found to be much more prevalent among boys than girls, with prevalence rates ranging from 2 % to

16 % for boys and from 1 % to 9 % for girls throughout childhood (Loeber, Burke et al., 2000).

1.2 Disruptive Behavior Disorders in General

Because diagnoses of ODD and CD are also called as disruptive behavior disorders according to DSM-IV, most studies on DBD have combined children with ODD and CD diagnoses into a single category, often called “conduct problems” or “disruptive behavior problems” (Biederman et al., 1996; Hinshaw, Lahey, & Hart, 1993) and used interchangeably especially when no diagnostic criteria of ODD and/or CD were used.

It is generally accepted that the two patterns of conduct problems, ODD and CD are closely related to each other. However, the nature of their relationship has been a matter of debate and a subject of research since the first distinct categorization of CD and Oppositional Disorder (OD) in DSM-III (American Psychiatric Association, 1980; Frick et al., 1993). Before DSM-III, CD and OD did not exist as distinct clinical diagnoses. However, in DSM-III, two types of conduct problems were identified primarily based on the severity of conduct behaviors. While OD was characterized by disobedient and argumentative behaviors, CD was described by physical aggression and covert delinquent behaviors, such as stealing (Frick et al., 1993). In DSM-III-R (American Psychiatric Association, 1987), the diagnostic criteria of CD and OD were slightly modified, so that the overlap of the criteria became difficult by eliminating the milder symptoms and increasing the number of symptoms required for the diagnoses (Lahey et al., 1994; Lahey et al., 1990). In general, as a diagnostic category, the inclusion of OD in DSM-III, which was maintained in DSM-III-R and DSM-IV in the name of ODD, gave rise to many questions and debates among researchers regarding the validity of the distinction between ODD and CD (Reeves, Werry, Elkind, & Zametkin, 1987; Werry, Reeves, & Elkind, 1987), in other words whether ODD and CD should be considered as developmentally related to each other or should be regarded as distinct from one other (Loeber, Burke et al., 2000).

Some researchers argued that ODD was only a less severe form of CD (Reeves et al., 1987), so they suggested a developmental model, which did not

consider ODD as a separate diagnosis, but as a milder form or a precursor of CD (Achenbach, 1993; Hinshaw et al., 1993; Werry et al., 1987). Many studies were conducted to evaluate the validity of the distinction between the DSM diagnostic criteria for ODD and CD (Loeber, Keenan, Lahey, Green, & Thomas, 1993; Lahey, Loeber, Quay, Frick, & Grimm, 1992; Russo, Loeber, Lahey, & Keenan, 1994). In general, these studies consistently provided evidence for a strong developmental relationship between the two disorders. In their studies, Lahey et al. (1992) and Loeber, Lahey, & Thomas (1991) found that the great majority of children, who met the criteria of CD before age of puberty, also had a diagnosis of ODD at an earlier age, supporting the developmental linkage. In addition, the age of onset of most ODD symptoms preceded the age of onset of most CD symptoms (Loeber et al., 1993). Moreover, studies showed that ODD and CD were associated with the same risk factors, such as low socioeconomic status (SES), inadequate parenting, parental psychopathology, but these correlates applied to a greater degree to CD than to ODD (Frick et al., 1992; Lahey et al., 1992; Loeber et al., 1993). Thus, ODD and CD appeared developmentally related, so that ODD might be considered as a precursor to or as a less severe or more juvenile form of CD (Lahey et al., 1994). However, in studies conducted in large-scale community samples instead of clinical ones, the overlap between ODD and CD symptomatology was found to be much less evident (Keenan, Loeber, & Green, 1999; Loeber, Green, Lahey, Frick, & McBurnett, 2000).

On the other hand, some researchers argued that these findings were not enough to accept the developmental linkage between ODD and CD, so they were for the distinction of these two diagnoses. In a review of the literature, Loeber et al. (1991) concluded that ODD and CD represent different clinical disorders. They argued that each diagnostic category possesses distinct symptomatology, with a few common symptoms between them. According to this group of researchers, there are also important qualitative differences between these two disorders. For example, ODD symptoms are considered pathological only when they are severe, because they are common in young children, but they usually and normally decline as children grow older. Contrary to ODD symptoms, CD symptoms are considered pathological at any age (Loeber et al., 1993). Supporting the distinction between

ODD and CD, studies also revealed that many children and adolescents, who were diagnosed with ODD in young ages, did not necessarily meet the criteria of CD in later ages (Loeber et al., 1991; Loeber et al., 1993). Hinshaw et al. (1993) noted that approximately half of the children who were diagnosed with ODD did not progress to develop CD. However, they found that for older children diagnosed with CD, the comorbidity of ODD was extremely high, ranging from 84 to 96 %. Additionally, although many children who develop CD during childhood have already developed ODD in younger ages, there are a number of youths who develop CD for the first time during adolescence and have not ODD diagnosis or symptoms previously (Loeber et al., 1991).

A strong evidence for the validity of the diagnostic distinction comes from the factor analytic literature. A substantial factor analytic literature revealed that symptoms of ODD and CD constituted different clusters (Frick, Lahey, Loeber et al., 1991), supporting the validity of the distinction between ODD and CD diagnoses. Two qualitative reviews aiming to integrate the large factor analytic literature on the parent and teacher ratings of child disruptive behaviors have been published. They aimed to clarify whether symptoms of ODD and CD belong to the same or different behavioral dimensions (Loeber & Lahey, 1989; Quay, 1986). They consistently identified two dimensions of conduct problems. One dimension consisted of all ODD symptoms, but also included aggressive CD symptoms, such as fighting, bullying. What is common in all these symptoms was that all involve aggression and overt hostile confrontation with others. On the other hand, the second dimension was composed of all covert symptoms of CD, such as stealing, truancy, and running away, which do not involve confrontation with others, but include legal violations. These groups of symptoms were named as Overt and Covert Aggression, respectively (Loeber & Schmalting, 1985).

In a study conducted with 8194 clinic-referred American and Dutch children between 6 and 16 ages, Achenbach, Conners, Quay, Verhulst, & Howell (1989) found similar findings and they termed these two groups of conduct behaviors as Overt and Covert Conduct Problem Behaviors, respectively. Consistent with earlier reviews of factor-analytic studies in childhood disruptive behavior (Loeber & Schmalting, 1985; Quay, 1986; Achenbach et al., 1989), in a

study conducted with 177 clinic-referred boys between 7 and 12 ages, Frick et al. (1991) found similar two dimensions of conduct problems, one with ODD symptoms and Aggressive CD symptoms and the other with delinquent behaviors and covert CD symptoms. These two factors were labeled as Overt Conduct Problems and Covert Conduct Problems (Loeber & Schmaling, 1985), or Aggression and Delinquency (Achenbach, 1978), or Undersocialized Aggression and Socialized Aggression (Quay, 1986) by different researchers, respectively. While these findings were interpreted as supporting the distinction between ODD and CD by some researchers (Frick et al, 1993), some others interpreted the results as supportive of a distinction between an aggressive and a nonaggressive form of CD, and suggested that ODD is only a milder form of aggressive type of CD.

Later, Frick et al. (1993) conducted another meta-analytic study on findings from 60 factor analytic studies that examined DSM-III and DSM-III-R symptoms of ODD and CD, as well as substance use. Consistent with previous findings, initially they found one bipolar dimension with all symptoms of ODD and the aggressive symptoms of CD on one pole (labeled overt) and the nonaggressive symptoms of CD and substance use symptoms on the opposite pole (labeled covert). However, when a second orthogonal dimension, labeled as destructive-nondestructive, was extracted, they found that the covariation among the symptoms was more clearly explained. While the destructive pole of the second dimension included behaviors such as vandalism and assault, the nondestructive pole included behaviors such as substance abuse and stubbornness. This two-dimensional solution created four quadrants: oppositional (overt and nondestructive), aggression (overt and destructive), property violations (covert and destructive), and status violations (covert and nondestructive). When the symptoms of ODD and CD were graphed into these four quadrants defined by the overt/covert and destructive/nondestructive dimensions, almost all symptoms of ODD fall in the overt-nondestructive quadrant, whereas all symptoms of CD fall in the other three quadrants. In addition, the median age for the emergence of each quadrant's symptoms occurred in a developmental progress beginning with oppositional (6.0 years), aggression (6.75 years), property violations (7.25 years), and status violations (9.0 years). From a developmental standpoint, this factor analytic model

suggests that there is a developmental progression in the expression of conduct problems, with oppositional behaviors emerging earlier and status offences emerging later.

Clearly, this two-dimensional conceptualization supported the clinical structure of ODD. However, this model did not differentiate a clinical CD group well, indicating to poorer predictive value of this model for CD than for ODD. It could only be said that CD is composed of covert antisocial behaviors, whether destructive or not, and of overt antisocial behaviors as well, but only if they are destructive in nature (Frick et al, 1993). In sum, consistent with the previous findings, although ODD and CD are strongly related to each other, this meta-analysis provided evidence for the distinction between these diagnoses, as well as evidence for significant heterogeneity within CD symptoms.

1.3 Age of Onset as a Diagnostic Distinction for Conduct Problems

DSM-IV (APA, 1994) makes a diagnostic distinction among the two major CD subtypes according to the age of onset of the problem behaviors. These are the Childhood-Onset type and the Adolescent-Onset type. The Childhood-Onset type is characterized by the onset of severe conduct problems before the age of 10. In other words, at least one criterion of CD must be present prior to age 10 (APA, 1994). This subtype is predominately composed of males and is characterized by physical aggression and disturbed peer relationships. Children in this group are more likely to experience persistent conduct problems and they are more likely to develop adult antisocial behaviors and psychopathy in future years, indicating a poor prognosis (Lahey et al., 1992; Lahey et al., 1998). Conversely, the Adolescent-Onset type is characterized by the absence of any CD symptoms before the age of 10 (APA, 1994). In this subtype, conduct problems and antisocial behaviors develop later, usually with the onset of puberty. These behaviors are usually time-limited and do not continue in adulthood. For the Adolescent-Onset type, aggression is less common and conduct problems are less likely to be persistent (Lahey et al., 1998). In addition, the Adolescent-Onset type is composed of a greater percentage of females than the Childhood-Onset type (APA, 1994).

This distinction of CD according to age of onset in DSM-IV is based on the findings of clinical research. Results of two longitudinal studies on the relationship between antisocial behavior and age of onset in boys, one conducted in New Zealand (Moffitt, 1993) and the other in Oregon (Patterson, Capaldi, & Bank, 1991) led to the formulation of a developmental taxonomy theory (Moffitt, 1993). The need for such a theory derived from the concurrence among researchers on the heterogeneity of youths' conduct problems in terms of etiology, risk factors, future problems in adulthood, and treatment outcome (Frick, O'Brien, Wootton, & McBurnett, 1994; Hinshaw et al., 1993; Lynam, 1996; Moffitt, Caspi, Dickson, Silva, & Stanton, 1996). Findings of studies on the relationship between age of onset and the frequency, seriousness, and persistence of delinquency necessitated distinguishing between two distinct developmental pathways for conduct problems (Hinshaw et al., 1993; Moffitt, 1993), because certain forms of conduct behaviors, were found predictive for chronic and more severe forms of antisocial behaviors later in life (Moffitt, 1993). According to these developmental pathways, youths who engage in the most frequent, aggressive, and persistent conduct behaviors in adolescence or in adulthood begin doing so during childhood. On the other hand, youths who do not engage in conduct behaviors until adolescence are less likely to be aggressive, engage in fewer delinquent behaviors in adolescence or in adulthood, usually stop these behaviors prior to or during adulthood, and have a better adult adjustment as compared to children in childhood-onset group. Moffitt (1993) labeled these two groups of conduct problems as "life-course persistent" and "adolescent-limited", respectively.

In her longitudinal study, Moffitt (1993) investigated a cohort of boys born in 1972-1973 in New Zealand, and she followed their antisocial behaviors through the age 15. She found that boys, who were aggressive by the age of 3, maintained their high levels of aggressive behaviors throughout the study. She labeled this early starter group as "life-course persistent" antisocial group. On the other hand, the remaining boys sometimes showed above normal levels of aggression, but their aggressive behaviors lasted shorter and declined in a short period to normal levels. Moffitt's (1993) New Zealand study also revealed that the convictions, self-report of delinquency and conduct problems tended to increase with the start of puberty.

She argued that unlike the life-course persistent type, this type of antisocial behaviors were limited and specific to the adolescence period, so she labeled it as “adolescent-limited”. Similar to Moffitt’s findings, Farrington (1983) also showed that the number of individuals engaging in antisocial behaviors temporarily increases in adolescence.

Consistent with Moffitt’s (1993) theory, Lahey, Goodman et al. (1999) found that both boys and girls with early-onset (childhood-onset) conduct problems were significantly more likely to engage in aggressive and violent offenses as compared to youths with late-onset (adolescent-onset) conduct problems. Furthermore, the findings of Lahey et al.’s (1998) study were also supporting Moffitt’s theory. The study included subjects between ages 9 and 17 with at least one conduct disorder symptom. Results showed that youths who had an age of onset before 8 years of age engaged approximately two or three times more in conduct behaviors as compared to youths with an age of onset after 12 years of age. On the other hand, youths with late age of onset were significantly more likely to engage in nonaggressive conduct problems than youths with early age of onset.

Many studies replicated the finding that there is an inverse relationship between the age of onset and the frequency, seriousness, and persistence of conduct problems. Loeber (1982) and Blumstein, Farrington, & Moitra (1985, cited in Lahey et al., 1998) showed the inverse relationship between the age of onset of a youth’s first conviction and the total number of convictions he or she commits in adulthood. Besides the studies conducted on young offenders, the same relationship has been found between age of onset and self-reported delinquent behavior in community samples (Loeber, 1987). Tolan’s (1987) study on boys with delinquent behaviors between the ages of 11 and 18 showed that boys who engaged in their first delinquent acts before the age of 12 reported higher levels of delinquent behaviors in adolescence as compared to boys who were engaged in delinquency firstly after the age of 12. Consistently, Tolan and Thomas (1995) reported that youths with younger age of onset of delinquency were more likely to continue to engage in more serious delinquent acts during adolescence as compared to youths with a later age of onset.

According to Moffitt (1993), Childhood and Adolescent-Onset conduct disorders have different relationships with risk and protective factors, pointing to distinct etiological pathways. She argued that boys in the Childhood-Onset group both have neuropsychological deficits, which give rise to cognitive delays, impulsivity, and difficult temperament, and they are usually exposed to different adverse environmental factors. The existence of neuropsychological risk factors makes the child vulnerable to adverse environmental factors, and also increases the likelihood of triggering adverse environmental factors. In other words, the interaction between a number of psychosocial vulnerability factors contributes to the emergence of conduct problems in Childhood-Onset group. On the other hand, boys in the Adolescent-Onset group do not have any predisposing neuropsychological dysfunction and they tend to have less dysfunctional family environments, and are less likely to have problems of hyperactivity and impulsivity. However, they engage in antisocial behaviors to gain access to adult roles and privileges. They usually mimic their antisocial peers (Moffitt et al., 1996), who seem to have achieved autonomy from their parents or other authority figures through antisocial behaviors, and they discontinue this way of behaving when they really achieve autonomy, independence, and the social status they desire. Moffitt (1993) argued that due to the long periods of formal education and dependency on parents, this type of antisocial behaviors is mostly seen in industrialized societies, in which there is a huge gap between biological maturity, which occurs in early adolescence, and social maturity, which refers to achievement of adult status within the society.

Unfortunately, Moffitt (1993) argued that much of the past research on conduct disorder has mixed up subjects with different ages of onset of conduct problems, which might have resulted in mixed findings on the etiology and risk factors of conduct problems in the literature. Thus, investigation of etiology and risk factors in different subgroups of children with conduct problems is necessary for development of effective interventions and prevention models (Hinshaw et al., 1993).

McCabe et al. (2001) conducted a study in order to examine the hypothesis generated by Moffitt's (1993) theory of developmental taxonomy of conduct

disorder. McCabe et al. (2001) investigated whether Childhood-Onset conduct disorder and Adolescent-Onset conduct disorder differ in their etiology; in other words, whether they were associated with different risk factors. The results confirmed the hypothesis that Childhood-Onset conduct disorder and Adolescent-Onset conduct disorder are associated with different risk factors. Childhood-Onset conduct disorder was found to be highly related to individual and familial risk factors, such as being male, having a comorbid diagnosis of ADHD, having parental history of antisocial behavior, and exposing to low parental monitoring. On the other hand, Adolescent-Onset conduct disorder was found to be highly associated with exposure to deviant peers and cultural and social disadvantages, such as being in ethnic minority status.

Because the present study focuses on Childhood-Onset conduct problems, in the following section, the research findings on risk factors relevant only to Childhood-Onset pathway will be presented in detail.

1.4 Risk Factors Correlated with Childhood-Onset Disruptive Behavior Problems

A general consensus among researchers is that the development of a disruptive behavior disorder in childhood is not the main effect of any single risk factor, but is associated with a number of risk factors interacting with each other. It is generally agreed that at least three important categories of risk factors are responsible for the development of these behaviors (Webster-Stratton, 1996). These include child risk variables, parenting variables, and other family variables apart from the parent-child relationship.

1.4.1 Child Risk Factors

Among the child risk factors, having male gender, low intelligence, difficult temperament, having comorbid ADHD, and also internalizing problems are found as important risk factors for development of DBD in children.

1.4.1.1 Gender

The most consistent result on gender is that DBD are more prevalent among males (Anderson et al., 1987; Christian, Frick, Hill, Tyler, & Frazer, 1997; Reeves et al., 1987; Sanson, Oberklaid, Pedlow, & Prior, 1991; Webster-Stratton, 1996). Overall, the female to male ratio is estimated to be 1 / 4 for CD (Cohen et al., 1993). Similarly, Offord et al. (1987) found that rates of CD in 4–16-years old children and adolescents were three times higher in boys than in girls (8.1 % versus 2.7 %). Also, epidemiological studies indicated that this disorder was three to four times more common in boys than girls (Zoccolillo, 1993).

However, researchers argued that the criteria used in defining DBD is inappropriate for girls due to the over-reliance on overt forms of conduct problems, such as physical aggression, that are more common in boys (Zoccolillo, 1993; Zoccolillo, Tremblay, & Vitaro, 1996). For example, in a study of young children age 4 to 7 with diagnoses of DBD, Webster-Stratton (1996) found that boys engaged in more overt aggression and destructive behaviors. However, studies showed that girls tended to show more covert forms of conduct problems than boys (Kazdin, 1992; Loeber & Schmalting, 1985). Thus, it is argued that to understand conduct problems in girls, beyond physical aggression, a wider range of covert forms of problems, such as stealing or lying, should be included in the criteria of DBD.

Another form of aggressive behavior that has been shown to be more prevalent in girls is relational aggression, which involves harming others through purposeful manipulation or damage to their peer relationships, such as by spreading rumors (Crick & Grotpeter, 1995). Recent studies have shown that relational aggression is more prevalent in girls than in boys (Crick & Grotpeter, 1995). Lagerspetz and Bjorkqvist (1994) suggested girls were likely to engage in indirect aggression because their overt aggression is socially discouraged. Consistently, Tiet, Wasserman, Loeber, McReynolds, & Miller (2001) found that boys were significantly more physically aggressive than girls and girls had higher levels of relational aggression than boys.

Moffitt's (1993) two distinct developmental pathway model for disruptive behaviors, which suggests that an early age of onset is a strong indicator for

chronic and severe disruptive behaviors, was criticized by many researchers because of its almost exclusive focus on boys (Silverthorn, Frick, & Reynolds, 2001) and there are few data to conclude that the similar relationship between age and disruptive behaviors is valid and applicable for girls. In a review of the literature, Keenan and Shaw (1997) mentioned that gender differences in aggression and conduct problems does not appear until approximately 4 years of age. However, during the preschool years, conduct problems in girls tend to decline, which results in appearance of gender differences during the preschool years and accordingly in Childhood-Onset group of CD. This difference remains stable until puberty. However, at puberty, when adolescents begin exhibiting late-onset CD, proportionately more girls than boys begin to exhibit conduct problems. Despite their later age of onset, girls with conduct problems show similarities to boys in Childhood-Onset group on the basis of clinical correlates, such as having dysfunctional family background (Henggeler, Edwards, & Borduin, 1987), higher rates of impulsivity and hyperactivity and negative adult outcomes, such as being arrested or having a diagnosis of Antisocial Personality Disorder (APD) (Zoccolillo & Rogers, 1991).

Silverthorn and Frick (1999) have proposed a model of gender differences in the development of conduct and delinquent behaviors. They proposed that most antisocial girls follow a “delayed-onset” pathway, in which the manifestation of antisocial behaviors does not occur before adolescence, although the risk factors that contribute to the antisocial behaviors are present in childhood. This theory assumes that majority of girls with conduct and delinquent problems have a late age of onset, mostly in early adolescence. It is proposed that due to the hormonal, societal, and environmental changes after the puberty, girls with preexisting vulnerabilities begin to express their overt antisocial behaviors, which they suppress until adolescence.

Supporting this theory, in a community sample Cohen et al. (1993) found that while the average age of onset for disruptive behaviors was in childhood in boys, it was in early adolescence in girls. In addition, more equal gender ratios for conduct problems were found during adolescence (McGee et al., 1990; Offord et al., 1987). Silverthorn and Frick (1999) have also proposed that the Delayed-Onset

pathway for girls is analogous to the Childhood-Onset pathway in boys, because girls show more severe and persistent antisocial behaviors as compared to boys in the Adolescent-Onset group and also the predisposing factors for the Delayed-Onset pathway is much more similar to those found in boys in Childhood-Onset group.

In summary, for the Childhood-Onset group, conduct disorder is more common in boys than it is in girls, but with a significantly later age of onset in girls than in boys. In addition, very importantly, it has been suggested that the risk for deviant outcomes is higher in girls with a diagnosis of DBD as opposed to boys with that disorder (Loeber & Keenan, 1994). This is referred to as the gender paradox, which points to the fact that the gender with the lower prevalence of a disorder actually is at a higher risk of poor outcomes. In other words, as compared to boys, girls tend to have a lower prevalence of DBD, but they are more seriously affected.

1.4.1.2 Intelligence

Numerous studies have identified low verbal IQ as a risk factor for externalizing behavior problems and delinquency (Hinshaw, 1987). Studies consistently reported that there was a difference of only 8 IQ points between delinquents and nondelinquents (Hirschi & Hindelang, 1977). However, Moffitt (1990) argued that these studies did not distinguish between delinquents with Childhood-Onset and Adolescent-Onset types. In her study, Moffitt (1990) found that while there was only a 1 IQ point difference for delinquents with Adolescent-Onset conduct problems, there was a 17 IQ points difference for delinquents with Childhood-Onset conduct problems, indicating that intelligence was unrelated to antisocial behavior, which starts first in adolescence. Lynam, Moffitt, & Stouthamer-Loeber (1993) also confirmed the relationship between IQ and delinquency among a subgroup of males. Other studies showed that intelligence was not only related to current delinquent activity, but it was predictive of adult antisocial behavior.

Previous theories emphasized the impact of verbal reasoning on children's ability to regulate and organize their behaviors (Luria, 1963, cited in Loney, Frick,

Ellis, & McCoy, 1998), indicating an association between antisocial behavior and verbal deficits. It was argued that children with verbal deficiencies have difficulties in delaying their impulses, in anticipating the consequences of their own behaviors, in determining what is right and wrong, and in conforming to regular and generally accepted behavioral patterns (Wilson & Herrnstein, 1985). Supporting this, findings from longitudinal studies indicated that the persistency of conduct problems was associated with lower intelligence scores (Farrington, 1993; Moffitt, 1990). Additionally, studies on neuropsychological characteristics of delinquents consistently showed that these individuals had deficits in verbal skills such as abstract reasoning, language comprehension, attention, and concentration. In a study, Moffitt, Lynam, & Silva (1994) found that boys at age 13 who had the most difficulty in expressing themselves and in remembering engaged in most delinquent behaviors five years later.

1.4.1.3 Temperament

Consistent research findings indicate that development of conduct problems is highly associated with children's temperamental characteristics. Several longitudinal studies have specifically identified "difficult temperament", which includes irregularity, predominantly negative withdrawal to new stimuli, slow adaptability, and intense emotional reactivity to the environment, as an important predictor of child temperament for later externalizing behavior problems (Bates, Bayles, Bennett, Ridge, & Brown, 1991; Olson, Bates, Sandy, & Lanthier, 2000). In a longitudinal study, Thomas, Chess, & Birch (1968) found that 70 % of the children who were identified as difficult before age of 5, developed symptoms of disruptive behavior disorders, such as oppositional, aggressive, and angry behaviors. The findings by Thomas and colleagues have been replicated in several other longitudinal studies (Bates et al., 1991; Sanson, Smart, Prior, & Oberklaid, 1993). In a longitudinal study, Bates et al. (1991) found that child's difficult temperament reported by their mothers at 6 and 24 months of age correlated with externalizing behavior problems at 5 and 6 years of age.

According to Rothbart and Bates (1998), "negative emotionality" or sometimes called "negative reactivity" is an important dimension of difficult

temperament, which is assumed to be rooted genetically. Negative emotionality refers to individual differences in the range of intensity and duration of emotional experiences in the case of environmental events that trigger negative emotions. Thus, negative emotionality is relevant to how children learn to handle with frustrating situations, because children with high negative emotionality cannot develop adaptive emotion regulation processes (Calkins, 1994). Because the presence of a difficult child is stressful for the parents, in a number of cases, parents develop negative parental attitudes toward the difficult child, resulting in increasingly maladaptive parent-child interactions and coercive familial cycles (Patterson & Bank, 1987) often seen in families with conduct disordered children. Thus, in addition to child's negative emotionality, qualities of parent-child relationship are very crucial for the development and reproduction of preestablished emotion regulation processes (Calkins, 1994; Kopp, 1989) and have long term implications on children in dealing with negative emotions.

Predisposition to negative emotionality has been found to be positively correlated with externalizing problems in children (Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994). Similarly, Pulkkinen (1983) mentioned that as a personality characteristic, neuroticism, which reflects the experience of negative emotionality, was positively related to adult antisocial behaviors. This is parallel to findings that comorbid emotional disorders, such as anxiety and depression, was found to be higher in children with conduct disorder as compared to children without conduct problems (Kovacs, Paulauskas, Gatsonis, & Richards, 1988; Zoccolillo, 1992).

1.4.1.4 ADHD Comorbidity

There is considerable evidence for high comorbidity between ADHD and other DBD both in clinical and community samples (Angold, Costello, & Erkanli, 1999; Lahey, Miller, Gordon, & Riley, 1999). ADHD is found commonly comorbid with DBD ranging from 30 to 50 % in epidemiological samples (Lynam, 1996) and from 40 to 65 % in clinical samples (Barkley, 1990; Loney, 1987). More specifically, the comorbidity rate of ADHD with ODD is found between 35-65 % and with CD between 20-50 % (Cohen et al., 1993; Jensen, Martin, & Cantwell,

1997). Although studies on ADHD and DBD in general mainly include boys, the small number of studies conducted on girls indicated that the rate of ADHD comorbidity with DBD in girls is approximately equal to boys (Szatmari, Boyle, & Offord, 1989). For example, a study conducted in Canada with 137 children and youths between 3 and 18 ages, all diagnosed with ADHD, revealed that the two most comorbid diagnoses of ADHD were ODD with 62.3 % and 54.8 % and CD with 30.2 % and 22.6 % for males and females, respectively (Erman, Turgay, Öncü, & Urdarivic, 1999), indicating slightly gender differences on rates of having a comorbid diagnosis.

In a study conducted in Turkey, it was found that 54 % of the children with ADHD diagnosis had comorbid diagnoses of DBD (Şenol, 1997). On the other hand, in another study, 85.6 % of children with CD diagnosis were found to have a comorbid ADHD (Yavaş, 1995). Studies consistently revealed that the percentage of children with primary ODD or CD diagnoses but comorbid ADHD symptoms was much greater than the percentage of children with primary ADHD diagnosis but with comorbid ODD or CD. In other words, the high comorbidity between ADHD and conduct problems was only valid when the primary diagnosis is ODD or CD, not ADHD (Reeves et al., 1987; Sanson et al., 1993). This asymmetrical comorbidity was found especially evident in clinical samples, where while pure ADHD children could be easily identified, pure conduct disorders could not be due to the high comorbidity with ADHD (Reeves et al., 1987).

The high comorbidity between DBD and ADHD has led some researchers to argue that inattention/impulsivity is an early component of the persistent conduct problems (Moffitt, 1993). In accordance with this argument, in a study White et al. (1994) found that impulsivity correlated significantly positive with antisocial behaviors.

However, despite the high rate of comorbidity of ADHD and conduct problems, it appears that they are independent from each other. Studies showed that each diagnosis was associated with different risk factors, such as parental, familial, socio-economic correlates, supporting the independence of the diagnoses (Reeves et al., 1987). For instance, studies showed that children with ADHD and CD diagnoses had parents with different characteristics. While the parents of children

with CD had higher levels of APD and substance abuse, parents of children with ADHD had more learning and attention problems (Lahey, Piacentini et al., 1988; Schachar & Wachsuth, 1990). In addition, the finding that although both children with ADHD and children with CD had inattention and hyperactivity symptoms, children with CD exhibited more severe aggressive and antisocial behaviors, supported the independence of the disorders despite having high comorbidity (Reeves et al., 1987).

Similarly, the study of Schachar, Rutter, & Smith (1981) revealed that the antisocial behaviors of children with comorbid conduct and hyperactivity symptoms were more likely to persist and became more severe than that of children with only conduct symptoms. In their study, Walker, Lahey, Hynd, & Frame (1987) compared two groups of children, one with only CD diagnosis and the other with both CD and ADD/H (Attention Deficit Disorder with Hyperactivity) according to DSM-III diagnostic criteria, in terms of variety and severity of antisocial behaviors they engage in. They found that the comorbid group exhibited more physical aggression and more severe antisocial behaviors although they were younger than the pure CD children. They concluded that when ADD/H is present in a child with minor behavior problems, the delinquent progression from less severe to more severe antisocial behaviors becomes more rapid.

In general, children with comorbid ADHD and DBD display more physical aggression, a greater range of and more persistent antisocial behavior, greater symptom severity, higher rates of peer rejection, and more severe academic failure (Hinshaw et al., 1993), which are factors predicting negative outcomes in adulthood (Parker & Asher, 1987). There are also findings that comorbid ADHD and DBD children are exposed to greater environmental risk factors. For example, in a longitudinal study, Sanson et al. (1993) found that children with clinically significant levels of hyperactivity and aggression had more family adversity, environmental disadvantage, more siblings, and more negative life events.

Findings from other studies also favored a distinction between ADHD with CD (ADHD+CD) and other children with pure ADHD regarding their familial risk factors. Stewart, DeBlois, & Cummings (1980) found that alcohol abuse and antisocial disorders were more frequent among fathers of unsocialized, aggressive,

hyperactive boys as compared to fathers of boys who were only hyperactive. Similarly, Lahey, Piacentini et al. (1988) reported higher rates of antisocial disorders, depression, and substance abuse among relatives of ADHD+CD children as compared to pure ADHD children. In another study, the mothers of ADHD+CD children were found to have higher rates of psychopathology than the mothers of pure ADHD children (Lahey, Russo, Walker, & Piacentini, 1989). In a study by Frick, Lahey, Christ, & Green (1991), parents of ADHD+CD children had higher rates of hyperactivity, CD, and substance use history in their childhood than parents of pure ADHD children. Overall, these data suggest that, from a familial perspective, ADHD children with CD may be etiologically distinct from those without CD, a hypothesis, which is consistent with the diagnostic system of World Health Organization's ICD-10 (World Health Organization, 1988) that keeps hyperkinetic conduct disorder, which combines the DSM-III defined attention deficit disorder (ADD) and CD, as a unitary and separate diagnostic category. Unfortunately, most of these studies have examined predominantly male samples (Faraone et al., 1995; Faraone, Biederman, Garcia Jeton, & Tsuang, 1997). However, Faraone, Biederman, & Monuteaux (2000) found that like for the boys, the ADHD+CD group also constitutes a familial distinct subtype also for girls.

In a longitudinal study, Farrington, Loeber, & Van Kammen (1990) found that children with comorbid ADHD and CD symptoms at ages 8-10 got engaged in criminal activities and were convicted before the age of 18 significantly more than children with either patterns of problematic behavior alone. In addition, based on the findings of their study Biederman et al. (1996) suggested that ADHD children only with ODD symptoms developed CD later. Therefore, many researchers have concluded that ADHD may serve as a significant risk factor for young children with minor behavior problems, so that they develop more severe and chronic antisocial behavior later in adolescence and adulthood. In other words, the combination of ODD and ADHD is predictive of the combination of CD and ADHD (Lahey, McBurnett, & Loeber, 2000).

Although it is evident that children with comorbid DBD and ADHD are at greater risk for negative and severe outcomes as compared to children with a single diagnosis, the argument that ADHD predicts subsequent antisocial behavior

independent from any CD symptoms is questionable, mainly because most of the results of previous studies might have been confounded by the uncontrolled effect of concurrent conduct problems as argued by some researchers (Lilienfeld & Waldman, 1990). In summary, Hinshaw and Anderson (1996) claimed that “ADHD clearly increases the risk for early-onset of ODD and CD; its ability to predict later antisocial patterns over and above such facilitations of early aggressive behavior is questionable” (p. 133).

1.4.1.5 Comorbidity with Internalizing Problems

Besides the co-occurrence of diagnoses within disruptive behavior disorders, the comorbidity of emotional or internalizing problems and DBD is consistently reported both in clinical and community samples (Gjone & Stevenson, 1997; Zoccolillo, 1992). Many studies showed that children with conduct problems were also higher on internalizing problems, such as fearfulness, dependency, withdrawal, somatic complaints, anxiety, depression, and social problems, indicating high comorbidity between externalizing and internalizing problems (Kazdin, 1996; Lambert et al., 2001). Regarding the co-occurrence of anxiety disorders and DBD, Cohen et al. (1993) reported that 26 % of the children with DBD had an anxiety disorder. In another study, Kovacs et al. (1988) found that the rate of comorbidity between CD and depression was 16 % in a clinic-referred sample. In addition, in a community study, Bird et al. (1988) reported that 22.9 % of youths with DBD between the ages of 4 and 16 had comorbid affective disorder, such as major depression, dysthymic disorder, and cyclothymic disorder.

There is evidence from twin studies that CD shares common genetic vulnerability (O'Connor, Neiderhiser, Reis, Hetherington, & Plomin, 1998) and common environmental risk factors with depression, such as negativity among family members, lack of warmth in parenting and lack of parental monitoring (Fergusson, Lynskey, & Horwood, 1996; Frick et al., 1992; Ge, Best, Conger, & Simons, 1996; Goodman & Gotlib, 1999). Consistently, Weiss, Süsser, & Catron (1998) presented evidence for a “common features” model of child psychopathology. This model distinguishes problems that are common to many diagnoses from those specific to a particular diagnosis. It is suggested that high

comorbidity of Childhood-Onset CD and other emotional symptoms reflected a common underlying psychological process of “negative emotionality”, “negative affectivity” or “neuroticism” in childhood and adulthood (Eisenberg, Fabes, Guthrie, & Reiser, 2000), which is found highly correlated with symptoms of depression, anxiety, and conduct problems in children.

However, recent studies show that mechanisms operating in the comorbid externalizing and internalizing are different from pure externalizing problems. It was found that comorbid conditions reflected more severe negative affectivity as compared to pure conduct problems. Barry, Frick, DeShazo, McCoy, Ellis, & Loney (2000) suggested that children with pure conduct problems resembled adults with psychopathic tendencies, who score low on negative affectivity.

1.4.2 Risk Factors Related to Parenting

In the literature, parent-child interaction patterns have been consistently found to be associated with childhood psychopathology. Many studies investigated the influence of the parenting practices and styles on the development of children’s conduct problems and antisocial behaviors (Campbell, 1995). Ineffective parenting practices such as harsh and inconsistent discipline, low parental monitoring and supervision, lack of parental involvement, and parenting styles of parental rejection and lack of parental warmth have been found to be related to externalizing behaviors in children in many studies (Bierman & Smoot, 1991; Dodge, Pettit, & Bates, 1994; Frick et al., 1992; Strassberg, Dodge, Pettit, & Bates, 1994).

1.4.2.1 Parenting Practices of Parental Involvement and Monitoring

In a meta-analysis performed by Loeber and Stouthamer-Loeber (1986), it was found that there were significant relations between dysfunctional parenting practices and conduct problems in children. This study revealed that specifically two types of parenting variables, lack of parental involvement in children’s activities (such as time spent together, parent’s interest in child’s friendships and activities) and poor parental monitoring and supervision were the strongest predictors of conduct problems in children. Many studies published after this meta-analysis confirmed the importance of these two dimensions of parenting on

behavior problems of children (Dishion, Patterson, Stoolmiller, & Skinner, 1991; Frick et al., 1992; Van Voorhis, Cullen, Mathers, & Garner, 1988).

1.4.2.2 Parenting Style of Acceptance-Rejection

One crucial factor among parenting variables is the parenting style of acceptance-rejection (Rohner, 1986). Research in last two decades demonstrated the significant influence of parental warmth, especially maternal warmth, on children's psychological development (Lamb, 1997; Rohner, 1998). Assumptions about maternal parenting styles are based on the principle that main caregivers, usually mothers, influence children's physical, emotional, psychological, and social well-being through expressive and affective behaviors including warmth and affection (Bowlby, 1969; Phares, 1992; Stem, 1995). Although mothers are often characterized as main caregivers and fathers are viewed as less capable of or less interested in caregiving, the importance of paternal warmth has also emerged in recent years (Veneziano, 2000).

In Rohner's (1986) Parental Acceptance-Rejection Theory (PARTheory), parenting is defined as a continuum; rejection, which is defined as the absence of parental warmth, affection and love standing at one pole, and acceptance and warmth standing at the opposite pole. According to Rohner (1986), parents can show their love and affection to their children in two major ways: they can express their feelings physically, such as by kissing, hugging, smiling, and/or they can express their warmth verbally through their words or voice of tone. Thus, accepting parents are described as expressing their love and warmth to their children. Oppositely, rejecting parents are described as disliking, disapproving, neglecting, aggressive, hostile, or indifferent toward their children.

According to PARTheory, the psychological adjustment of children depends on their experiences of parental acceptance-rejection, because there is wide agreement on the importance of the quality of parent-child interaction, which mainly includes satisfaction of child's needs, for healthy psychological development. In a meta-analysis, Khaleque and Rohner (2002) found that parental acceptance-rejection as perceived by the child was highly associated with psychological adjustment/maladjustment of children. Very importantly, they found

that the cultural, ethnic, and gender differences did not change this significant relationship between psychological adjustment and parental acceptance-rejection. Similarly, Muris, Meesters, & van den Berg (2003) and Fauber, Forehand, McCombs, & Wierson (1990) found that low levels of perceived parental emotional warmth and high levels of perceived parental rejection were related to both high levels of internalizing and externalizing problems.

Rohner (1986) suggests that besides having internalizing problems such as dependency, low self-esteem and low self-adequacy, individuals who feel themselves rejected by their parents tend to be more hostile and aggressive toward other people. The significantly positive relationship between hostility and parental rejection has been confirmed in many studies. For example, in some studies, it was examined whether perceived parental warmth and rejection were associated with hostility levels (Meesters, Muris, & Esselink, 1995; Muris, Meesters, Morren, & Moorman, 2004). The results consistently revealed that subjects with higher levels of hostility perceived less emotional warmth and more rejection of their parents as compared to their counterparts with low levels of hostility. Similarly, Woodall and Matthews (1989) reported that children who scored high on hostility and anger come from families characterized as low on supportiveness and interpersonal involvement. They concluded that hostile attitudes may partly develop as a result of parenting style that lacks warmth and affection. Consistently, in their studies, Patterson, Cohn, & Kao (1989) and Wasserman, Miller, Pinner, & Jaramillo (1996) found that lack of maternal warmth highly correlated with externalizing problems of children. Furthermore, Pettit and Bates (1989) found that lack of maternal warmth predicts child behavior problems independent of negative discipline and punishment, which will be discussed next. Thus, harsh discipline and lack of maternal warmth operate as independent predictors of child conduct problems.

1.4.2.3 Punishment

In an early investigation by Bandura and Walters (1963), it was revealed that parents of a group of aggressive, delinquent boys were characterized by parenting style of rejection and by inconsistent disciplinary practices. Following studies have also noted that besides parental rejection, harsh or abusive parental

punishment and inconsistency in applied punishment and disciplinary practices were associated with many conduct problems, such as lying, stealing, running away from home and aggressive acting outs (Howes & Elderredge, 1985; Kazdin 1985; Lefkowitz, Eron, Walder & Huesmann, 1977; Patterson, Reid, & Dishion, 1992). Results of many studies indicated that parents of children with conduct problems were more violent and critical in their use of discipline, (Webster-Stratton & Spitzer, 1991). However, Glueck and Glueck (1950) stated that besides harsh discipline, application of inconsistent discipline, ranging from none at all to extreme physical punishment, was a significant predictor of delinquency in children.

Specifically, excessive use of corporal punishment and inconsistent use of discipline have been strongly associated with childhood conduct problems in a number of studies (Bierman & Smoot, 1991; Frick et al., 1992; Laub & Sampson, 1988; Patterson, Dishion, & Bank, 1984; Strassberg et al., 1994; Wells & Rankin, 1988), indicating that harsh and punitive parenting was a significant predictor of antisocial behaviors in children (August, MacDonald, Realmuto, & Skare, 1996). Studies conducted on parenting practices revealed that parents of children with conduct problems used more aversive disciplinary strategies and aggression in their interactions with their children (Dadds, Sanders, Morrison, & Rebetz, 1992; Shaw & Bell, 1993). In another study, Frick et al. (1992) found that mothers of children with CD were significantly poorer in supervising their children and more inconsistent in applying discipline as compared to mothers of children in the control group. Moreover, numerous studies have found that children subjected to corporal punishment tended to be more aggressive than children whose parents use alternative disciplinary strategies (Becker, Peterson, Shoemaker, & Hellmer, 1962; Larzelere, 1986; Straus, 1991).

Several theoretical models have been developed to explain the link between parenting practices and childhood conduct problems. The most influential developmental model is Patterson's (1982) theory of the "coercive process", which is based on social learning model of antisocial behavior. Patterson stated that parents of conduct-disordered children are low in warmth and affection and high in rejection toward their children, and they typically use aversive, harsh, and physical

punishment and discipline, and high rates of aggression in interactions with their children. According to Patterson's model, problematic parenting behaviors promote coercive interactions between parent and child. In this process, children learn that their own aversive behaviors can terminate coercive parenting strategies by escalating their negative behaviors if their parents give up. In other words, in this coercive process, child's non-compliance to parental demands is usually rewarded by the parent's giving up. Such a pattern in aversive responding intensifies both the child's aggressive behavior and the parents' hostile and inconsistent behavior, resulting in a coercive cycle. Thus, not only do parents' affect and behaviors influence their children's behaviors, but also children's behaviors influence their parents' affect and behaviors. According to Patterson, by using dysfunctional parenting practices, parents train their children unintentionally to be antisocial through modeling and directly reinforcing deviant behaviors in their daily interactions with their children. Furthermore, Patterson, Chamberlain, & Reid (1982) suggested that parents who spend limited amounts of time in supervising their children may be unaware of problem behaviors and unable to provide appropriate discipline strategies. All of these potential mechanisms share the basic assumption that the use of ineffective parenting strategies can interfere with the adequate socialization of the child and, as a result, contribute to the development of conduct problems. According to Patterson's coercion theory, consistent application of effective punishment is necessary for the significant long-term reduction in rates of children's antisocial behaviors.

On the other hand, Baumrind (1994) argued that when physical punishment is used within a loving family environment, it is effective in reducing unwanted behavior without increasing aggression. Consistently, Agnew (1983) found that corporal punishment was associated with higher rates of aggression only when it was applied inconsistently. Thus, many previous studies were criticized due to methodological problems, mainly failing to control for other dimensions of parenting, such as parental rejection, involvement, and monitoring (Becker, 1964; Rohner, Kean, & Cournoyer, 1991; Simons, Johnson, & Conger, 1994). For example, Simons et al. (1994) found that the lack of parental involvement was more strongly associated with psychological maladjustment of children than was

the use of corporal punishment, and after controlling for the effect of parental involvement, physical punishment was left unrelated to psychological maladjustment, including aggressiveness and delinquency. Finally, Rohner et al. (1991) studied the influence of corporal punishment on youths' psychological adjustment as mediated by perceived caretaker acceptance-rejection. They concluded that the warmth, love and acceptance children feel from their major caregivers are much more strongly related to children's psychological well-being than is physical punishment. Similarly, in a study conducted on children and youths between 8 and 18 ages, Rohner, Bourque, & Elordi (1996) found that physical punishment was associated with poor psychological adjustment only when it was perceived as a form of caretaker rejection. Additionally, Simons et al. (1994) found that once the effect of parental involvement was removed, corporal punishment showed no detrimental impact on aggressiveness, delinquency, or psychological wellbeing of youths. This indicates that it is not corporal punishment per se, but the disregard, inconsistency, and lack of involvement, which often co-occur with harsh corporal punishment, that increases the risk for a child to develop conduct problems.

On the other hand, some previous research has suggested that the impact of some parenting practices on conduct problems is culture specific. For example, Deater-Deckard and Dodge (1997) found that opposite to European Americans, there was a nonsignificant association between physical punishment and child aggression among African American families due to different cultural meanings of punishment. They suggested that among African American families, physical punishment may be much more accepted and therefore the children in this culture may not interpret it as bad parenting and rejection, as the perceptual connection between physical punishment and aggression in children among European Americans.

In summary, both ineffective parenting practices and dysfunctional parenting styles play a critical role in development and maintenance of conduct problems. However, all these risk factors usually do not operate independent from each other, making the causal relationships between risk factors and antisocial outcomes difficult to drive (Frick et al., 1992).

1.4.3 Family Risk Factors other than Parent-Child Relationship

Concerning other family risk factors apart from the parent-child relationship, parental psychopathology, family environment, socio-cultural risk factors are found to be as important risk factors for the development of DBD in children.

1.4.3.1 Parental Psychopathology

Studies have consistently shown that parental psychopathology, including parental antisocial behaviors, such as criminal history and history of substance and alcohol abuse, and maternal depression were significant predictors of childhood conduct problems (Biederman, Munir, & Knee, 1987; Frick et al., 1992; Lahey et al., 1989; Lahey, Piacentini et al., 1988; Querido, Eyberg, & Boggs, 2001; Reeves et al., 1987; Stewart & Leone, 1978; Williams, Anderson, McGee, & Silva, 1990). Especially, both paternal and maternal APD has been found to be more prevalent among the parents of children with conduct disorder than clinic-referred children with other problems (Lahey, Hartdagen et al., 1988). Lahey, Piacentini et al. (1988) found that both mothers and fathers of children with CD were more likely to exhibit APD and criminal behaviors, and fathers were more likely have substance abuse problems.

Although some studies have found an association between maternal antisocial behaviors and child conduct problems (Frick, Lahey, Hartdagen, & Hynd, 1989; Lahey et al., 1989), research has consistently shown that the association is stronger between father's behaviors and child conduct problems (Lahey, Piacentini et al., 1988). Consistently, in their study, Tapscott, Frick, Wootton, & Kruh (1996) revealed that 40 % of the fathers of children with DBD had APD diagnosis. Similarly, Lahey, Hartdagen et al. (1988) found that primarily paternal APD was strongly associated with conduct problems in children. They found that in a sample of clinic-referred children between the ages of 6 and 13, while 50 % of boys with CD had a parent, mostly father, with APD diagnosis, 82 % of parents, again mostly fathers, with APD diagnosis had a child with CD. Thus it is widely concluded that a persistent pattern of parental antisocial behavior,

especially as found in the father, plays an important role in the etiology of conduct problems in their children.

Very importantly, the association between parental antisocial tendency and child antisocial behavior existed regardless of whether the child lives together with the parent with antisocial behaviors or not (Tapscott et al., 1996), indicating to a genetic predisposition or intergenerational transmission for conduct problems, at least for a genetic vulnerability of them. However, according to the social learning theory, parental antisocial personality may lead to inappropriate parenting behaviors which may result in conduct problems in children. In other words, parental psychopathology may lead to dysfunctional parenting styles and practices, which may in turn result in disruptive behavior problems in children. However, making a cause and effect relationship between parental psychopathology and conduct problems is difficult to conclude. In an important study, Frick et al. (1992) found that parental APD was associated with children's conduct problems independent of parenting behavior, which indicated to the importance of APD as a risk factor for conduct problems in children. However, whether this association was primarily through a genetic predisposition or through modeling of parents' antisocial behavior or through parental reinforcement of child's antisocial behavior remains poorly understood. Thus, whether genetic transmission or indirect psychosocial mechanisms, such as ineffective parenting skills, or the interaction of both genetic and environmental factors are the main actors in this etiology of conduct problems is still unknown.

Other than APD, in some other studies, mothers of children with conduct problems were found to be more likely to have histrionic problems (Lahey et al., 1989; Stewart & Leone, 1978), somatization problems and depression (Lahey et al., 1989; Lahey, Piacentini et al., 1988). Specifically, many studies have examined the relation between maternal depressive symptoms and children's conduct problems. Hammen, Burge, & Stansbury (1990) found that mothers with high levels of depressive symptoms were more likely to report behavior problems in their children than mothers with low levels of depressive symptoms. Similarly, Dumas, Gibson, & Albin (1989) found that maternal depression was significantly associated with behavior problems in children.

According to some researchers, maternal depression is a crucial risk factor for negative outcomes in children (Forehand & Brody, 1985; Jacob & Johnson, 1997; Webster-Stratton, 1991), because depression has been found to highly interfere with parenting skills (Beardslee, Bemporad, Keller, & Klerman, 1983; Sheppard, 1994), which are clearly linked to childhood conduct problems when applied ineffectively (Pettit, Bates, & Dodge, 1997). Consistent to these findings, in a low SES sample of first-grade children, Harnish, Dodge, & Valente (1995) found that the mother-child interaction was a partial mediator between maternal depression and behavior problems in children even after the effects of low SES were controlled. Cox, Puckering, Pound, & Mills (1987) found that while interacting with their children, mothers, with depressive symptoms were less likely to use positive tone and less expressive communication, and also were less responsive to the requests of their children as compared to nondepressed mothers. A study conducted by Downey and Coyne (1990) showed that as compared to nondepressed mothers, depressed parents showed irritable and hostile behaviors toward their children. Consistently, Webster-Stratton (1988) and Webster-Stratton and Hammond (1988) found that depressed mothers interacted with their children with more criticism than nondepressed mothers.

Thus, it was suggested that maternal depression hinders the development of healthy mother-child relationships (Campbell, 1996) through ineffective or dysfunctional parenting practices, which were regarded as the most crucial elements of coercive cycles between children with conduct problems and their parents (Patterson et al., 1982).

1.4.3.2 Family Functioning

Studies have consistently illustrated that the family environment has a strong influence on the development and maintenance of conduct problems (Patterson, 1982). In general, dysfunctional family environments characterized by low levels of consensus and low levels of cohesion, and high levels of conflict were found to be significantly correlated with conduct problems in children (Haddad, Barocas, & Hollenbeck, 1991), and with aggression and hostility (Fowler, 1980).

Studies showed that in families with a conduct-disordered child, parents reported poor family functioning, specifically less cohesion, less organization, but more conflict (Slee, 1996; Cunningham & Boyle, 2002). The two family environment variables of conflict and cohesion were explored in a study of families with a conduct disordered child by Haddad et al. (1991). Results showed that as compared to families of children with anxiety disorders and a nonclinical control group, family environments of conduct disordered children were characterized by significantly lower levels of family cohesion and higher levels of conflict. This relationship remained significant even after controlling for the SES of the family, since social disadvantage including poverty is related to dysfunctional family functioning (Dodge et al., 1994). In a retrospective study, Smith, Pope, Sanders, Allred & O'Keeffe (1988) showed that subjects, who were highly hostile, described their families as high in conflict and low in cohesion as compared to subjects who had lower scores on hostility.

In a study conducted in Turkey, Şirvanlı (1999) found that children of divorced and married but conflicted parents had higher levels of behavioral problems when compared to children with married parents who were not high on conflicts. Similarly, results of August et al.'s (1996) study revealed that family relations high in conflict were significant predictors of antisocial behaviors in children. Combining the literature on parenting variables and family environment, in their study, Fauber et al. (1990) found that families high in conflict were characterized as having inconsistent discipline and parental rejection, both of which increases the risk for antisocial behaviors in children. Finally, Woodall and Matthews (1989) found that hostile children tended to come from families which were described by parents as low in supportiveness and involvement. Altogether, the results of all these studies suggest that development of conduct problems seems to be reinforced in families with low levels of positive involvement and high levels of conflict.

Patterson (1982) suggested that parents of children with DBD have deficiencies in a number of skills, such as problem solving and communication skills. In a study, Webster-Stratton and Hammond (1999) found that parents' ineffective conflict management style, such as inability to solve problems and to

communicate with each other were significantly associated with children's conduct problems. Similarly, mothers of children, who were at risk for DBD reported more family dysfunction, including effective communication and problem solving abilities within the family (Cunningham & Boyle, 2002). More specifically, communication problems between parents and children have often been implicated in the development of conduct disorder (Pillay, 1998). Hill and Bush (2001) found that the more families talked about their feelings, especially about negative emotions, the less likely children were to have conduct problems. Therefore, communication was found to be negatively related to conduct problems. Related to communication, mothers' lack of emotional responsiveness to their children was found as another risk factor related to development of conduct problems (Webster-Stratton, 1985). A study by Slee (1996) showed that in families with a CD child, parents reported less expressiveness of emotions and a greater use of parental control in dealing with their children.

1.4.3.3 Socio-Cultural Risk Factors

Several longitudinal studies indicate a significant relationship between socio-cultural risk factors and externalizing behaviors (Moffitt, 1990; Sanson et al., 1993). Deater-Deckard, Dodge, Bates, & Pettit (1998) found that socio-cultural family stressors, such as single parenthood, more siblings, and early onset of motherhood correlated significantly with externalizing behaviors in children. In a study conducted by Nagin and Tremblay (2001), mother's low education level and young age at birth appeared as significant predictors for persistence of physical aggression in boys, indicating that socio-cultural risk factors influence both the development and maintenance of conduct problems.

On the other hand, Hill and Bush (2001) found that maternal education level was negatively related to mothers' reports of conduct problems, but not children's reports of conduct problems. The lack of relationship between education level of the mother and conduct problems of the children led the authors to conclude that mothers with higher educational levels may be more tolerant of their children's behaviors, or they report fewer problems in their children as compared to lower educated mothers due to social desirability.

Studies also revealed that there is a significant relationship between early conduct problems and family adversity, a broad category, which includes besides measures of parental unemployment, early onset of motherhood, single parenthood, large family size, also contextual factors of economic disadvantage and deprived neighborhoods (Dodge et al., 1994; Dumas & Wahler, 1983; Loeber & Stouthamer-Loeber, 1986). A consistent finding in both community (Cohen et al., 1993) and clinic-referred samples (Frick et al., 1989; Lahey et al., 1995) is that children from lower socioeconomic families show a disproportionately high rate of conduct problems. Similarly, Stouthamer-Loeber, Loeber, Wei, Farrington, & Wikström (2002) suggested that as compared to neighborhoods in better conditions, economically and socially disadvantaged neighborhoods had a higher prevalence of risk factors. In another study, poverty was found to be associated with behavior problems of children even after the effects of parental education level, mother's age at birth, and family structure were controlled (Duncan & Brooks-Gunn (1997b, cited in Jackson, Brooks-Gunn, Huang, & Galssman (2000).

In their study, McCoy, Frick, Loney, & Ellis (1999) found that the effects of low SES on conduct problems were largely mediated by the influence of ineffective parenting practices. As found in many previous studies, measures of SES were negatively related to ineffective or dysfunctional parenting practices (Dumas & Wahler, 1985; Lempers, Clark-Lempers, & Simons, 1989; McLoyd, 1990). Many researchers suggested that economic stressors interfered with parental psychological functioning, such as increasing depressive symptoms and disturbing relationships within the family and also parenting behavior, which increase the risk for behavioral problems in children to occur (Conger et al., 1992; McLoyd, 1990). Jackson et al. (2000) found that financial problems within families led to increase in depressive symptoms in parents, which were negatively associated with effective parenting practices, resulting in behavior problems in children.

Moreover, studies consistently showed that parents from lower SES used harsh disciplinary practices, such as physical punishment, more often than parents from higher income level (Dodge et al., 1994; Hoff-Ginsberg & Tardiff, 1995; McLoyd, 1990; Pinderhuglies, Dodge, Pettit, & Zelli, 2000); a condition, which triggers and reinforces child's aggressive behavior through coercive cycles

(Patterson, 1982). Additionally, parents experiencing economic disadvantage have been found to be more inconsistent in disciplining their children (Dumas & Wahler, 1985; Lempers et al., 1989; Sansbury & Wahler, 1992), to have more difficulty in monitoring their children effectively (Wahler & Sansbury, 1990), and to be more restrictive and controlling for their children than were parents from higher SES (Hoff-Ginsberg & Tardiff, 1995). All of these are dimensions of parenting practices, which were found to be linked to conduct problems in children in the literature, and have been presented in previous sections.

According to the theory proposed by Sansbury and Wahler (1992), the stressors associated with economic disadvantage and living in impoverished neighborhood with aversive living conditions, can interfere with parents' ability to discipline their children in an appropriate and consistent way. Consistent to parenting practices, Patterson et al. (1989) found that maternal warmth was related to SES. They argued that the financial stress parents experience, make them less attentive to the child's needs and also less warm towards the child. Similarly, McLeod and Shanahan (1993) found that parents experiencing distress due to financial problems were less attentive to their children's needs and less involved in their children's activities.

However, Toupin, Dery, Pauze, Mercier, & Fortin (2000) suggested that it is important to emphasize that low SES of the family and parenting practices, such as parental punishment, make independent contributions to conduct problems in children. In a study, Kilgore, Snyder, & Lentz (2000) found that the association between coercive discipline and children's conduct problems was still significant even after family socioeconomic variables, such as low SES, single parenting, low maternal education, and teenage parenting, are controlled. They argued that effective discipline strategies used by parents are among important protective factors in high risk socioeconomic contexts. Thus, it was suggested that models explaining childhood conduct problems should include both proximal, such as parenting practices and parenting styles, and distal risk factors, such as socio-cultural and economic vulnerabilities, because they interact with each other (Toupin et al., 2000).

In general, as mentioned before, for each of the three categories of risk factors it is difficult to conclude a cause and effect relationship between risk factors and DBD, because a number of risk factors interact with each other in the etiology and maintenance of these problems.

1.5 Construct of Psychopathy

The term psychopathy refers to the widely accepted conceptualization of the psychological disorder, which was basically defined by Cleckley (1976). Since the change of the emphasis given on diagnostic criteria in DSM definitions from more personality based approaches in DSM-II to more behavior-based approaches in DSM-IV (Lilienfeld, 1994), most theoretical models of antisocial behaviors consider APD and psychopathy as analogous and interchangeable constructs (Frick, O'Brien et al., 1994).

However, Cleckley (1976) described psychopathy as a form of personality disorder characterized emotionally by decreased emotional affect, callousness, unreliability, insincerity, egocentricity, failed interpersonal relations, lack of empathy, remorse, shame or anxiety, emotional shallowness, manipulateness, and behaviorally by irresponsibility, impulsivity, engagement in a number of criminal activities or in moral violations. In other words, according to Cleckley (1976) psychopathy refers to a combination of personality traits and behavioral characteristics. Like antisocial individuals, behaviorally, psychopathic individuals engage in risk-taking, sensation-seeking activities, including criminal ones, but interpersonally, they are described as grandiose, egocentric, manipulative, and cold hearted, and affectively, they display shallow emotions, lack empathy, guilt, shame, and show general poverty in major affective responses.

Harpur, Hare, & Hakstian (1989) and Hare, Hart, & Harpur (1991) have proposed a two-factor conceptualization that places an equal emphasis on affective and behavioral criteria of psychopathy. They found that these two criteria were independent from, but moderately related to each other and are essential for the diagnosis of psychopathy. According to their conceptualization, one factor includes interpersonal (e.g., egocentricity, superficial charm, absence of lasting relationships, lack of empathy) and affective (remorselessness, absence of guilty,

shallow emotions, callousness, low anxiety) traits that are the hallmarks of psychopathic personality defined by Cleckley (1976). This factor was found to be positively correlated with clinical ratings of psychopathy, with narcissism and histrionic personality disorders, and to be negatively correlated with measures of empathy and anxiety (Hare et al., 1991; Harpur et al., 1989; Hart & Hare, 1989).

The relationship between anxiety and antisocial behavior is very crucial for differentiating antisocial personality and psychopathy. There is empirical evidence that psychopathy defined by Cleckley's criteria is negatively correlated with anxiety and positively correlated with fearlessness (Frick, Lilienfeld, Ellis, Loney, & Silverthorn, 1999). Some researchers have pointed to two distinct groups of antisocial individuals. While the first group is composed of individuals with low levels of anxiety, the second group includes antisocial individuals with high levels of anxiety. The antisocial adults with low and high levels of anxiety were labeled as "primary psychopaths" and "secondary psychopaths", respectively (e.g., Blackburn, 1998). However, one critical issue in this distinction is that the vast majority of studies on the two separable dimensions of psychopathy have been conducted with institutionalized samples. Levenson, Kiehl, & Fitzpatrick (1995) studied psychopathic traits in a sample of undergraduates and found similar two factors. They found that while primary psychopathy factor included items referring to narcissism and a callous disregard of others, the secondary psychopathy factor included items referring to an impulsive and a socially deviant lifestyle. According to Lykken (1995), the main important factor in the etiology of primary psychopathy is a basic genetic deficit in trait levels of anxiety or fearfulness as opposed to deficits in socialization within the family environment of the secondary psychopaths. In their study, Taylor, Loney, Bodadilla, Iacono, & McGue (2003) examined the heritability of psychopathy in adolescents. The results confirmed that not the shared environmental factors, but genetic factors play an important role in the development of psychopathic traits.

On the other hand, the second factor includes the unstable lifestyle (e.g., multiple marriages, poor employment history) and antisocial and impulsive behaviors (e.g., multiple arrests, aggression). This factor is positively correlated with clinical diagnosis of APD and criminal behaviors, as well as with psychopathy

(Hare et al., 1991; Harpur et al., 1989). In other words, clinically, psychopaths represent a subgroup of adults with APD, who experience typical behavioral problems associated with a diagnosis of APD, but they are distinct in their affective style from pure ADP adults (Hare et al., 1991).

Very importantly, these two factors have unique associations with other variables. While antisocial behaviors have been associated with adverse family background factors (Christian et al., 1997), psychopathic traits are thought in general to be a result of deficit in processing of emotional stimuli (Blair, 1995, 2001). Also, the inverse relationship between SES and adult antisocial behavior was not found between SES and adult psychopathy (Harpur et al., 1989). In other words, although psychopathy is often associated with antisocial behaviors and criminality seen in APD diagnosis in DSM-IV, it refers to persistent personality syndrome that is not equivalent to APD (Cornell et al., 1996).

Hare (1991) developed the Psychopathy Checklist-Revised (PCL-R) for adults to measure Cleckley's (1976) psychopathy construct with two factors, which are correlated with each other: one factor with affective-interpersonal traits central to psychopathy, and the other with antisocial behavioral components. However, recently, factor analytic studies conducted with adults and adolescents have identified three factors of psychopathy instead of the two-factor solution of Hare (1991). While the first factor reflects an arrogant and deceptive interpersonal (ADI) lifestyle, the second factor includes affective deficiencies or callous-unemotional (DAE) traits. Lastly, the third factor consists of irresponsible, impulsive, and antisocial behaviors (IIB) (Cooke & Micjie, 2001; Frick, Bodin, & Barry, 2000; Kosson, Cyterski, Steuerwald, Neumann, & Walker-Matthews, 2002; Salekin, Neumann, Leistico, Diccico, & Duros, 2004).

Although antisocial behaviors and psychopathy are two interrelated but distinct constructs, they are used as analogous and interchangeable. Today, DSM-IV uses only the diagnosis of APD (APA, 1994). However, these diagnostic criteria are criticized by many researchers (Hare et al., 1991; Kernberg, 1992), mainly because the diagnosis of the APD in the DSM-IV focused only on the behavioral features of psychopathy such as lying, aggressiveness, and criminal behaviors, but failed to include the affective and personality traits such as

superficial charm, shallow emotions, and manipulative and egocentric qualities that differentiate the psychopaths from other criminal offenders. In other words, interpersonal and emotional aspects of psychopathy are ignored in DSM-IV (Hare et al., 1991).

Hare (1985) mentioned that APD was highly prevalent in criminal offenders with diagnoses rates ranging from 50 % to 85 %. However, empirically, the relationship between psychopathy and APD was found asymmetrical (Lynam, 1998). While about 90 % of psychopathic offenders were found to meet APD criteria, only 25 % of those diagnosed with APD meet the PCL-R criteria for psychopathy (Hare, 1985). It is mentioned that while the criminal offenders with psychopathic characteristics engage in greater number of (Hare, McPherson, & Forth, 1988) and more violent (Kosson et al., 1990; Serin, 1991) criminal activities, they also commit more varied types of criminal activities (Hare et al., 1988) as compared to nonpsychopathic criminals. Similarly, Hare and McPherson (1984) found that prisoners with psychopathic characteristics were significantly more likely to engage in physical violence both in the prison and after their release. In addition, Hare (1991) stated that psychopathic offenders were more maladjusted and resistant to treatment than nonpsychopathic offenders. Consistently, Ogloff, Wong, & Greenwood (1990) reported that this group of offenders benefits less from psychiatric treatment than do offenders without psychopathic characteristics. In general, studies consistently showed that antisocial individuals who also exhibit psychopathic features showed an especially severe and chronic pattern of antisocial behaviors.

A growing body of research has suggested that aggressive behavior can be differentiated based on the function of the aggressive act (Dodge & Coie, 1987; Dodge & Pettit, 2003). Accordingly, Berkowitz (1993) identified two primary types of aggression. The first one is reactive (hostile) aggression that is identified as impulsive aggression that takes place within the context of associated anger and high emotionality and occurs in response to frustration, provocation, real or perceived threat. This type of aggression is less controlled and more impulsive. Berkowitz (1993) labeled this type of aggression as “emotional aggression”. He proposed that all states of negative affect, not only frustration as stated in

frustration-aggression hypothesis (Dollard, Doob, Miller, Mowrer, & Sears, 1939) may cause aggression. According to him, emotional aggression is a response to the experience of negative affect and anger. The second type is called proactive (instrumental) aggression, which involves a relatively nonemotional display of aggressive behavior, which is directed towards obtaining a goal. It is defined as unprovoked, purposeful, goal-directed, less impulsive, and more considered. This differentiation in aggression is important for the construct of psychopathy, because studies show that while reactive aggression is an important aspect of antisocial behaviors both in conduct disordered children and in antisocial adults, proactive aggression is seen mostly in people with psychopathic tendencies (Blair, 1999). Because people with psychopathic tendencies disregard the social norms and values, they are more willing to engage in violent, aggressive behaviors for instrumental purposes rather than due to reactive reasons.

Currently, there are three main models to explain why individuals with psychopathic traits show affective dysfunction and poor socialization. One of these is the “Low-fear model” (Hare, 1970; Lykken, 1995; Patrick, 1994), which stresses the aspects of psychopathy related to stimulation seeking and insensitivity to punishment (Patrick, 1994). This suggests that psychopathic individuals have failed in socialization because of their inability to experience fear and fail to learn from their misbehaviors and punishment.

The second model based on Gray’s (1975) suggestion is that there are two biological pathways to antisocial and aggressive behaviors. One biological system called the Behavioral Inhibition System (BIS), functions to inhibit behavior in response to punishment. The other one is Behavioral Activation System (BAS), which functions to activate behavior in response to reward or to escape from punishment. Aggression may develop as a function of a relatively hypoactive BIS, which results in poor socialization due to the inability to learn from cues or punishment, or a relatively hyperactive BAS, which leads to aggression in situations of frustration and self-defense. It is thought that emotional aggression (Berkowitz 1993), which includes anger and physiological arousal, is related to hyperactive BAS. On the other hand, Fowles (1980) suggested that psychopathy involves low levels of activation of BIS, which results in low levels of arousal.

This poor system results in a lack of anxiety, lack of fearful inhibition of behavior, the inability to learn from past punishments, and a lack of empathy, guilt, and fearlessness in psychopaths (Frick, 1998b; Kochanska, 1993). It is thought that by engaging in risky behaviors, these people increase their low arousal level to an optimum level. Empirical studies showed that psychopaths showed lower levels of behavioral inhibition, usually operationalized as a response to fear, as compared to control groups (Newman, Wallace, Schmitt, & Arnett, 1997) and also painful punishments did not deter the psychopaths from their ongoing behaviors (Newman, 1987). Thus, underactivity of BIS is viewed as an important marker of psychopathy.

The third model is “Violence Inhibition Mechanism Model” (VIM Model; Blair, 1995, 2001) that combines the previous two models. This model stresses the aspects of psychopathy related to reduced sensitivity to the distress cues and emotional signals of others; particularly to sadness and fear (Blair, 1995). Blair (1995) proposed that the lack of fear, distress, empathy and guilt in psychopaths is a developmental consequence of deficits within the VIM. According to VIM model, there is a system that preferentially responds to sad and particularly fearful emotional displays (Blair, 1995, 1997, 2001). The processing of the emotional signals of others is fundamental for normal socialization and human interaction. In normal developing individuals, VIM is activated whenever distress cues are displayed by other people and activation of the this system by others’ display of distress cues result in increased autonomic activity arousal (Viding, 2004), which normally leads to the interruption or inhibition of behaviors causing distress, because watching the distress in others is aversive for the observer. Thus, the healthy individuals learn to avoid initiating behaviors that result in the sadness or fear of others. VIM model (Blair, 1995) suggests that primary deficit in psychopaths is a dysfunction within the neuro-cognitive system which mediates the responses to distress. A deficit or poor functioning in this system results in the development of psychopathic behavior, so that the individual cannot inhibit his behavior. This model explains why psychopaths do not show or show reduced arousal responses to distress cues.

In a study conducted with criminals, Patrick, Bradley, & Lang (1993) found that criminals with high emotional detachment exhibited reduced startle potentiation, which is thought to signal negative affect. However, criminals with low emotional detachment exhibited high startle potentiation. Similar to the findings in the literature, this study revealed that negative emotionality was related to high antisocial behavior and low emotional detachment. These results led the authors to conclude that not all the criminals but the ones with psychopathic tendencies display a core emotional deficit in fear potentiation and defensiveness. Therefore, a predisposition to negative emotionality increases the likelihood of impulsive antisocial and aggressive behaviors.

1.6 Subgroups within Childhood-Onset Group

Although the distinction between Childhood-Onset and Adolescent-Onset patterns of antisocial behaviors is widely accepted for prediction of different risk factors and adult antisocial behavior in future, studies in the last decade showed that treating the Childhood-Onset group as a homogenous group is not accurate. For example, Moffitt et al. (1996) found that only 54 % of the children in Childhood-Onset group showed persistent antisocial behaviors in childhood and adolescence. Previous studies also consistently showed that children with conduct problems who were unable to maintain social relationships, called undersocialized, tend to be more aggressive, have a poorer prognosis, and respond less well to treatment than socialized antisocial children (Henn, Bardwell, & Jenkins, 1980; Quay, 1987; Rogeness, Javors, & Pliszka, 1992; Schmidt, Solant, & Bridger, 1985). In addition, although there is a well-documented correlation between anxiety and antisocial behavior in children (Russo & Beidel, 1993; Zoccolillo, 1992), some antisocial children do not show elevated levels of anxiety and these children are more aggressive, have more conflict with the social system, and respond more poorly to treatment than the anxious antisocial children (McBurnett et al., 1991; Quay & Love, 1977; Walker et al., 1991). These findings suggested that within the group of children with early-onset conduct problems, there may be distinct subgroups.

Studies showed that children with Childhood-Onset conduct problems can be divided into two homogeneous subgroups. This distinction is based on the child's affective and interpersonal style, rather than on the type, severity, or onset of his or her antisocial behaviors (Frick & Ellis, 1999; Frick, O'Brien et al., 1994). Specifically, two groups of children with Childhood-Onset conduct problems can be identified in both clinic-referred (Christian et al., 1997) and community samples (Frick, Bodin, & Barry, 2000) and these groups differ on the presence of callous-unemotional (CU) traits, which are similar to the interpersonal and affective features that have been used to define the psychopathy construct in adults (Hare et al., 1991; Harpur et al., 1989). From the longitudinal studies, it is now well-known that adult antisocial behaviors and psychopathy have their roots in childhood (Loeber, 1982). However, like in adult psychopathy literature, studies on children's antisocial behaviors have mostly focused on the severity and types of antisocial behaviors while neglecting the psychological and affective dimensions, which are more specific for the construct of psychopathy (Cleckley, 1976; Lahey et al., 1992).

Similar to the adult literature, Frick and his colleagues used the concept of psychopathy to distinguish between subgroups of CD children with Childhood-Onset conduct problems (Christian et al., 1997; Frick, Barry, & Bodin, 2000; Frick, O'Brien et al., 1994). They conducted a series of studies to explore the relationship between psychopathic traits in children and conduct problems (Christian et al., 1997; Frick, Barry, & Bodin, 2000; Frick, O'Brien et al., 1994; Wootton, Frick, Shelton, & Silverthorn, 1997). One of the specific questions addressed by these studies was whether there is a subgroup of CD children with psychopathic traits, who follow a distinct and separate developmental path from other CD children. Frick, O'Brien et al. (1994) found that in clinic-referred children with conduct problems there were two separable psychological dimensions. One dimension involved CU interpersonal style, which refers to a temperamental trait characterized by unresponsiveness to fearful or distress cues or punishment, egocentricity, lack of guilt and shame, absence of empathy, and use of others for own sake (Wootton et al., 1997), and the second dimension involved behaviors associated with poor impulse control and antisocial tendency. Consistent with the

adult literature, the two dimensions were highly associated with behavioral definitions of antisocial disorders (i.e., DSM definitions of ODD and CD). However, the CU dimension was less strongly associated with conduct problem diagnoses.

For identifying children with psychopathic traits, Frick and Hare (2001) developed a 20-item psychopathy scale, called first as Psychopathy Screening Device (PSD; Frick & Hare, 2001), with two subscales. This device was prepared similar to the Psychopathy Checklist-Revised (PCL-R; Hare, 1991) assessing two dimensions of adult psychopathy, so the concept of psychopathy was extended downward into younger age groups. The CU scale included items referring to interpersonal and affective dimensions of psychopathy, such as superficial charm, callous use of others, absence of empathy and guilt, lack of anxiety, and shallow emotions. On the other hand, Impulsivity/Conduct Problems (I/CP) scale included items referring to overt antisocial behaviors. Later, they developed the Antisocial Process Screening Device (APSD; Frick & Hare, 2002), which was based on a three-factor model with the factor names of Callous-Unemotional Traits (CU), Narcissism (NAR), and Impulsivity (IMP) (Frick, Bodin, & Barry, 2000). Like in PCL-R for adults, Impulsivity/Conduct Problems scale is subdivided into two separate factors.

Frick, O'Brien et al. (1994) found that CU traits correlated .50 with behavioral definitions of conduct problems. It was suggested that while there were low to moderate correlations between CU traits and conduct problems measures of behavior rating scales, which are based on the DSM diagnoses of ODD or CD, there were moderate to high correlations between behavioral scales of psychopathy and conduct problems (Frick, Bodin, & Barry, 2000; Frick, O'Brien et al., 1994). In addition, Frick, O'Brien et al. (1994) found that while I/CP factor was highly correlated with the number of conduct problem symptoms, CU factor was associated with sensation seeking behaviors. It was concluded that CU traits and conduct problems were separate, but correlated psychological dimensions.

As a result of these studies, Frick, O'Brien et al. (1994) concluded that in a clinic-referred sample, two groups of CD children emerged; with one showing high scores on the CU scale and characterized by an emotional and interpersonal style

similar to that of psychopathic adults; and the other consisting of problems characterized by impulse control. These two groups of children were also identified in community samples (Frick, Bodin, & Barry, 2000). Very importantly, research in children (Frick 1998a; Frick, Barry, & Bodin, 2000) suggested that CU traits were critical for designating a group of antisocial children who show a particularly severe and violent pattern of antisocial behavior and other characteristics, such as deficits in the processing of emotional stimuli, fearlessness, that could suggest a unique etiology to their antisocial behavior (Lykken, 1995).

1.7 Children with CU Traits in Relation to Risk Factors

Many studies consistently showed that the group of children with conduct problems and high on CU traits exhibited significantly higher number, greater variety and severity of overall conduct problems and had earlier contacts with the criminal system as compared to children with conduct problems but low on CU traits (Christian et al., 1997; Fisher & Blair, 1998; Frick, O'Brien et al., 1994; Lynam, 1997). Very recently, Frick, Stickle, Dandreaux, Farrell, & Kimonis (2005) also showed that the combination of CU traits and conduct problems was associated with a higher persistence of conduct problems. This group of children had also higher rates of police contacts and parental history of APD, with 40 % of the cases, compared with up to 14 % of the other groups of children with conduct problems but low CU traits (Christian et al., 1997), indicating to a stronger family history of APD in high CU group. In another study, CU traits have been found to be associated with violent sex offending (Caputo, Frick, & Brodsky, 1999) and with more severe and pervasive and sadistic patterns of violence (Kruh, Frick, & Clements, 2005) in institutionalized adolescents.

Additional support for the distinction of a subgroup of children with more severe conduct problems and with a unique causal pathway comes from a study conducted by Loney et al. (1998). They found that in a sample of 117 clinic-referred children, children with high CU traits were less likely to show deficits in abilities of verbal reasoning and verbal comprehension as compared to children low on CU traits. Thus, the inverse relationship between intelligence and conduct problems (Moffitt & Silva, 1988) was not found between intelligence and

psychopathic traits, in other words low intelligence was not found to play a role in the development of conduct problems in children who have CU traits (Christian et al., 1997).

Lynam (1996) found that the antisocial behaviors of children with both ADHD symptoms and conduct problems had an earlier age of onset, were more severe, and were present in more settings than the antisocial behaviors displayed by pure ADHD or CD groups. Early onset, severity, and prevalence in multiple settings are all correlates for persistency of conduct problems into adulthood (Loeber & LeBlanc, 1990). In addition, Lynam (1996) also suggested that children with comorbid ADHD and conduct problems had deficits on laboratory tasks including skin conductance response, autonomic arousal similar to adult psychopaths. Based on these findings in literature, Lynam (1996) asserted that there was a group of children who displayed a particularly severe subtype of conduct problems and these children constituted the persistent group within early-onset group. Lynam (1996) argued that the group of children with comorbid hyperactivity and conduct problems contains the future psychopaths and called this group of children as “fledgling psychopathy”. Supporting Lynam’s findings, in a study on 154 clinic-referred children between ages 6 and 13, Barry et al. (2000) found that children who showed comorbid symptoms of ADHD and conduct problems were likely to show features associated with psychopathy.

Consistent with adult literature on psychopathy, children with CU traits have lower levels of fearfulness and anxiety (Frick, O’Brien et al., 1994). In a study conducted with 143 clinic-referred children between ages 6 and 13, Frick et al. (1999) found that while CU scale, which is the affective dimension of psychopathy, correlated negatively with measures of anxiety, I/CP scale, which is the behavioral dimension of psychopathy, correlated positively with measures of anxiety. Consistently, several studies have shown that children with conduct problems who did not show elevated levels of anxiety constituted a more severe subgroup of antisocial children (McBurnett et al., 1991; O’Brien, Frick, & Lynam, 1994; Quay, 1987). Similar to adult conceptualization of primary and secondary psychopathy based on level of anxiety, children and adolescents with low and high

levels of anxiety were labeled as “undersocialized delinquents” and “neurotic delinquents”, respectively (e.g., Quay, 1987).

Some authors pointed out that family variables may affect subgroups of children with conduct problems in different ways. Wootton et al. (1997) designed a study to investigate the interaction between parenting practices and CU traits in the prediction of conduct problems in a sample of clinic-referred boys identified as DBD between ages 6 and 13. They found a significant interaction between dysfunctional parenting practices and CU traits for predicting conduct problems. Parenting was found to be unrelated to conduct problems in boys who were high on CU traits. These children showed high rates of conduct problems regardless of the quality of parenting they receive. To put in other words, CU traits moderated the positive relationship between ineffective parenting practices and conduct problems, mainly because the affective style of children with CU traits make them relatively unresponsive to typical socialization processes. Contrary to this, high levels of dysfunctional parenting predicted high rates of conduct problems for children who were low on CU traits. This suggests that the conduct problems exhibited by the CU group may not be reflective of poor parenting practices, which are among risk factors for childhood conduct problems in general. This finding has been replicated in a study by Oxford, Cavell, & Hughes (2003) by using a mixed gender sample.

These results implied that etiological factors may differ for subgroups of children with conduct problems according to presence of CU traits. Wootton et al. (1997) mentioned that rather than environmental factors, innate factors, such as temperament, influence the behaviors of children with high CU traits. Frick (1998a) argued that the unique motivational and affective styles of children high on CU traits makes them unresponsive to typical parenting practices, mainly because they do not experience the internal discomfort following their misbehavior or punishment. However, on the contrary, children low on CU traits are highly susceptible to inadequate parenting practices (Frick et al., 1992). For these children, the internal arousal they experience after misbehavior or punishment is disturbing and they experience more anxiety. By this way, these children can internalize societal norms and values better than children with CU traits and low behavior inhibition (Kochanska, 1993). This whole picture makes also the

therapeutic interventions less effective for the subgroup of children with CU traits (Beauchaine, Gartner, & Hagen, 2000; Beauchaine, Webster-Stratton, & Reid, 2005).

Placing these findings into the context of other CD research, conduct disordered children with CU traits appear to represent a subset of the Childhood-Onset group as identified by Moffitt (1993). These children appear to make up a cluster of traits resembling those found among psychopathic adults. They are distinctive from conduct disordered children without CU traits in many ways: their behavior problems appear more severe, they have greater parental antisocial history, and their behavior problems appear to develop regardless of parenting behaviors and intellectual deficits, but more strongly associated with deficits in the processing of emotional stimuli (O'Brien & Frick, 1996; Patrick et al., 1993). These results highlight the importance of recognizing distinct subgroups of children within groups of children with early-onset conduct problems when studying potential risk factors (O'Brien & Frick, 1996; Wootton et al., 1997), because there may be different risk factors and causal mechanisms underlying conduct problems in children with and without CU traits (Lykken, 1995).

The neuro-cognitive impairments observed in children with psychopathic tendencies (O'Brien and Frick, 1996) are found similar to those found in adults with psychopathy (e.g., Blair, 1995, 1997; Newman, Patterson, & Kosson, 1987). Specifically, CU traits are believed to arise from a temperamental style present very early in life. This temperament labeled as “low behavioral inhibition” (Saltaris, 2002) is characterized physiologically by underactivity in the autonomic arousal system and behaviorally by a lack of fearfulness to novel or threatening situations and a lack of responsiveness to cues of punishment (Kagan & Snidman, 1991; Kochanska, 1993). Studies showed that, like the adult psychopaths, these children showed a preference for thrill- and adventure-seeking activities, signaling to low levels of fearfulness (Barry et al., 2000; Frick et al., 1999), were reward driven and less sensitive to cues of punishment (Fisher & Blair, 1998; O'Brien & Frick, 1996), were less distressed by certain negative emotional or threatening stimuli (Blair, 1999; Frick, Cornell, Bodin et al., 2003; Loney, Frick, Clements, Ellis, & Kerlin, 2003), and were more impaired in their moral reasoning and

empathic concern toward others (Blair, 1999; Pardini, Lochman, & Frick, 2003) than other antisocial children without CU traits. This affective disturbance is thought to have a genetic predisposition (Taylor et al., 2003), which predicts lack of inhibition of behaviors which cause distress in a victim. Stickle and Frick (2002) explained how the temperamental characteristics of low behavioral inhibition may lead to the development of CU traits. They mentioned that the temperament of low behavioral inhibition results in a deficit in emotional processing, which may increase the likelihood that these children will be insensitive to social cues, which involve emotional arousal triggered by the distress and pain of other people, and are important to the development of empathic concerns. Specifically, researchers have theorized that for empathy development to occur, children must initially experience self-focused emotional distress when they are punished or when they see others in pain (Blair, 1999; Davis & Franzoi, 1991; Kochanska, 1995). Thus, the deficit in emotional processing makes the children to be relatively insensitive to social sanctions of parents and other adults, predisposes them to become excessively focused on potential rewards and gains, makes them less responsive to cues of punishment (O'Brien & Frick, 1996), makes them insensitive to the negative consequences of their aggressive behaviors on others (Blair, 1995; Pardini et al., 2003), and hinders the early development of empathy for others (Kochanska, 1993). The absence of empathy and guilt with the trait of callous use of others makes these children more likely to act against authority figures and societal norms and violate the rights of others (Wootton et al., 1997). These children can use aggression by ignoring the potentially harmful effects of this behavior on themselves and on others. With all these characteristics, these children constitute the subgroup with psychopathic tendency, which develops later into adult form of psychopathy (Blair, 1999). On the other hand, conduct disordered children without CU traits tend to become antisocial individuals in adulthood (Fisher & Blair, 1998), but not psychopaths. Thus, interventions for this specific group should be different from the therapeutic approaches applied in disruptive behavior disorders (Frick, 1998a, 2001).

Children with Childhood-Onset conduct problems but without CU traits seem to have problems characterized by highly impulsive behavior and high levels

of emotional reactivity. These problems are thought to be more specifically associated with poor behavioral and emotional regulation (Frick, Barry, & Bodin, 2000). This pattern of poor emotion regulation can result from the interaction of several factors, such as inadequate socialization in the rearing environment (Wootton et al., 1997), low verbal IQ, which can impair the child's ability to delay gratification and anticipate consequences of his or her behavior (Loney et al., 1998), or emotional dysregulation (Barkley, 1997). Response inhibition and emotion regulation problems can often lead to impulsive or unplanned aggressive, antisocial actions while being emotionally aroused. Usually, these children are remorseful for their actions, but they have difficulty in controlling them.

Similar to the findings in the adult literature on aggression, studies conducted on childhood aggression distinguished reactive and proactive patterns of aggressive behavior (Frick, Cornell, Barry, Bodin, & Dane, 2003; Kimonis et al., 2006). These two types of aggression are differentially related to emotional (e.g., CU traits), temperamental (e.g., behavioral inhibition and negative reactivity), and parenting (e.g., harsh parental attitudes) factors (Kimonis et al., 2006), indicating to distinct etiological factors in development of these two types of aggression. Studies showed that reactively aggressive children showed high rates of anger and low frustration tolerance (Hubbard et al., 2002; Vitaro, Brendgen, & Tremblay, 2002), indicating problems in emotion regulation (Frick & Morris, 2004). In addition, reactively aggressive children were found more likely to have parents with parenting styles of harsh and abusive parenting, which are believed to cause problems in emotion regulation (Dodge, Bates, & Pettit, 1990; Strassberg et al., 1994). In contrast, proactive aggression was less attributed to harsh and abusive parenting and children with proactive aggression showed reduced levels of emotional reactivity to provocations (Hubbard et al., 2002). This response style has been linked to a number of important correlates, such as low levels of fearful inhibitions (Frick, Cornell, Barry et al., 2003; Frick et al., 1999) and decreased sensitivity to punishment cues, (Barry et al., 2000; Fisher & Blair, 1998). Both of these characteristics are associated with a temperamental style that has been labeled as low behavioral inhibition (Kagan & Snidman, 1991). Frick, Cornell, Barry et al. (2003) found that children with conduct problems and CU traits were more likely

to show high levels of proactive aggression (i.e., aggression that is used for instrumental gain and dominance). In another study, Kimonis et al. (2006) found that low behavioral inhibition and CU features were more strongly associated with proactive forms of aggression than reactive forms of aggression. Overall, while the characteristics of children with reactive aggression were similar to the characteristics of children with conduct problems but without psychopathic tendencies, the characteristics of children with proactive aggression were similar to the characteristics of children with conduct problems and psychopathic tendencies.

1.8 Aims of the Study

In general, the present study aims to compare children with and without psychopathic tendencies in terms of different risk factors in order to determine how child, parental, and other familial factors contribute to the development of conduct problems in different subgroups of children, namely with high CU traits and with low CU traits. Although there are plenty of research studies on different risk factors for DBD, such as child's characteristics, parental psychopathology, parenting practices, family functioning, and socioeconomic factors, little research has focused on the potential risk factors for children with CU traits. As mentioned above, most of the studies conducted on potential risk factors of DBD in children did not make the distinction between subgroups of children with and without CU traits. However, like in the results of Wootton et al.'s (1997) study, risk factors may play different roles when the distinction is made according to the existence of psychopathic traits. In addition, because studies using clinic-referred conduct disordered children show that these children are usually from low socioeconomic families, the present study will use non-clinic referred children from low and high socio-economic families. It is very important to note that a number of important studies addressing conduct problems in children have not used clinical diagnoses of ODD and CD for the identification of subjects. Rather, they have used clinical cutoffs on continuously rated diagnostic measures (McGee, Williams, & Silva, 1984; Sanson et al., 1993). It was suggested that these cutoffs are not necessarily indicative of a diagnosis of CD, but they are predictive of children who have significant conduct problems. Since the present study adopts in principle the

dimensional approach of conduct problems, cutoff scores will be used instead of clinical diagnostic criteria. Indeed, the present study aims to investigate the predictors of conduct problems and CU traits in a non-clinic sample of children from different socioeconomic levels.

More specifically, one of the aims of this study is to investigate the predictors of mother and teacher rated conduct problems and CU traits. Besides the mothers, the present study also utilized teachers as reporters of behavior problems in children, because it was suggested that a depressed mother might be a biased reporter for child's behavior problems (Dumas et al., 1989). In addition, using multiple informants in assessing childhood psychopathology is highly recommended in the literature (Kamphaus & Frick, 1996). More specifically, researchers recommend the use of parents as informants for emotional problems and of teachers for externalizing problems in children (Goodman, Ford, Simmons, Gatward, & Meltzer, 2000).

In general, the present study aims to answer the following research questions:

1. What are the predictors of conduct problems and do these predictors differ according to parent and teacher ratings?
2. What are the predictors of CU traits and do these predictors differ according to parent and teacher ratings?
3. Which predictors differentiate children's conduct problems and CU traits?
4. Does the relationships between children's CU traits and conduct problems change according to SES?
5. Are there differences across groups (children with conduct problems and high CU traits, children with conduct problems and low CU traits, and children without conduct problems and low CU traits) in mean level of child temperament of negative reactivity?
6. Are there differences across groups (children with conduct problems and high CU traits, children with conduct problems and low CU traits, and children without conduct problems and low CU traits) in mean levels of children's conduct problems, emotional symptoms, and prosocial behaviors?

7. Are there differences across groups (children with conduct problems and high CU traits, children with conduct problems and low CU traits, and children without conduct problems and low CU traits) in mean levels of maternal parenting style of rejection and punishment styles?
8. Are there differences across groups (children with conduct problems and high CU traits, children with conduct problems and low CU traits, and children without conduct problems and low CU traits) in mean levels of mother's and father's psychopathology?
9. Are there differences across groups (children with conduct problems and high CU traits, children with conduct problems and low CU traits, and children without conduct problems and low CU traits) in mean levels of family functioning?

In the light of the literature, hypotheses of the study can be stated as follows:

1. Presence of CU traits will be significantly associated with severity of conduct problems.
2. Temperament characteristic of negative reactivity will significantly predict conduct problems, but not CU traits.
3. Conduct problems will be strongly predicted by dysfunctional parenting practices of physical punishment, maternal rejection, and dysfunctional family functioning.
4. CU traits will be strongly predicted by parental psychopathology even after controlling for the effects of ineffective parenting practices of physical punishment, maternal rejection, and dysfunctional family functioning.
5. While conduct problems will be strongly predicted by low SES of the family, CU traits will not be significantly predicted by SES of the family.
6. While conduct problems will be strongly predicted by maternal rejection and ineffective parenting practices of physical punishment, CU traits will not be significantly predicted by these variables.
7. SES will moderate the relationships between children's CU traits and conduct problems. Considering low CU traits, children from low SES families will have higher levels of conduct problems as compared to children from high SES families.

However, for children high on CU traits, levels of conduct problems will not differ according to SES of the families.

8. Children with conduct problems and high CU traits will have higher levels of conduct problems as compared to children with conduct problems and low CU traits and to children without conduct problems and CU traits.

9. Children with conduct problems and high CU traits will have lower levels of emotional symptoms as compared to children with conduct problems and low CU traits, indicating to lower levels of comorbidity with internalizing problems.

10. Children with conduct problems and high CU traits will have lower levels of prosocial behaviors as compared to children with conduct problems and low CU traits and to children without conduct problems and CU traits.

11. Children with conduct problems and high CU traits will have lower levels of negative reactivity as temperamental characteristic as compared to children with conduct problems and low CU traits. In addition, children with conduct problems and low CU traits will have higher levels of negative reactivity as compared to children without conduct problems and CU traits.

12. Parents of children with conduct problems and high CU traits will have higher levels of psychopathology as compared to parents of children with conduct problems and low CU traits and of children without conduct problems and CU traits.

The present study has been designed in two phases. The first phase includes studies conducted for validation of psychometric properties of the instruments which were newly adapted and readapted for the current study. The second phase includes the main study, which involves examination of the predictors of conduct problems and CU traits according to mother and teacher ratings separately and comparison of three groups of children, one group with conduct problems and high on CU traits, one group with conduct problems but low on CU traits, and a control group without conduct problems and low on CU traits, in terms different risk factors. A summary table for the two phases and the measures used in each of them is provided below in Table 3.

Table 3. Summary Table for the Two Phases of the Study

		Instruments given to	
		Parents	Teachers
First Phase	Study 1 N = 336	APSD-Parent form SDQ-Parent form SATI Demographic Information Form	APSD-Teacher form SDQ-Teacher form
	Study 2 N = 71	APSD-Parent form SDQ-Parent form HEAS-Parent form CARSS-Parent form Demographic Information Form	APSD-Teacher form SDQ-Teacher form HEAS-Teacher form CARSS-Teacher Form
Second Phase	Main Study N = 513	APSD-Parent form SDQ-Parent form SATI PARQ-Mother form MMFAD BSI Demographic Information Form	APSD-Teacher form SDQ-Teacher form

CHAPTER II

PSYCHOMETRIC STUDIES FOR INSTRUMENTS ADAPTED AND READAPTED FOR THE MAIN STUDY

2.1 STUDY 1

The main aim the first study was to conduct the reliability and validity analyses of the School-Age Temperament Inventory (SATI) and the parent, teacher, and combined forms of the Antisocial Process Screening Device (APSD). In order to conduct the validity analyses of these two instruments, the Strengths and Difficulties Questionnaire (SDQ) was used, so that psychometric characteristics of the SDQ were investigated first.

2.1.1 METHOD

2.1.1.1 Participants

The participants were randomly selected 367 elementary school children with 174 (47.4 %) females and 193 (52.6 %) males in second, third, fourth, and fifth grades. 31 children, who got psychiatric treatment for different reasons before, were excluded from the data, leaving 336 cases for analysis with 159 (47.3 %) females and 177 (52.7 %) males. The age of the total sample ranged from 8 to 11 with a mean of 9.56 years ($SD = 1.16$). The average age of females was 9.40 ($SD = 1.18$) and of males was 9.69 ($SD = 1.12$). Six elementary schools were chosen according to their socioeconomic profile, so that the participants represent three different socio-economic groups (low, middle, and high). The schools, from which data were collected, are Özel Tevfik Fikret İlköğretim Okulu and Özel Arı İlköğretim Okulu, representing high SES; Ahmet Vefik Paşa İlköğretim Okulu and Halide Edip Adıvar İlköğretim Okulu, representing middle

SES; and Abidinpaşa İlköğretim Okulu and Cumhuriyet İlköğretim Okulu, representing low SES children. Children, whom the teacher knows less than one school-term, were excluded from the study. The distribution of the whole sample according to school, gender and age are presented in Table 4.

Table 4. Distribution of Participants According to School, Gender, and Age

Schools	Age							
	8		9		10		11	
	F	M	F	M	F	M	F	M
Özel Tevfik Fikret	8	8	9	10	7	8	8	10
Özel Arı	11	5	4	4	6	12	7	10
Ahmet Vefik Paşa	7	7	6	5	5	7	7	9
Halide Adip Adıvar	10	6	4	2	6	8	7	9
Abidinpaşa	9	7	4	6	5	10	5	6
Cumhuriyet	6	5	6	5	6	8	6	10
Totals	51	38	33	32	35	53	40	54

To obtain test-retest data, a subset of participants were randomly selected from only three schools, representing each of three SES groups. 50 participants of the retest data consisted of 24 (48 %) females and 26 (52 %) males. Similar to test sample, the age of the retest sample ranged from 8 to 11, and has a mean of 9.40 years ($SD = 1.16$). The average age of females was 9.33 ($SD = 1.17$) and of males was 9.46 ($SD = 1.17$). Three schools, from which retest data were collected, are Özel Arı İlköğretim Okulu, representing high SES; Ahmet Vefik Paşa İlköğretim Okulu, representing middle SES; and Abidinpaşa İlköğretim Okulu, representing low SES children. The distribution of the retest sample according to school, gender and age are presented in Table 5.

Table 5. Distribution of Participants According to School, Gender, and Age in Retest

Schools	Age							
	8		9		10		11	
	F	M	F	M	F	M	F	M
Özel Arı	3	2	2	1	1	4	2	3
Ahmet Vefik Paşa	2	3	2	1	2	3	1	3
Abidinpaşa	3	3	1	2	3	1	2	0
Totals	8	8	5	4	6	8	5	6

2.1.1.2 Instruments

Totally, four instruments were utilized. Firstly, parents were asked to complete the Demographic Information Form (**See Appendix A**) in order to collect information related to various demographic characteristics and background information about the child and the whole family.

Then, parents and teachers were given the Strengths and Difficulties Questionnaire (SDQ) (**See Appendix B and C**) for measuring emotional and behavioral problems of children. In addition, School-Age Temperament Inventory (SATI) (**See Appendix D**) was given to parents for evaluating the temperament of the children. Lastly, the Antisocial Process Screening Device (APSD) (**See Appendix E**) was given to parents and teachers for assessing CU traits in children.

2.1.1.2.1 Demographic Information Form

Demographic Information Form was developed by the researcher in order to collect information regarding to some demographic characteristics of the family members, such as mother's and father's age, education level, employment status, total number of siblings, order of the child among the siblings, whether the child had any psychiatric problem before, and to socioeconomic level of the family in general. The form has been prepared with multiple choice and open-ended questions format.

2.1.1.2.2 Strengths and Difficulties Questionnaire (SDQ)

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is a brief behavioral screening questionnaire consisting of 25 positive and negative attributes, designed to assess the prosocial behavior and emotional and behavioral problems of children aged 4 to 16. Items' responses range between 0 (not true) and 2 (certainly true). To avoid respondent bias, 5 items were reverse coded. The SDQ has 5 subscales and each of these subscales includes 5 items. The subscales are named as: Emotional Symptoms, Conduct Problems, Hyperactivity-Inattention, Peer Problems, and Prosocial Behavior. Higher scores indicate that the child shows more emotional symptoms, has more conduct problems, is inattentive and highly active, has problems with peers, and shows high prosocial behaviors. All subscales except the Prosocial Behavior subscale are summed to generate a Total Difficulty score. Since each subscale consists of equal number of items, the item scores are simply added, when calculating the subscale scores. The total score range is between 0 and 10 for the five subscales and between 0 and 40 for the Total Difficulty score. The same questionnaire can be completed by the parents or teachers of the 4-16 year old children. There is also a self-report version suitable for adolescents between 11-16 years of age (Goodman, Meltzer, & Bailey, 1998).

Psychometric properties of the SDQ parent and teacher forms were conducted by Goodman (2001) in a community sample of children. A Principal Components Factor Analysis with orthogonal (varimax) rotations was performed to check the factor structure. The results supported the five factors the SDQ. The total amount of explained variance for the five factors was 45.9 % in the parent SDQ and 58.2 % in the teacher SDQ. Reliability of the SDQ was evaluated by examining the Cronbach alpha values. The Cronbach alpha coefficients of the five factors ranged between .57 and .82 in the SDQ-Parent form and between .70 and .87 in the SDQ-Teacher form. The lowest alpha coefficient belonged to the Peer Problems factor in each of the forms. In addition, interrater reliability was checked through examining the correlations between parent and teacher ratings. These correlations were between .25 and .48, all at $p < .001$. Furthermore, test-retest correlations after 4 to 6 months were between .57 and .72 in parent SDQ

and between .65 and .82 in teacher SDQ, all at $p < .001$, (Goodman, 2001). Convergent validity of the SDQ was assessed by Goodman and Scott (1999) by comparing it with the Child Behavior Checklist (CBCL; Achenbach, 1991). Scores from the SDQ and CBCL were found to be highly correlated and they were equally able to discriminate psychiatric cases from normal cases. The SDQ was as good as the CBCL in detecting internalizing and externalizing problems. Accordingly, the correlation for Conduct Problems subscale of the SDQ and Externalizing Problems subscale of the CBCL found to be $r = .84$, $p < .001$; for Hyperactivity-Inattention subscale of the SDQ and Hyperactivity subscale of the CBCL found to be $r = .71$, $p < .001$. In addition, Emotional Symptoms subscale of the SDQ correlated .74 with Internalizing Problems subscale of the CBCL, and Peer Problems subscale of the SDQ correlated .59 with Social Problems subscale of the CBCL, both at $p < .001$.

Turkish translation of the SDQ was conducted by Güvenir, Özbek, Baykara, Onurgüder, & Kazak Berument and adaptation studies of the parent version was conducted by Güvenir, Özbek, Baykara, Şentürk, & İncekaş (2004). Reliability of the SDQ was evaluated by examining the Cronbach alpha values. The Cronbach alpha coefficients for Emotional Symptoms, Conduct Problems, Hyperactivity-Inattention, Peer Problems, and Prosocial Behavior subscales and the Total Difficulty score were .73, .65, .80, .37, .73, and .84, respectively (Güvenir et al., 2004). For assessing the convergent validity, like in all other cultural adaptation studies, the Child Behavior Checklist for Ages 4-18 (CBCL; Achenbach, 1991, 1993) was used. The correlation for the Emotional Symptoms subscale of the SDQ and Internalizing Problems subscale of the CBCL was found to be $r = .80$, $p < .001$; and for the Conduct Problems subscales of the SDQ and the Externalizing Problems subscale of the CBCL was found to be $r = .72$, $p < .001$. The correlation coefficients for the Hyperactivity-Inattention subscale of the SDQ and Attention Problems subscale of the CBCL was .71, $p < .001$; for the Peer Problems subscale of the SDQ and Social Problems subscale of the CBCL was .46, $p < .001$ (Güvenir et al., 2004). In addition, the Total Difficulty score of the SDQ and the Total Problem score of the CBCL were found to be highly correlated, $r = .80$, $p < .001$. Furthermore, the Turkish SDQ was found to

differentiate between the clinical and control groups, which is an indicator for criterion validity (Güvenir et al., 2004). In general, parallel to results in different cultures, the Turkish version of the SDQ was regarded as a reliable and valid instrument to measure behavioral and emotional problems and prosocial behaviors in children. In the present study for every child, the SDQ was completed both by the parent and by the teacher to evaluate the extent of the presence of behavior problems in this sample.

2.1.1.2.3 School-Age Temperament Inventory (SATI)

The School-Age Temperament Inventory (SATI) was developed by McClowry (1995) as a parental report in order to assess the temperament of children between 8-11 years of age. It contains 38 Likert-type items with responses ranging between 1 (never) and 5 (always). To avoid respondent bias, 12 items were reverse coded. Originally, the conceptualization of this instrument was based on a review of item-based factor analytic studies of existing child temperament questionnaires. It contains four empirically driven dimensions, which have consistently emerged in different studies, but labeled in different terms. These dimensions are Negative Reactivity, Task Persistence, Approach/Withdrawal, and Activity and they consist of 12, 11, 9, and 6 items, respectively. The first dimension, called Negative Reactivity, assesses the intensity and frequency of the child's expression of negative affect. The second dimension, Task Persistence, evaluates the degree of child's self-directedness when fulfilling tasks and other responsibilities. The third dimension, Approach/Withdrawal, describes the child's response to new and strange people and situations. Lastly, the fourth dimension, Activity, assesses the level of child's motor activity. Higher scores indicate that the child is high in negative reactivity, is task persistent, has a tendency to withdraw in new and strange situations, and is highly active (McClowry, 1995). Children's scores on each of these four dimensions are obtained by calculating the mean of the given dimension. To avoid respondent bias, the items of the four dimensions were randomly arranged in sequence throughout the instrument. When developing the SATI, five temperament experts, who have experiences with instrument development, were

asked to determine whether the items are: 1. relevant to the intended dimension, and 2. appropriate to developmental level of the children. Content validity of the SATI was found satisfactory (McClowry, 1995). A Principal Components Factor Analysis with orthogonal (varimax) rotations supported the four empirically driven dimensions of the SATI. Reliability of the SATI was evaluated by examining the Cronbach alpha values. The Cronbach alpha coefficients of the four dimensions ranged between .85 and .90. In addition, interrater reliability was checked through examining the correlations between maternal and paternal reports. These correlations were between .51 and .68, all at $p < .01$. Furthermore, test-retest correlations after 4 to 6 months were between .80 and .89, all at $p < .01$, (McClowry, 1995). Convergent validity of the SATI was assessed by comparing it with the Temperament Assessment Battery for Children (TABC-R) that was originally developed by Martin (1988) and revised by Presley and Martin (1994) with the purpose of assessing the temperament of preschool children. The TABC-R has subscales that are conceptually similar to the dimensions of the SATI. Accordingly, the correlation for Negative Reactivity dimension of the SATI and Negative Emotionality subscale of the TABC-R found to be $r = .71$, $p < .01$; for Approach/Withdrawal dimension of the SATI and Inhibition subscale of the TABC-R found to be $r = .87$, $p < .01$. In addition, Task Persistence dimension of the SATI correlated $-.67$ with the Persistence subscale of the TABC-R, and Activity dimension of SATI correlated $.73$ with Activity subscale of TABC-R, both at $p < .01$.

2.1.1.2.4 Antisocial Process Screening Device (APSD)

The Antisocial Process Screening Device (APSD), developed by Frick and Hare (2002), is a 20-item behavior rating scale that evaluates the presence of psychopathic traits and antisocial behaviors in children between the ages of 6 and 13. Each item on the APSD is rated either as 0 (not at all true), 1 (sometimes true), or 2 (definitely true). The APSD is completed by each child's parent and teacher and the scores obtained from the two informants are combined onto a combined form by taking the higher score for each item from either the parent or the teacher ratings. When multiple informants were used, this way of combining ratings was

recommended by Piacentini, Cohen, & Cohen (1992), and this method has been used in many analyses.

The only difference between parent and teacher forms is that item # 2 is not rated by teachers. The APSD is the recent version of the previously developed Psychopathy Screening Device (PSD; Frick & Hare, 2001), which was developed as a downward extension of the widely used adult Psychopathy Checklist (Hare, 1991) and it has exhibited a similar two-factor structure in a clinic sample (Frick, O'Brien et al., 1994). The two factors include a Callous-Unemotional (CU) factor, which is related to the affective interpersonal attributes common in psychopathy, and an Impulsivity-Conduct Problems (I/CP) factor, reflecting the behavioral problems associated with antisocial actions (Frick, O'Brien et al., 1994). These factors were independent, but moderately correlated. A validation study performed in a community sample of children, grades 3 through 7, supported the main two-factor structure identified in the original clinic sample (Frick, Bodin, & Barry, 2000). In APSD, the I/CP factor was additionally subdivided into a Narcissism dimension and an Impulsivity dimension. Accordingly, factor analyses from the large screening sample found three dimensions underlying this rating scale: a Callous-Unemotional dimension (6-items), a Narcissism dimension (7-item), and an Impulsivity dimension (5-item). In the original form, the three dimension scores and the Total Scale score are converted into T-scores, separately for males and females. For the three APSD dimensions, higher T-scores indicate that the child is high on CU traits, has a greater narcissistic tendency, and is more impulsive. Furthermore, higher Total score indicates that the child has higher antisocial tendencies. Usually, a T score of 65 or the score at the 90th percentile was used to categorize children as elevated or not elevated on the APSD dimensions and on the Total scale. Normative studies of the APSD were conducted by Frick, Bodin, & Barry (2000) on a large community sample. All the dimensions of the APSD were found to be correlated significantly with disruptive behavior disorders in the community sample, with narcissism exhibiting the strongest correlations and CU exhibiting the weakest correlations. Reliability of the APSD was evaluated by examining the Cronbach alpha values. The Cronbach alpha coefficients of the three dimensions and the

Total Scale ranged between .68 and .86 in the parent form, between .79 and .93 in the teacher form, and between .74 and .90 in the combined form. In addition, interrater reliability was checked through examining the correlations between parent and teacher ratings. These correlations ranged between .26 and .43, all at $p < .01$ (Frick, Bodin, & Barry, 2000). Validity of the APSD was conducted by checking the associations between DSM-IV symptoms and APSD dimensions, the scale intercorrelations, the criterion validity with regard to intelligence, parental psychopathology, laboratory studies on reward dominance and psychophysical responsiveness to distress, and the association between various clinical symptoms and APSD dimensions. In general, validity studies showed that the APSD is a valid instrument to evaluate the psychopathic traits in children.

2.1.1.3 Procedure

Firstly, the permission for the Turkish translation and adaptation of the School-Age Temperament Inventory (SATI) was taken from Sandra Graham McClowry. Similarly, in order to translate the Antisocial Process Screening Device (APSD) into Turkish and to determine the psychometric properties in a Turkish population, the permission was taken from the Multi-Health Systems Inc., the company that has the copyright of the scale. Both of the scales were first translated from English to Turkish by two psychologists. The two different translation forms obtained were compared in terms of their similarities and discrepancies, and combined into one form. The selection criteria were high consensus on each item, comprehensiveness, and appropriateness of the statements with regard to Turkish language. After this procedure, the agreed translation form was given to two other psychologists for back-translation. Similar to the previous step, two different back-translation forms were compared in terms of their similarities and discrepancies, and then combined into one form. If required, changes were made in the translation. The translation group consisted of one Professor, one Assoc. Professor and two Ph.D. students in Psychology Department of the Middle East Technical University.

In order to collect the data from elementary school children, first, permission was taken from Ministry of Education. The instruments were

administered between December 2004 and January 2005 in six different elementary schools in Ankara, representing three SES level (low, middle, and high) according to schools' placements. The children included in the study were recruited through random sampling in two phases. First, from each school, two classes from second, third, fourth, and fifth grades were randomly selected by the researcher. Second, from each of the randomly selected class, ten students were again randomly selected by the researcher from the student list of the class in front of the children. Before administering the instruments, information about the general aim of the study were given to all children in the class and to the teachers. For each of the randomly selected child, the APSD-Teacher form and the SDQ-Teacher form were given in an envelope to the teacher. Teachers were asked to complete the instruments in one week. Each teacher filled in the instruments maximum for ten students. At the same time, in another envelope, the APSD-Parent form, the SATI, the SDQ-Parent form and the Demographic Information Form were sent home to the parents through children. Besides, an information form was attached at the beginning of the instruments, which contains necessary information regarding the researcher, aim of the study, random sampling, and important points in filling in the instruments. The Children were asked to bring the completed forms back to the school and give to their teachers in one week. All instruments were taken back from the schools approximately two weeks later. The total administration time of the instruments was approximately 30 minutes for parents and 10 minutes for teachers.

The retest data were collected from three schools, each representing different SES levels. These three schools were determined according to the willingness of the school directors' to participate in the study. In each of these three schools, children included in the retest phase of the study were again recruited through random sampling. From each class three children were randomly selected by the researcher. Similar to the procedure used in the first administration, the APSD-Parent form, the SATI, the SDQ-Parent form were sent home to the parents through children in an envelope, on which child's name and his or her parent's name, who has to complete the instruments as in the first administration, were written. Besides, an information form was attached at the

beginning of the instruments, which contains necessary information regarding the aim of the retest study, random sampling, and important points in filling in the instruments. In addition, for each of the randomly selected children, the APSD-Teacher form and the SDQ-Teacher form were given in an envelope to the teacher. Similar to the procedure of the first administration, teachers were asked to complete the instruments and children were asked to bring the completed forms back to school and give to their teachers in one week. All instruments were taken back from the schools approximately two weeks later.

2.1.2 RESULTS

2.1.2.1 Psychometric Characteristics of the SDQ

As can be seen in Table 6, according to original factor structure of the SDQ, the Cronbach alpha coefficients were computed for the parent and teacher forms in order to check the internal consistency of the five subscales and the Total Difficulty score. The Cronbach alpha coefficients of the parent-form were lower than the Cronbach alpha coefficients founded in Turkish adaptation study by Güvenir et al. (2004). In addition, Peer Problems subscale had a very low internal consistency both in parent and teacher forms.

Table 6. Cronbach Alpha Values for the SDQ Subscales and the Total Difficulty Score of the Parent and Teacher Forms

	# of items	Cronbach Alpha Coefficients	
		Parent	Teacher
Emotional Symptoms	5	.67	.77
Conduct Problems	5	.56	.68
Hyperactivity-Inattention	5	.74	.80
Peer Problems	5	.31	.28
Prosocial Behavior	5	.66	.75
Total Difficulty	20	.79	.83

2.1.2.1.1 Factor Analysis

A Principal Components Factor Analysis with 5-factor varimax rotation of all cases was carried out. The five factors, all with eigenvalues over one (i.e., 5.02, 2.11, 1.73, 1.36, and 1.22 in the parent form and 6.60, 2.51, 1.78, 1.46, and 1.14 in the teacher form), explained 45.77 % of the total variance in the parent form and 53.94 % of the total variance in the teacher form of the SDQ. However, when the scree plot and the factor structures were investigated, a four-factor solution seemed adequate. Then a four-factor solution was carried out with varimax rotation both for parent and for teacher data. However, factor structures of the parent data could not be easily interpreted. Based on the scree test and examination of the factor structure, the orthogonal (varimax) rotated solution of the teacher form with 4 factors, explaining 49.38 % of the total variance, was easiest to interpret. Results of factorability indicated that the solution was appropriate for factor analysis (KMO = .87).

Out of the explained total variance, 14.63 % was explained by the first factor. Three of the items (12, 5, 18) loaded on this factor were the items of the second factor (Conduct Problems subscale) of the original form. Additionally, two items (2, 10) from the third factor (Hyperactivity-Inattention subscale) and one item (19) from the fourth factor (Peer Problems subscale) in the original form loaded on the first factor in the present study. The first factor with 6 items in the present study was named as “Conduct Problems/Hyperactivity”.

The second factor in the present study, consisting 7 items, explained 13.16 % of the total variance. All of the five items (4, 9, 1, 20, 17) from the fifth factor (Prosocial Behavior subscale) of the original form with one item (14) from the fourth factor (Peer problems subscale) and one item (7) from the second factor (Conduct Problems subscale) in the original form loaded on the second factor in the present study. Since these two items (7 and 14) are reverse coded items in the original form and they refer to problematic behaviors in their reverse coded version, they loaded on this factor negatively. To sum up, the second factor in the present study consisted of 7 items which were mainly the items of the fifth factor of the original form. Thus, in the present study, the second factor was named as “Prosocial Behavior” as the fifth factor of the original form. Two items (7 and 14)

were not reversely coded as in the original version when calculating the subscale score.

The third factor with 6 items explained 12.05 % of the total variance. All of the five items (8, 13, 24, 3, and 16) from the first factor (Emotional Symptoms subscale) with one item (6) from the fourth factor (Peer Problems subscale) of the original form loaded on the third factor in the present study. Thus, the third factor was named as “Emotional Symptoms” as the first factor of the original form.

Finally, three items (25, 15, and 21) from the third factor (Hyperactivity-Inattention subscale) of the original form loaded on the fourth factor, which explained 9.54 % of the total variance. This fourth factor with three items was named as “Inattention Problems” in the present study.

Furthermore, three items (11, 22, and 23) loaded on none of the factors with a loading value more than .35. These three items were not included in any of the factors. Besides the 7 items in Prosocial Behavior subscale, these three items were excluded when calculating the Total Difficulty score.

In summary, factor analysis of the items resulted in four subscales that were named as Conduct Problems/Hyperactivity, Prosocial Behavior, Emotional Symptoms, and Inattention Problems. Results of the factor analysis are presented in Table 7. Since each factor has different number of items, total scores of the subscales are generated by calculating the mean instead of simply adding the loading items as in the original form.

Table 7. Varimax-Rotated Factor Loadings of the SDQ Items and Explained Variance of the Four Factors According to Teacher Ratings

	Factors			
	1	2	3	4
	Conduct Problems/ Hyperactivity	Prosocial Behavior	Emotional Symptoms	Inattention Problems
% of Variance Eigenvalues	14.63	13.16	12.05	9.54
	6.60	2.51	1.78	1.46
items				
2	.82	-.16	.02	.14
10	.77	-.05	-.01	.15
12	.75	-.23	.06	.07
5	.64	-.28	.30	-.21
18	.48	-.15	.11	.33
19	.45	.03	.40	.27
22	.26	.02	.01	.09
4	-.17	.74	-.09	.08
9	-.16	.72	-.16	-.11
1	-.24	.64	-.08	-.25
20	-.09	.64	-.06	-.11
14	.22	-.60	.17	.26
7	.43	-.55	-.04	.12
17	-.40	.50	.07	-.11
23	.15	.30	.20	-.10
11	-.10	-.16	.06	.06
8	.06	.02	.74	.13
24	-.08	-.01	.73	.24
13	.11	-.20	.72	-.05
16	-.01	-.18	.60	.41
6	-.06	-.16	.55	-.03
3	.33	.01	.53	.08
25	.23	-.25	.15	.77
15	.21	-.13	.26	.75
21	.22	-.36	.02	.70

2.1.2.1.2 Internal Consistency

The Cronbach alpha coefficients calculated according to the four factor structure are presented separately for parent and teacher forms in Table 8.

Table 8. Cronbach Alpha Values for the SDQ Subscales and the Total Difficulty Score of the Parent and Teacher Forms after Factor Analysis

	# of items	Cronbach Alpha Coefficients	
		Parent	Teacher
Conduct Problems/ Hyperactivity	6	.69	.81
Prosocial Behavior	7	.72	.82
Emotional Symptoms	6	.65	.76
Inattention Problems	3	.70	.82
Total Difficulty	15	.79	.84

2.1.2.1.3 Interrater Correlations

Correlations between parents and teacher ratings ranged from .23 (for conduct problems/hyperactivity) to .32 (for total difficulty), all at $p < .001$ (Table 9).

Table 9. Interrater Correlations of the Subscales and the Total Difficulty Score of the SDQ

	Interrater Correlations between Parent and Teacher Forms (N = 336)	
	Conduct Problems/Hyperactivity	.23*
Prosocial Behavior	.27*	
Emotional Symptoms	.26*	
Inattention Problems	.30*	
Total Difficulty	.32*	

* $p < .001$

2.1.2.1.4 Test-Retest Correlations

Test-retest correlation coefficients for an interval of three or four weeks were obtained for a subset of the sample. As summarized in Table 10, the test-retest correlation coefficients of the four subscales and the Total Difficulty score of the SDQ are at significant levels, all at $p < .001$.

Table 10. Test-Retest Consistencies of the Subscales and the Total Difficulty Score of the SDQ

	Test-Retest Correlations	
	Parent (N = 48)	Teacher (N = 50)
Conduct Problems/Hyperactivity	.86*	.81*
Prosocial Behavior	.81*	.78*
Emotional Symptoms	.78*	.91*
Inattention Problems	.77*	.89*
Total Difficulty	.90*	.84*

* $p < .001$

2.1.2.1.5 Scale Intercorrelations

Both in parent and teacher ratings, the four subscales and the Total Difficulty score of the SDQ were found to be highly correlated with each other, all at $p < .001$. According to parent ratings, conduct problems/hyperactivity correlated with prosocial behavior at $r = -.34$, with emotional symptoms at $r = .39$, with inattention problems at $r = .49$, and with Total Difficulty score at $r = .83$. Prosocial behavior correlated with emotional symptoms at $r = -.28$, with inattention problems at $r = -.42$, and with Total Difficulty score at $r = -.43$. In addition, emotional symptoms correlated with inattention problems at $r = .31$ and with Total Difficulty score at $r = .76$, and inattention problems correlated with Total Difficulty score at $r = .72$. Furthermore, according to teacher ratings, conduct problems/hyperactivity correlated with prosocial behavior at $r = -.54$, with emotional symptoms at $r = .29$, with inattention problems at $r = .46$, and with Total Difficulty score at $r = .79$. Prosocial behavior correlated with emotional symptoms at $r = -.28$, with inattention problems at $r = -.51$, and with Total Difficulty score at $r = -.58$. In addition, emotional symptoms correlated with

inattention problems at $r = .39$ and with Total Difficulty score at $r = .74$, and inattention problems correlated with Total Difficulty score at $r = .76$. Results of the scale intercorrelations are presented in Table 11.

Table 11. Intercorrelations among the Subscales and the Total Difficulty Score of the SDQ

	Conduct Problems/ Hyperactivity	Prosocial Behavior	Emotional Symptoms	Inattention Problems	Total Difficulty
Conduct Problems/ Hyperactivity	$\underline{M} = 0.45$ $\underline{SD} = 0.38$ $\underline{M} = 0.38$ $\underline{SD} = 0.44$	$-.34^*$	$.39^*$	$.49^*$	$.83^*$
Prosocial Behavior		$\underline{M} = 1.69$ $\underline{SD} = 0.31$ $\underline{M} = 1.56$ $\underline{SD} = 0.42$	$-.28^*$	$-.42^*$	$-.43^*$
Emotional Symptoms			$\underline{M} = 0.37$ $\underline{SD} = 0.37$ $\underline{M} = 0.44$ $\underline{SD} = 0.41$	$.31^*$	$.76^*$
Inattention Problems				$\underline{M} = 0.67$ $\underline{SD} = 0.52$ $\underline{M} = 0.62$ $\underline{SD} = 0.62$	$.72^*$
Total Difficulty					$\underline{M} = 0.46$ $\underline{SD} = 0.31$ $\underline{M} = 0.45$ $\underline{SD} = 0.35$

Note. Means, Standard Deviations, and Pearson correlations in boldface type are teacher's ratings
* $p < .001$

2.1.2.2 Psychometric Characteristics of the SATI

2.1.2.2.1 Reliability of the Turkish version of the SATI

The reliability of the SATI was assessed by two methods.

2.1.2.2.1.1 Internal Consistency

For the internal consistency of the SATI, Cronbach alpha coefficients were computed for Negative Reactivity, Task Persistence, Approach/Withdrawal, and Activity dimensions. Cronbach alpha values for internal consistency of the four SATI dimensions are presented in Table 12 and they are ranging from .79 (for activity) to .86 (for negative reactivity and task persistence).

Table 12. Cronbach Alpha Values for the SATI Dimensions

Dimensions	# of items	Cronbach Alpha Coefficients
Negative Reactivity	12	.86
Task Persistence	11	.86
Approach/Withdrawal	9	.80
Activity	6	.79

2.1.2.2.1.2 Test-Retest Reliability

Test-retest correlation coefficients for an interval of three or four weeks were obtained for a subset of the sample ($n = 48$). As can be seen in Table 13, the test-retest correlation coefficients of the four SATI dimensions are at significant levels.

Table 13. Test-Retest Consistency of the SATI Dimensions

SATI dimensions	Test-Retest Correlations
Negative Reactivity	.85*
Task Persistence	.93*
Approach/Withdrawal	.92*
Activity	.88*

* $p < .001$

2.1.2.2.2 Validity of the Turkish Version of the SATI

The construct validity of the SATI was investigated by intercorrelations among the four dimensions of the SATI. The concurrent validity was examined by assessing the correlations between the four dimensions of the SATI and the subscale and Total Difficulty scores of the SDQ. In addition, criterion validity was checked for each of the SATI dimension.

2.1.2.2.2.1 Construct Validity

An evidence for construct validity is the significant intercorrelations among the four dimensions of the SATI, ranging between $-.47$ and $.44$ (Table 14). According to results, negative reactivity correlated at $r = -.47$ with task persistence, at $r = .30$ with approach/withdrawal, and at $r = .44$ with activity. In addition, Task Persistence correlated with approach/withdrawal and activity at $r = -.24$ and $r = -.31$, respectively. All these correlations were at $p < .001$. However, there was not a significant correlation between approach/withdrawal and activity dimensions.

Table 14. Intercorrelations among the SATI Dimensions

	Negative Reactivity	Task Persistence	Approach/ Withdrawal	Activity
Negative Reactivity	$\underline{M} = 2.94$ $\underline{SD} = 0.73$	$-.47^*$	$.30^*$	$.44^*$
Task Persistence		$\underline{M} = 3.87$ $\underline{SD} = 0.74$	$-.24^*$	$-.31^*$
Approach/ Withdrawal			$\underline{M} = 2.41$ $\underline{SD} = 0.76$	$.10$
Activity				$\underline{M} = 2.79$ $\underline{SD} = 0.86$

* $p < .001$

2.1.2.2.2 Concurrent Validity

The concurrent validity was evaluated by examining the correlations between the four dimensions of the SATI and the Total Difficulty score and the subscale scores of the parent form of SDQ. The reason for selecting these criteria as evidence of concurrent validity of the scale was theoretical. First, it was thought that as children score high in negative reactivity, have difficulty in task persistence, have a tendency to withdraw in new and strange situations, and are highly active, the Total Difficulty score of the SDQ would increase. Results indicated that temperament dimensions of negative reactivity, task persistence, approach/withdrawal, and activity are significantly correlated with the Total Difficulty score of the SDQ. That is, an increase in negative emotionality, withdrawal in new situations, activity and decrease in task persistence was associated with an increase in emotional and behavioral difficulty in children (Table 15).

Table 15. Correlations between the SATI Dimensions and the Total Difficulty Score of the SDQ-Parent

	Negative Reactivity	Task Persistence	Approach/ Withdrawal	Activity
SDQ-Parent Total Difficulty	.61*	-.60*	.36*	.48*

* $p < .001$

Secondly, the correlation between negative reactivity dimension of the SATI and emotional symptoms subscale of the SDQ, the correlation between task persistence dimension of the SATI and inattention problems subscale of the SDQ, the correlation between approach/withdrawal dimension of the SATI and prosocial behavior subscale of the SDQ, and lastly the correlation between activity dimension of the SATI and conduct problems/hyperactivity subscale of the SDQ were examined. Again, parent ratings of the SDQ were used. Accordingly, the correlation between negative reactivity dimension of the SATI and emotional symptoms subscale of the SDQ found to be $r = .44$, $p < .001$; between task persistence dimension of the SATI and inattention problems

subscale of the SDQ found to be $r = -.64, p < .001$; between approach/withdrawal dimension of the SATI and prosocial behavior subscale of the SDQ found to be $r = -.24, p < .001$; and between activity dimension of the SATI and conduct problems/hyperactivity subscale of the SDQ found to be $r = .54, p < .001$.

2.1.2.2.3 Criterion Validity

The criterion validity was examined through four separate One-Way ANOVAs. The data were divided into two groups according to participants' scores on each of the four subscales of the SDQ separately. First, the lowest and highest 10 % of the responses on emotional symptoms subscale of the SDQ-Parent were compared with negative reactivity dimension of the SATI. The analysis of variance revealed a significant difference for negative reactivity ($F [1, 121] = 59.14, p < .001$). That is, children with more emotional symptoms scored significantly higher on negative reactivity as temperament, in other words they are perceived as more difficult, as compared to children with less emotional symptoms. Next, the lowest and highest 10 % of the responses on inattention problems subscale score of the SDQ-Parent were compared with task persistence dimension of the SATI. The analysis of variance revealed a significant difference for task persistence ($F [1, 119] = 137.80, p < .001$), indicating that children with higher levels of inattention problems had significantly lower levels of task persistence as compared to children with lower levels of inattention problems. Then, the lowest and highest 10 % of the responses on prosocial behavior subscale score of the SDQ-Parent were compared with approach/withdrawal dimension of the SATI. The analysis of variance revealed a significant difference for approach/withdrawal ($F [1, 140] = 14.50, p < .001$). That is, children lower on prosocial behavior withdraw new and strange situations significantly stronger as compared to children higher on prosocial behavior. Lastly, the lowest and highest 10 % of the responses on conduct problems/hyperactivity subscale score of the SDQ-Parent were compared with activity dimension of the SATI. The analysis of variance revealed a significant difference for activity ($F [1, 102] = 125.83, p < .001$). That is, children with higher scores on conduct problems/hyperactivity

were found to be significantly more active in temperament as compared to children with lower scores on conduct problems/hyperactivity.

As a result of the reliability and validity analyses, the Turkish version of the School-Age Temperament Inventory showed respectively reliable and valid results to evaluate the temperament of the children between 8-11 years of age.

2.1.2.3 Psychometric Characteristics of the APSD

2.1.2.3.1 Reliability of the Turkish Version of the APSD

The reliability of the APSD was assessed by three methods.

2.1.2.3.1.1 Internal Consistency

In order to check the internal consistency of the APSD, Cronbach alpha coefficients were computed for callous-unemotional, narcissism, and impulsivity dimensions and for the Total Scale of the APSD-Parent, Teacher, and Combined forms separately. Cronbach alpha values are presented in Table 16 that are ranging from .22 (for CU) to .73 (for total scale) in the parent form, from .57 (for CU) to .86 (for total scale) in the teacher form, and from .51 (for CU) to .83 (for total scale) in the combined form.

Table 16. Cronbach Alpha Values for the APSD Dimensions and the Total Scale Score of the Parent, Teacher, and Combined Forms

	# of items	Cronbach Alpha Coefficients		
		Parent	Teacher	Combined
Callous-	6	.22	.57	.51
Unemotional	4 (2 items deleted)	.47	.70	.64
Narcissism	7	.67	.77	.74
Impulsivity	5	.59	.76	.66
Total Scale	20 (parent)	.73	.86	.83
	19 (teacher & combined)			
	2 items deleted	.77	.88	.85

2.1.2.3.1.2 Interrater Reliability

Correlations between parent and teacher ratings were $r = .20$ in CU dimension, $r = .30$ in impulsivity dimension, and $r = .27$ in the Total Scale, all at $p < .001$ (Table 17). Parent and teacher ratings in narcissism dimension did not significantly correlate with each other, $r = .10$, ns.

Table 17. Interrater Correlations of the Dimensions and the Total Scale of the APSD

Interrater Correlations between Parent and Teacher Forms (N = 336)	
Callous-Unemotional	.20*
Narcissism	.10
Impulsivity	.30*
Total scale	.27*

* $p < .001$

2.1.2.3.1.3 Test-Retest Reliability

Test-retest correlation coefficients for three or four weeks interval were obtained for a subset of the sample. As summarized in Table 18, all the test-retest correlation coefficients of the three APSD dimensions and the Total Scale score were at significant levels, all at $p < .001$, for all the three forms of the APSD.

Table 18. Test-Retest Consistencies of the Dimensions and the Total Scale of the APSD

	Test-Retest Correlations		
	Parent (N = 48)	Teacher (N = 50)	Combined (N = 50)
Callous-Unemotional	.73*	.63*	.71*
Narcissism	.66*	.59*	.57*
Impulsivity	.90*	.82*	.77*
Total Scale	.84*	.82*	.79*

* $p < .001$

2.1.2.3.2 Validity of the Turkish Version of the APSD

The construct validity of the APSD was investigated by scale intercorrelations. The concurrent validity was examined by assessing the correlation between the three dimensions and the Total Scale score of the APSD and the subscale scores of the SDQ and four dimension scores of the SATI. In addition, criterion validity was checked for each of the APSD dimensions and the Total Scale score.

2.1.2.3.2.1 Construct Validity

All in parent, teacher, and combined forms of the APSD, the three dimensions and the Total Scale score were found to be highly correlated with each other, all at $p < .001$. According to parent ratings, CU correlated with narcissism at $r = .23$, with impulsivity at $r = .24$, and with Total Scale at $r = .59$. Narcissism correlated with impulsivity at $r = .49$, and with Total Scale at $r = .82$. In addition, impulsivity correlated with Total Scale at $r = .78$. Furthermore, according to teacher ratings, CU correlated with narcissism at $r = .42$, with impulsivity at $r = .57$, and with Total Scale at $r = .78$. Narcissism correlated with impulsivity at $r = .57$, and with Total Scale at $r = .83$. In addition, Impulsivity correlated with Total Scale at $r = .86$. Lastly, according to combined ratings, CU correlated with narcissism at $r = .45$, with impulsivity at $r = .49$, and with Total Scale at $r = .76$. Narcissism correlated with impulsivity at $r = .57$, and with Total Scale at $r = .86$. In addition, impulsivity correlated with Total Scale at $r = .82$. All correlations were significant at $p < .001$. Results of the scale intercorrelations are presented in Table 19.

Table 19. Intercorrelations among the Dimensions and the Total Scale of the APSD

	Callous- Unemotional	Narcissism	Impulsivity	Total Scale
Callous- Unemotional	M = 0.52	.23*	.24*	.59*
	SD = 0.27			
	M = 0.67	.42*	.57*	.78*
	SD = 0.35			
	<i>M = 0.87</i>	<i>.45*</i>	<i>.49*</i>	<i>.76*</i>
	<i>SD = 0.34</i>			
Narcissism		M = 0.38	.49*	.82*
		SD = 0.31		
		M = 0.34	.57*	.83*
		SD = 0.36		
		<i>M = 0.59</i>	<i>.57*</i>	<i>.86*</i>
		<i>SD = 0.39</i>		
Impulsivity			M = 0.69	.78*
			SD = 0.38	
			M = 0.51	.86*
			SD = 0.45	
			<i>M = 0.88</i>	<i>.82*</i>
			<i>SD = 0.41</i>	
Total Scale				M = 0.47
				SD = 0.23
				M = 0.48
				SD = 0.32
				<i>M = 0.74</i>
			<i>SD = 0.31</i>	

Note. Pearson correlations in boldface and in italic types are teacher's and combined ratings, respectively

* $p < .001$

2.1.2.3.2.2 Concurrent Validity

2.1.2.3.2.2.1 APSD-Parent Form

a. Correlations with the SATI

The correlations between three APSD-Parent dimensions and the Total Scale score and the four SATI dimensions are presented in Table 20. The correlations ranged from -.60 to .53. The only nonsignificant correlation was between CU dimension of APSD-Parent and activity dimension of SATI.

Table 20. Correlations between the APSD-Parent Dimensions and Total Scale Score and the SATI dimensions

	Negative Reactivity	Task Persistence	Approach/ Withdrawal	Activity
Callous- Unemotional	-.11*	-.30***	.14**	.02
Narcissism	.47***	-.42***	.20***	.33***
Impulsivity	.53***	-.60***	.15**	.41***
Total Scale	.53***	-.60***	.22***	.37***

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

b. Correlations with the SDQ

The correlations between three dimensions and the Total Scale score of the APSD-Parent and the four subscales and Total Difficulty scores of the SDQ-Parent are presented in Table 21. The correlations ranged from -.52 to .63. The only nonsignificant correlation was between CU dimension of APSD-Parent and emotional symptoms subscale of the SDQ-Parent.

Table 21. Correlations between the APSD-Parent dimensions and Total Scale Score and the SDQ-Parent Subscales and Total Difficulty Score

	Conduct Problems/ Hyperactivity	Prosocial Behavior	Emotional Symptoms	Inattention Problems	Total Difficulty
Callous- Unemotional	.19*	-.42*	.06	.27*	.21*
Narcissism	.50*	-.37*	.36*	.34*	.52*
Impulsivity	.52*	-.38*	.33*	.58*	.60*
Total Scale	.58*	-.52*	.36*	.54*	.63*

* $p < .001$

2.1.2.3.2.2 APSD-Teacher Form

The correlations between three dimensions and the Total Scale score of the APSD-Teacher and the four subscales and Total Difficulty scores of the SDQ-Teacher are presented in Table 22. The correlations ranged from $-.73$ to $.77$.

Table 22. Correlations between the APSD-Teacher Dimensions and Total Scale Score and the SDQ-Teacher Subscales and Total Difficulty Score

	Conduct Problems/ Hyperactivity	Prosocial Behavior	Emotional Symptoms	Inattention Problems	Total Difficulty
Callous- Unemotional	.43**	-.62**	-.16*	.51**	.46**
Narcissism	.68**	-.55**	.22**	.28**	.54**
Impulsivity	.68**	-.66**	.37**	.74**	.77**
Total Scale	.74**	-.73**	.31**	.61**	.72**

* $p < .01$; ** $p < .001$

2.1.2.3.2.2.3 APSD-Combined Form

The correlations between three dimensions and the Total Scale score of the APSD-Combined and the four subscales and Total Difficulty scores of the SDQ-Parent and SDQ-Teacher are presented in Table 23. The correlations ranged from $-.61$ to $.64$.

Table 23. Correlations between the APSD-Combined Dimensions and Total Scale Score and the SDQ-Parent and SDQ Teacher Subscales and Total Difficulty Score

	1	2	3	4	5	6	7	8	9	10
Callous- Unemotional	.25**	-.30**	-.12*	.24**	.26**	.42**	-.57**	-.14*	.48**	.47**
Narcissism	.44**	-.30**	.30**	.29**	.45**	.57**	-.47**	.22**	.35**	.50**
Impulsivity	.48**	-.39**	.28**	.50**	.53**	.57**	-.48**	.26**	.52**	.59**
Total Scale	.49**	-.40**	.30**	.41**	.51**	.64**	-.61**	.28**	.54**	.64**

Note. 1: Conduct Problems/Hyperactivity (parent), 2: Prosocial Behavior (parent), 3: Emotional Symptoms (parent), 4: Inattention Problems (parent), 5: Total Difficulty (parent), 6: Conduct Problems/Hyperactivity (teacher), 7: Prosocial Behavior (teacher), 8: Emotional Symptoms (teacher), 9: Inattention Problems (teacher), 10: Total Difficulty (teacher)

* $p < .05$; ** $p < .001$

2.1.2.3.2.3 Criterion Validity

2.1.2.3.2.3.1 APSD-Parent Form

The criterion validity of the APSD-Parent form was examined through a series of One-Way ANOVAs. For checking the criterion validity of the CU dimension, the data were divided into two groups according to participants' scores on conduct problems/hyperactivity subscale and on prosocial behavior subscale of the SDQ-Parent separately. First, the lowest and highest 10 % of the responses on conduct problems/hyperactivity subscale of the SDQ-Parent were compared with CU dimension of the APSD-Parent. The analysis of variance revealed a significant difference for CU traits ($F [1, 102] = 8.15, p < .005$). That is, children with more conduct and hyperactivity problems scored significantly higher on CU traits as compared to children with lower levels of conduct and hyperactivity problems. Similarly, the lowest and highest 10 % of the responses on prosocial behavior subscale score of the SDQ-Parent were compared with CU dimension of the APSD-Parent. The analysis of variance revealed a significant difference for CU traits ($F [1, 140] = 57.09, p < .001$), indicating that children with higher levels of prosocial behaviors had significantly lower scores on CU traits as compared to children with lower levels of prosocial behaviors.

Then, the data were divided into two groups according to participants' scores on conduct problems/hyperactivity subscale, on prosocial behavior subscale, and on Total Difficulty of the SDQ-Parent separately, in order to check the criterion validity of the narcissism dimension. First, the lowest and highest 10 % of the responses on conduct problems/hyperactivity subscale of the SDQ-Parent were compared with narcissism dimension of the APSD-Parent. The analysis of variance revealed a significant difference for narcissism ($F [1, 102] = 82.22, p < .001$). That is, children with more conduct problems/hyperactivity scored significantly higher on narcissism as compared to children with lower levels of conduct and hyperactivity problems. Next, the lowest and highest 10 % of the responses on prosocial behavior subscale score of the SDQ-Parent were compared with narcissism dimension of the APSD-Parent. The analysis of variance revealed a significant difference for narcissism ($F [1, 140] = 35.88, p <$

.001), indicating that children with higher levels of prosocial behaviors had significantly lower scores on narcissism as compared to children with lower levels of prosocial behaviors. Lastly, the lowest and highest 10 % of the responses on Total Difficulty score of the SDQ-Parent were compared with narcissism dimension of the APSD-Parent. The analysis of variance revealed a significant difference for narcissism ($F [1, 63] = 41.51, p < .001$). That is, children with higher levels of total difficulty problems had significantly higher scores on narcissism as compared to children with lower levels of total difficulty problems.

Next, for checking the criterion validity of the impulsivity dimension of the APSD-Parent, the data were divided into two groups according to participants' scores on conduct problems/hyperactivity subscale and on inattention problems subscale of the SDQ-Parent, and on task persistence and activity dimensions of the SATI. First, the lowest and highest 10 % of the responses on conduct problems/hyperactivity subscale of the SDQ-Parent were compared with impulsivity dimension of the APSD-Parent. The analysis of variance revealed a significant difference for impulsivity ($F [1, 102] = 105.57, p < .001$). That is, children with more conduct and hyperactivity problems scored significantly higher on impulsivity as compared to children with lower levels of conduct and hyperactivity problems. Then, the lowest and highest 10 % of the responses on inattention problems subscale score of the SDQ-Parent were compared with impulsivity dimension of the APSD-Parent. The analysis of variance revealed a significant difference for impulsivity ($F [1, 119] = 136.80, p < .001$), indicating that children with higher levels of inattention problems had significantly higher scores on impulsivity as compared to children with lower levels of inattention problems. Next, the lowest and highest 10 % of the responses on task persistence dimension of the SATI were compared with impulsivity dimension of the APSD-Parent. The analysis of variance revealed a significant difference for impulsivity ($F [1, 55] = 115.65, p < .001$), indicating that children with higher levels of task persistency had significantly lower scores on impulsivity as compared to children with lower levels of task persistency. Lastly, the lowest and highest 10 % of the responses on activity dimension of the SATI

were compared with impulsivity dimension of the APSD-Parent. The analysis of variance revealed a significant difference for impulsivity ($F [1, 81] = 53.80, p < .001$), indicating that children with higher levels of activity had significantly higher scores on impulsivity as compared to children with lower levels of activity.

Lastly, the data were divided into two groups according to participants' scores on conduct problems/hyperactivity subscale, on prosocial behaviors subscale, and on Total Difficulty score of the SDQ-Parent, in order to check the criterion validity of the Total Scale of the APSD-Parent. First, the lowest and highest 10 % of the responses on conduct problems/hyperactivity subscale of the SDQ-Parent were compared with Total Scale of the APSD-Parent. The analysis of variance revealed a significant difference for antisocial tendency ($F [1, 102] = 107.50, p < .001$). That is, children with more conduct and hyperactivity problems had significantly higher levels of antisocial tendency as compared to children with lower levels of conduct and hyperactivity problems. Next, the lowest and highest 10 % of the responses on prosocial behavior subscale score of the SDQ-Parent were compared with Total Scale of the APSD-Parent. The analysis of variance revealed a significant difference for antisocial tendency ($F [1, 140] = 95.81, p < .001$), indicating that children with higher levels of prosocial behaviors had significantly lower levels of antisocial tendency as compared to children with lower levels of prosocial behaviors. Lastly, the lowest and highest 10 % of the responses on Total Difficulty score of the SDQ-Parent were compared with Total Scale of the APSD-Parent. The analysis of variance revealed a significant difference for antisocial tendency ($F [1, 63] = 69.81, p < .001$). That is, children with higher levels of total difficulty problems had significantly higher levels of antisocial tendency as compared to children with lower levels of total difficulty problems.

2.1.2.3.2.3.2 APSD-Teacher Form

The One-Way ANOVAs conducted for assessing the criterion validity of the APSD-Teacher form were similar to analyses done for the criterion validity of the APSD-Parent form. Similarly, first for checking the criterion validity of the

CU dimension, the data were divided into two groups according to participants' scores on conduct problems/hyperactivity subscale and on prosocial behavior subscale of the SDQ-Teacher separately. First, the lowest and highest 10 % of the responses on conduct problems/hyperactivity subscale of the SDQ-Teacher were compared with CU dimension of the APSD-Teacher. The analysis of variance revealed a significant difference for CU traits ($F [1, 164] = 51.19, p < .001$). That is, according to teacher ratings, children with more conduct and hyperactivity problems scored significantly higher on CU trait as compared to children with lower levels of conduct and hyperactivity problems. Similarly, the lowest and highest 10 % of the responses on prosocial behavior subscale score of the SDQ-Teacher were compared with CU dimension of the APSD-Teacher. The analysis of variance revealed a significant difference for CU traits ($F [1, 130] = 120.47, p < .001$), indicating that children with higher levels of prosocial behaviors had significantly lower scores on CU traits as compared to children with lower levels of prosocial behaviors.

Then, for checking the criterion validity of the narcissism dimension, the data were divided into two groups according to participants' scores on conduct problems/hyperactivity subscale, on prosocial behavior subscale, and on Total Difficulty of the SDQ-Teacher separately. First, the lowest and highest 10 % of the responses on conduct problems/hyperactivity subscale of the SDQ-Teacher were compared with narcissism dimension of the APSD-Teacher. The analysis of variance revealed a significant difference for narcissism ($F [1, 164] = 227.34, p < .001$). That is, according to teacher ratings, children with more conduct and hyperactivity problems scored significantly higher on narcissism as compared to children with lower levels of conduct and hyperactivity problems. Next, the lowest and highest 10 % of the responses on prosocial behavior subscale score of the SDQ-Teacher were compared with narcissism dimension of the APSD-Teacher. The analysis of variance revealed a significant difference for narcissism ($F [1, 130] = 104.35, p < .001$), indicating that children with higher levels of prosocial behaviors had significantly lower scores on narcissism as compared to children with lower levels of prosocial behaviors. Lastly, the lowest and highest 10 % of the responses on Total Difficulty score of the SDQ-Teacher were

compared with narcissism dimension of the APSD-Teacher. The analysis of variance revealed a significant difference for narcissism ($F [1, 95] = 55.86, p < .001$). That is, children with higher levels of total difficulty problems had significantly higher scores on narcissism as compared to children with lower levels of higher levels of total difficulty problems.

Next, the data were divided into two groups according to participants' scores on conduct problems/hyperactivity subscale and on inattention problems subscale of the SDQ-Teacher, and on task persistence and activity dimensions of the SATI in order to check the criterion validity of the impulsivity dimension of the APSD-Teacher. First, the lowest and highest 10 % of the responses on conduct problems/hyperactivity subscale of the SDQ-Teacher were compared with impulsivity dimension of the APSD-Teacher. The analysis of variance revealed a significant difference for impulsivity ($F [1, 164] = 330.85, p < .001$). That is, children with more conduct and hyperactivity problems scored significantly higher on impulsivity as compared to children with lower levels of conduct problems/hyperactivity. Then, the lowest and highest 10 % of the responses on inattention problems subscale score of the SDQ-Teacher were compared with impulsivity dimension of the APSD-Teacher. The analysis of variance revealed a significant difference for impulsivity ($F [1, 139] = 335.46, p < .001$), indicating that children with higher levels of inattention problems had significantly higher scores on impulsivity as compared to children with lower levels of inattention problems. Next, the lowest and highest 10 % of the responses on task persistence dimension of the SATI were compared with impulsivity dimension of the APSD-Teacher. The analysis of variance revealed a significant difference for impulsivity ($F [1, 55] = 38.71, p < .001$), indicating that children with higher levels of task persistency had significantly lower scores on impulsivity as compared to children with lower levels of task persistency. Lastly, the lowest and highest 10 % of the responses on activity dimension of the SATI were compared with impulsivity dimension of the APSD-Teacher. The analysis of variance revealed a significant difference for impulsivity ($F [1, 81] = 7.69, p < .05$), indicating that children with higher levels of activity had significantly higher scores on impulsivity as compared to children with lower levels of activity.

Lastly, the data were divided into two groups according to participants' scores on conduct problems/hyperactivity subscale, on prosocial behaviors subscale, and on Total Difficulty score of the SDQ-Teacher, in order to check the criterion validity of the Total Scale of the APSD-Teacher. First, the lowest and highest 10 % of the responses on conduct problems/hyperactivity subscale of the SDQ-Teacher were compared with Total Scale of the APSD-Teacher. The analysis of variance revealed a significant difference for antisocial tendency ($F [1, 164] = 295.60, p < .001$). That is, children with more conduct problems/hyperactivity had significantly higher levels of antisocial tendency as compared to children with lower levels of conduct and hyperactivity problems. Next, the lowest and highest 10 % of the responses on prosocial behavior subscale score of the SDQ-Teacher were compared with Total Scale of the APSD-Teacher. The analysis of variance revealed a significant difference for antisocial tendency ($F [1, 130] = 220.18, p < .001$), indicating that children with higher levels of prosocial behaviors had significantly lower levels of antisocial tendency as compared to children with lower levels of prosocial behaviors. Lastly, the lowest and highest 10 % of the responses on Total Difficulty score of the SDQ-Teacher were compared with Total Scale of the APSD-Teacher. The analysis of variance revealed a significant difference for antisocial tendency ($F [1, 95] = 147.14, p < .001$). That is, children with higher levels of total difficulty problems had significantly higher levels of antisocial tendency as compared to children with lower levels of total difficulty problems.

In general, according to the validity analyses, all the three forms of the Turkish version of the Antisocial Process Screening Device showed valid results to evaluate the psychopathic traits and antisocial behaviors of the children between 8-11 years of age.

2.1.3 SUMMARY

1. The original Hyperactivity-Inattention subscale of the SDQ is comprised of five items that cover the three key symptom domains, namely inattention, hyperactivity, and impulsiveness, of the DSM-IV diagnosis of ADHD. However, in Turkish data, two items referring to Hyperactivity combined

with items of conduct problems in one factor, named as “Conduct Problems/Hyperactivity”, and two Inattention items and one Impulsivity item built themselves in another factor, named as “Inattention Problems”. In other words, one key symptom domain of the ADHD is separated from the other two key symptom domains in the present study.

2. According to reliability and validity analyses, the Turkish version of SATI showed respectively reliable and valid results to evaluate the temperament of the children between 8-11 years of age.

3. The Cronbach alpha coefficients of all the three forms of the APSD were slightly lower than the Cronbach alpha coefficients mentioned in the original version of the scale. However, the Cronbach alpha coefficients of the CU dimension were very low in all the three forms, indicating a low internal consistency of this dimension. Examination of the alpha coefficients with each item deleted indicated that the removal of two items out of six items in CU subscale would notably increase the internal reliability of this dimension and the Total Scale. These items were item #3 and item #19. When content analysis was conducted, it became evident that there were some problems in the translation of these two items. These items were translated and back translated again. According to the validity analyses, all the three forms of the Turkish version of the APSD showed valid results to evaluate the psychopathic traits and antisocial behaviors of the children between 8-11 years of age.

On these grounds, another study was designed to conduct the validity analyses of the SDQ with the four factors obtained in Study 1. Moreover, the reliability of the parent, teacher, and combined forms of the APSD was checked after conducting necessary changes in the translation of two problematic items.

2.2 STUDY 2

The aim of the second study was to conduct the validity analyses of the parent and teacher forms of the Strengths and Difficulties Questionnaire (SDQ) with the four factors obtained in Study 1. Moreover, the reliability of the parent, teacher, and combined forms of the Antisocial Process Screening Device (APSD) was checked after conducting necessary changes in the translation of two problematic items.

2.2.1 METHOD

2.2.1.1 Participants

The participants were randomly selected 76 elementary school children with 35 (46.1 %) females and 41 (53.9 %) males in second, third, fourth, and fifth grades. 5 children, who got psychiatric treatment for different reasons before, were excluded from the data, leaving 71 cases for analysis with 34 (47.9 %) females and 37 (52.1 %) males. The age of the participants ranged from 8 to 11 with a mean of 9.37 years ($SD = 1.14$). The average age of females was 9.33 ($SD = 1.15$) and of males was 9.41 ($SD = 1.14$). Data were collected from one elementary school, Gülen Muharrem Pakoğlu İlköğretim Okulu, which includes children mostly from middle SES families. Children, whom the teacher knows less than one school-term, were excluded from the study.

2.2.1.2 Instruments

Five instruments were used in this study. Like in the first study, parents were firstly asked to complete the Demographic Information Form (**See Appendix A**). Then, parents and teachers were given the Hacettepe Emotional Adjustment Scale (HEAS) (**See Appendix F**) for measuring emotional and behavioral problems of children and the Childhood and Adolescent Rating and Screening Scale (CARSS) (**See Appendix G**) for evaluating externalizing behavior problems of children. In addition, both parents and teachers were given APSD (**See Appendix E**) -with two items retranslated after the first study- for

assessing CU traits in children, and SDQ (See **Appendix B & C**). Lastly, both of the raters, parents and teachers, were asked one question regarding the prosocial behaviors of the children (See **Appendix H**).

2.2.1.2.1 Demographic Information Form

Detailed information about the Demographic Information Form was given in the method section of Study 1.

2.2.1.2.2 Hacettepe Emotional Adjustment Scale (HEAS)

The Hacettepe Emotional Adjustment Scale (HEAS) was developed by Gökler and Öktem (1985) for evaluating the emotional adjustment of children. The scale can be completed either by the parent or by the teacher of children and it includes 32 items rated as 0 (absent), 1 (slightly) or 2 (much). The first 24 items, which assess the emotional adjustment of children, are summed to generate a Total score with a cut-off point of 12. Children who get a Total Adjustment score of 12 or more are regarded as maladjusted. In addition, odd and even number items are summed together to generate two subscale scores, that are the Neurotic Problems Subscale and Behavior Problems Subscale, respectively. For both of the Subscale scores and the Total Adjustment score, higher scores indicate that the child has more problems. Among the remaining eight items, five assess problems specific to childhood, such as stuttering, tic problems, nail biting, finger sucking, enuresis, and encopresis, one item assesses school performance, and lastly one item asks for other problems not mentioned in the scale. In the present study, for every child, the HEAS was completed both by the parent and by the teacher to evaluate the extent of the presence of neurotic and behavior problems in this sample.

Psychometric properties of the HEAS were conducted by Coşkun (1994) in a community sample of children. Reliability was evaluated by examining the Cronbach alpha values. The Cronbach alpha coefficients of the Neurotic and Behavior Problems Subscale scores and the Total Adjustment score were .82, .83, and .87, respectively. Concurrent validity of the HEAS was assessed by examining the correlations between the HEAS and CBCL (CBCL; Achenbach,

1991), both of which were rated by the teachers. Accordingly, the Neurotic Problems subscale of the HEAS correlated significantly with Internalizing Problems subscale of the CBCL, $r = .51$, $p < .001$, and the Behavior Problems subscale of the HEAS correlated significantly with Externalizing Problems subscale of the CBCL, $r = .63$, $p < .001$. In addition, Total Adjustment score of the HEAS correlated significantly with the CBCL Total score, $r = .58$, $p < .001$.

2.2.1.2.3 Childhood and Adolescent Rating and Screening Scale (CARSS)

Childhood and Adolescent Rating and Screening Scale (CARSS) was developed by Turgay (1995) according to DSM-IV diagnostic criteria in order to evaluate the externalizing behavior problems of children. CARSS has 41 items rated between 0 (absent) and 3 (severe) and three main subscales that inquire about Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), and Conduct Disorder (CD) with 18, 8, and 15 items, respectively. The ADHD subscale is composed of three subscales that are Inattention (ADD), Hyperactivity, and Impulsivity. These subscales include 9, 6, and 3 items, respectively. Higher scores indicate that the child has higher severity of symptoms. In the present study, the CARSS was completed both by the parent and by the teacher of the children.

Psychometric properties of the CARSS were conducted by Ercan, Amado, Somer, and Çıkoğlu (2001) and Cronbach alpha coefficients were reported as .88, .95, .89, and .85 for Attention Deficit Disorder, Hyperactivity Disorder, Oppositional Defiant Disorder, and Conduct Disorder, respectively.

2.2.1.2.4 Antisocial Process Screening Device (APSD)

Detailed information about the Antisocial Process Screening Device (APSD; Frick & Hare, 2002) is given in the method section of Study 1.

2.2.1.2.5 Strengths and Difficulties Questionnaire (SDQ)

Detailed information about the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is given in the method section of Study 1.

2.2.1.2.6 Ratings of Prosocial Behaviors

For checking the validity of the Prosocial Behavior subscale of the SDQ, both parents and teachers were asked about their perception on children's prosocial behavior, exactly how they get along with their peers, on a Likert type scale with responses ranging between 1 (very negative) and 5 (very positive).

2.2.1.3 Procedure

Firstly, necessary changes were made in the translation of two problematic items (item # 3 and item # 19) of the APSD. Data were collected in December 2005 in an elementary school in Ankara, which represents middle SES level. Similar to the first study, children included in the study were recruited through random sampling in two phases. First, two classes from second, third, fourth, and fifth grades were randomly selected by the researcher. Second, from each of the randomly selected class, six students were randomly selected by the researcher from the student list of the class in front of the children. Before administering the instruments, information about the general aim of the study were given to all children in the class and to the teachers. For each of the randomly selected child, teacher forms of the APSD, SDQ, HEAS, and CARSS were given in an envelope to the teacher. Teachers were asked to complete the instruments in one week. Each teacher filled in the instruments maximum for six students. At the same time, in another envelope, the Demographic Information Form with an informed consent sheet with necessary information regarding the researcher, aim of the study, random sampling, and important points in filling in the instruments on it and the parent forms of the APSD, SDQ, HEAS, and CARSS were sent home to the parents through children. Children were asked to bring the completed forms back to school and give to their teachers in one week. All instruments were taken back from the school approximately two weeks later. The total administration time of the instruments was approximately 30 minutes for parents and 20 minutes for teachers.

2.2.2 RESULTS

2.2.2.1 Psychometric Characteristics of the HEAS

The Cronbach alpha coefficients were computed for the parent and teacher forms in order to check the internal consistency of the neurotic problems and behavior problems subscales and the Total Adjustment score. As can be seen in Table 24, the internal consistency coefficients of the HEAS varied from .82 (for behavior problems) to .91 (for total adjustment) in the parent form and from .85 (for behavior problems) to .93 (for total adjustment) in the teacher form.

Table 24. Cronbach Alpha Values for the HEAS Subscales and the Total Adjustment Score of the Parent and Teacher Forms

	# of items	Cronbach Alpha Coefficients	
		Parent	Teacher
Neurotic Problems	12	.85	.91
Behavior Problems	12	.82	.85
Total Adjustment	24	.91	.93

In addition, interrater reliability was assessed by examining the correlations between parent and teacher ratings. Correlations between parents and teacher ratings ranged from .40 (for behavior problems) to .59 (for neurotic problems), all at $p < .001$ (Table 25).

Table 25. Interrater Correlations of the two Subscales and the Total Adjustment Score of the HEAS

	Interrater Correlations between Parent and Teacher Forms (N = 71)
Neurotic Problems	.59*
Behavior Problems	.40*
Total Adjustment	.51*

* $p < .001$

2.2.2.2 Psychometric Characteristics of the CARSS

The Cronbach alpha coefficients were computed for the parent and teacher forms in order to check the internal consistency of the three main subscales and other subscale measures. As can be seen in Table 26, the internal consistency coefficients of the CARSS varied from .77 (for conduct disorder) to .96 (for total externalizing problems) in the parent form and from .83 (for conduct disorder) to .96 (for total externalizing problems) in the teacher form.

Table 26. Cronbach Alpha Values for the CARSS Subscales and Total Externalizing Problems of the Parent and Teacher Forms

	# of items	Cronbach Alpha Coefficients	
		Parent	Teacher
Attention Deficit Hyperactivity Disorder (ADHD)	18	.95	.95
Hyperactivity Disorder (HD)	9	.92	.94
Hyperactivity	6	.89	.90
Impulsivity	3	.89	.87
Inattention (ADD)	9	.93	.94
Oppositional Defiant Disorder (ODD)	8	.91	.90
Conduct Disorder (CD)	15	.77	.83
Total Externalizing Problems	41	.96	.96

In addition, interrater reliability was assessed by examining the correlations between parent and teacher ratings. Correlations between parents and teacher ratings ranged from .40 (for impulsivity) to .66 (for inattention), all at $p < .001$ (Table 27).

Table 27. Interrater Correlations of the Subscales and Total Externalizing Problems Score of the CARSS

	Interrater Correlations between Parent and Teacher Forms (N = 71)
Attention Deficit Hyperactivity Disorder (ADHD)	.61*
Hyperactivity Disorder (HD)	.50*
Hyperactivity	.53*
Impulsivity	.40*
Inattention (ADD)	.66*
Oppositional Defiant Disorder (ODD)	.49*
Conduct Disorder (CD)	.62*
Total Externalizing Problems	.61*

*p < .001

2.2.2.3 Psychometric Characteristics of the APSD

In order to check the internal consistency of the APSD after retranslation of two items, Cronbach alpha coefficients were computed for CU, narcissism, and impulsivity dimensions and for the Total Scale of the APSD-Parent, Teacher, and Combined forms separately. Cronbach alpha values are presented in Table 28 that are ranging from .58 (for narcissism) to .85 (for total scale) in the parent form, from .70 (for narcissism) to .87 (for total scale) in the teacher form, and from .65 (for narcissism) to .87 (for total scale) in the combined form.

Table 28. Cronbach Alpha Values for the APSD Dimensions and the Total Scale Score of the Parent, Teacher, and Combined Forms after Retranslation

	# of items	Cronbach Alpha Coefficients		
		Parent	Teacher	Combined
Callous-Unemotional	6	.75	.73	.76
Narcissism	7	.58	.70	.65
Impulsivity	5	.78	.81	.78
Total Scale	20 (parent) 19 (teacher & combined)	.85	.87	.87

In addition, interrater reliability was assessed by examining the correlations between parent and teacher ratings. Correlations between parent and teacher ratings were $r = .54$ in CU dimension, $r = .57$ in narcissism dimension, $r = .50$ in impulsivity dimension, and $r = .54$ in the Total Scale, all at $p < .001$ (Table 29).

Table 29. Interrater Correlations of the APSD Dimensions and the Total Scale Score after Retranslation

	Interrater Correlations between Parent and Teacher Forms (N = 71)
Callous-Unemotional	.54*
Narcissism	.57*
Impulsivity	.50*
Total scale	.54*

* $p < .001$

2.2.2.4 Psychometric Characteristics of the SDQ

2.2.2.4.1 Reliability Analysis for the SDQ

The reliability of the SDQ was assessed by two methods.

2.2.2.4.1.1 Internal Consistency

In order to check the internal consistency of the SDQ with the four-factor solution obtained in Study 1, Cronbach alpha coefficients were computed for the parent and teacher forms. Cronbach alpha values are presented in Table 30 and they are ranging from .68 (for prosocial behavior) to .86 (for total difficulty) in the parent form and from .66 (for inattention problems) to .86 (for total difficulty) in the teacher form.

Table 30. Cronbach Alpha Values for the SDQ Subscales and the Total Difficulty Score of the Parent and Teacher Forms

	# of items	Cronbach Alpha Coefficients	
		Parent	Teacher
Conduct Problems/Hyperactivity	6	.78	.78
Prosocial Behavior	7	.68	.85
Emotional Symptoms	6	.69	.78
Inattention Problems	3	.73	.66
Total Difficulty	15	.86	.86

2.2.2.4.1.2 Interrater Reliability

Correlations between parent and teacher ratings were $r = .50$ in conduct problems/hyperactivity subscale, $r = .66$ in emotional symptoms subscale, $r = .69$ in the inattention problems subscale, and $r = .69$ in the Total Difficulty, all at $p < .001$ (Table 31). Additionally, parent and teacher ratings in prosocial behavior subscale correlated significantly with each other, $r = .35$, $p < .005$.

Table 31. Interrater Correlations of the Subscales and the Total Difficulty Score of the SDQ

	Interrater Correlations between Parent and Teacher Forms	
	(N = 71)	
Conduct Problems/Hyperactivity	.50**	
Prosocial Behavior	.35*	
Emotional Symptoms	.66**	
Inattention Problems	.69**	
Total Difficulty	.69**	

* $p < .005$; ** $p < .001$

2.2.2.4.2 Validity Analysis for the SDQ

The construct validity of the SDQ was investigated by scale intercorrelations. The concurrent validity was examined by assessing the correlations between the four subscales and the Total Difficulty score of the SDQ and other related measures. In addition, criterion validity was checked for each of the SDQ subscales and the Total Difficulty score.

2.2.2.4.2.1 Construct Validity

Both in parent and teacher ratings, the four subscales and the Total Difficulty score of the SDQ were found to be highly correlated with each other, all at $p < .001$. According to parent ratings, conduct problems/hyperactivity correlated with prosocial behavior at $r = -.48$, with emotional symptoms at $r = .56$, with inattention problems at $r = .62$, and with Total Difficulty score at $r = .88$. Prosocial behavior correlated with emotional symptoms at $r = -.37$, with inattention problems at $r = -.43$, and with Total Difficulty score at $r = -.51$. In addition, emotional symptoms correlated with inattention problems at $r = .50$ and with Total Difficulty score at $r = .83$, and inattention problems correlated with Total Difficulty score at $r = .80$. Furthermore, according to teacher ratings, conduct problems/hyperactivity correlated with prosocial behavior at $r = -.50$, with emotional symptoms at $r = .43$, with inattention problems at $r = .59$, and with Total Difficulty score at $r = .80$. Prosocial behavior correlated with emotional symptoms at $r = -.39$, with inattention problems at $r = -.56$, and with Total Difficulty score at $r = -.56$. In addition, emotional symptoms correlated with inattention problems at $r = .62$ and with Total Difficulty score at $r = .85$, and problems correlated with Total Difficulty score at $r = .85$. Results of the scale intercorrelations are presented in Table 32.

Table 32. Intercorrelations among the Subscales and the Total Difficulty score of the SDQ

	Conduct Problems/ Hyperactivity	Prosocial Behavior	Emotional Symptoms	Inattention Problems	Total Difficulty
Conduct Problems/ Hyperactivity	<u>M</u> = 0.40 <u>SD</u> = 0.41 <u>M</u> = 0.32 <u>SD</u> = 0.38	-.48* -.50*	.56* .43*	.62* .59*	.88* .80*
Prosocial Behavior		<u>M</u> = 1.61 <u>SD</u> = 0.33 <u>M</u> = 1.43 <u>SD</u> = 0.49	-.37* -.39*	-.43* -.56*	-.51* -.56*
Emotional Symptoms			<u>M</u> = 0.43 <u>SD</u> = 0.39 <u>M</u> = 0.44 <u>SD</u> = 0.44	.50* .62*	.83* .75*
Inattention Problems				<u>M</u> = 0.78 <u>SD</u> = 0.57 <u>M</u> = 0.67 <u>SD</u> = 0.55	.80* .85*
Total Difficulty					<u>M</u> = 0.49 <u>SD</u> = 0.37 <u>M</u> = 0.44 <u>SD</u> = 0.36

Note. Means, Standard Deviations, and Pearson correlations in boldface type are teacher's ratings
*p < .001

2.2.2.4.2.2 Concurrent Validity

The concurrent validity was examined by assessing the correlations between the four subscales and the Total Difficulty score of the SDQ and other related measures. Firstly, according to parent ratings, conduct problems/hyperactivity subscale correlated significantly with hyperactivity ($r = .86$), impulsivity ($r = .66$), hyperactivity disorder ($r = .83$), attention deficit hyperactivity disorder ($r = .81$), and conduct disorder ($r = .59$) subscales of the CARSS, and with behavior problems subscale of the HEAS ($r = .79$), all at $p < .001$. In addition, according to teacher ratings, conduct problems/hyperactivity subscale correlated significantly with hyperactivity ($r = .89$), impulsivity ($r = .77$), hyperactivity disorder ($r = .87$), attention deficit hyperactivity disorder ($r = .80$), and conduct disorder ($r = .64$) subscales of the CARSS, and with behavior problems subscale of the HEAS ($r = .75$), all at $p < .001$. Prosocial behavior subscale of the SDQ correlated significantly with parent and teacher ratings of prosocial behavior at $r = .58$ and $r = .81$, respectively, both at $p < .001$. Moreover, emotional symptoms subscale of the SDQ correlated significantly with neurotic problems subscale of the HEAS at $r = .72$ and $r = .78$, respectively for parent and teacher ratings, both at $p < .001$. Furthermore, according to parent ratings, inattention problems subscale of the SDQ correlated significantly with inattention and impulsivity subscales of the CARSS at $r = .80$ and $r = .58$, respectively, both at $p < .001$. Similarly, according to teacher ratings, inattention problems subscale of the SDQ correlated significantly with inattention and impulsivity subscales of the CARSS at $r = .78$ and $r = .50$, respectively, both at $p < .001$. Lastly, Total Difficulty score of the SDQ correlated significantly with Total Adjustment score of the CARSS at $r = .84$ and $r = .86$, respectively for parent and teacher ratings, both at $p < .001$.

2.2.2.4.2.3 Criterion Validity

2.2.2.4.2.3.1 SDQ-Parent Form

The criterion validity of the SDQ-Parent form was examined through a series of One-Way ANOVAs. For checking the criterion validity of the conduct

problems/hyperactivity subscale of the SDQ-Parent, the data were divided into two groups according to participants' scores on hyperactivity, impulsivity, hyperactivity disorder, attention deficit hyperactivity disorder, and conduct disorder subscales of the CARSS and on behavior problems subscale of the HEAS rated by parents. First, the lowest and highest 25 % of the responses on hyperactivity subscale of the CARSS rated by parents were compared with conduct problems/hyperactivity subscale of the SDQ-Parent. The analysis of variance revealed a significant difference for conduct problems/hyperactivity ($F [1, 38] = 50.14, p < .001$). That is, children with higher hyperactivity scores on the CARSS had significantly higher scores on conduct problems/hyperactivity problems subscale as compared to children with lower hyperactivity scores on the CARSS. Next, the lowest and highest 25 % of the responses on impulsivity subscale of the CARSS rated by parents were compared with conduct problems/hyperactivity subscale of the SDQ-Parent. The analysis of variance revealed a significant difference for conduct problems/hyperactivity ($F [1, 32] = 31.53, p < .001$). That is, children with higher impulsivity scores on the CARSS had significantly higher scores on conduct problems/hyperactivity subscale as compared to children with lower impulsivity scores on the CARSS. Then, the lowest and highest 25 % of the responses on hyperactivity disorder subscale of the CARSS rated by parents were compared with conduct problems/hyperactivity subscale of the SDQ-Parent. The analysis of variance revealed a significant difference for conduct problems/hyperactivity ($F [1, 32] = 47.85, p < .001$). That is, children with higher scores on the hyperactivity disorder of the CARSS had significantly higher scores on conduct problems/hyperactivity subscale as compared to children with lower scores on the hyperactivity disorder of the CARSS. Furthermore, the lowest and highest 25 % of the responses on attention deficit hyperactivity disorder subscale of the CARSS rated by parents were compared with conduct problems/hyperactivity subscale of the SDQ-Parent. The analysis of variance revealed a significant difference for conduct problems/hyperactivity ($F [1, 39] = 107.15, p < .001$). That is, children with higher scores on the attention deficit hyperactivity disorder of the CARSS had significantly higher scores on conduct problems/hyperactivity subscale as

compared to children with lower scores on the attention deficit hyperactivity disorder of the CARSS. Moreover, the lowest and highest 25 % of the responses on conduct disorder subscale of the CARSS rated by parents were compared with conduct problems/hyperactivity subscale of the SDQ-Parent. The analysis of variance revealed a significant difference for conduct problems/hyperactivity ($F [1, 58] = 56.90, p < .001$). That is, children with higher scores on the conduct disorder of the CARSS had significantly higher scores on conduct problems/hyperactivity subscale as compared to children with lower scores on the conduct disorder of the CARSS. Lastly, the data were divided into two groups according to participants' scores on behavior problems subscale of the HEAS rated by parents. The lowest and highest 25 % of the responses on behavior problems subscale of the HEAS were compared with conduct problems/hyperactivity subscale of the SDQ-Parent. The analysis of variance revealed a significant difference for conduct problems/hyperactivity ($F [1, 46] = 85.69, p < .001$). That is, children with higher scores on behavior problems subscale of the HEAS had significantly higher scores on conduct problems/hyperactivity as compared to children with lower scores on behavior problems subscale of the HEAS.

Then, the data were divided into two groups according to participants' scores on parents' ratings of prosocial behaviors in order to check the criterion validity of the prosocial behavior subscale of the SDQ. The lowest and highest 25 % of the responses on parents' ratings of prosocial behaviors were compared with prosocial behavior subscale of the SDQ. The analysis of variance revealed a significant difference for prosocial behavior ($F [1, 69] = 13.51, p < .001$). That is, children who were rated as having more prosocial behaviors by their parents, scored significantly higher on prosocial behavior subscale of the SDQ as compared to children rated as having less prosocial behaviors.

Next, for checking the criterion validity of the emotional symptoms subscale of the SDQ-Parent, the data were divided into two groups according to participants' scores on neurotic problems subscale of the HEAS rated by parents. The lowest and highest 25 % of the responses on neurotic problems subscale of the HEAS were compared with emotional symptoms subscale of the SDQ-Parent.

The analysis of variance revealed a significant difference for emotional symptoms ($F [1, 25] = 41.23, p < .001$). That is, children with more neurotic problems scored significantly higher on emotional symptoms as compared to children with lower levels of neurotic problems.

Furthermore, the data were divided into two groups according to participants' scores on inattention subscale and impulsivity subscale of the CARSS rated by parents in order to check the criterion validity of the inattention problems subscale of the SDQ-Parent. First, the lowest and highest 25 % of the responses on inattention subscale of the CARSS were compared with inattention problems subscale of the SDQ-Parent. The analysis of variance revealed a significant difference for inattention problems ($F [1, 32] = 77.05, p < .001$). That is, children with higher inattention scores on the CARSS had significantly more inattention problems as compared to children with lower inattention scores on the CARSS. Then, the lowest and highest 25 % of the responses on impulsivity subscale of the CARSS were compared with inattention problems subscale of the SDQ-Parent. The analysis of variance revealed a significant difference for inattention problems ($F [1, 32] = 14.70, p < .001$). That is, children with higher impulsivity scores on the CARSS had significantly more inattention problems as compared to children with lower impulsivity scores on the CARSS.

Lastly, for checking the criterion validity of the Total Difficulty scale of the SDQ-Parent, the data were divided into two groups according to participants' scores on Total Problems score on HEAS rated by parents. The lowest and highest 25 % of the responses on Total Problems score on HEAS were compared with Total Difficulty scale of the SDQ-Parent. The analysis of variance revealed a significant difference for total difficulty ($F [1, 33] = 113.77, p < .001$). That is, children with higher total problems score on the HEAS had significantly higher total difficulty scores as compared to children with lower total problems score on the HEAS.

2.2.2.4.2.3.2 SDQ-Teacher Form

The One-Way ANOVAs conducted for assessing the criterion validity of the SDQ-Teacher form were similar to analyses done for the criterion validity of

the SDQ-Parent form. Similarly, first for checking the criterion validity of the conduct problems/hyperactivity subscale of the SDQ-Teacher, the data were divided into two groups according to participants' scores on hyperactivity, impulsivity, hyperactivity disorder, attention deficit hyperactivity disorder, and conduct disorder subscales of the CARSS and on behavior problems subscale of the HEAS rated by teachers. First, the lowest and highest 25 % of the responses on hyperactivity subscale of the CARSS rated by teachers were compared with conduct problems/hyperactivity subscale of the SDQ-Teacher. The analysis of variance revealed a significant difference for conduct problems/hyperactivity ($F [1, 34] = 68.13, p < .001$). That is, children with higher hyperactivity scores on the CARSS had significantly higher scores on conduct problems/hyperactivity subscale as compared to children with lower hyperactivity scores on the CARSS. Next, the lowest and highest 25 % of the responses on impulsivity subscale of the CARSS rated by teachers were compared with conduct problems/hyperactivity subscale of the SDQ-Teacher. The analysis of variance revealed a significant difference for conduct problems/hyperactivity ($F [1, 42] = 31.19, p < .001$). That is, children with higher impulsivity scores on the CARSS had significantly higher scores on conduct problems/hyperactivity subscale as compared to children with lower impulsivity scores on the CARSS. Then, the lowest and highest 25 % of the responses on hyperactivity disorder subscale of the CARSS rated by teachers were compared with conduct problems/hyperactivity subscale of the SDQ-Teacher. The analysis of variance revealed a significant difference for conduct problems/hyperactivity ($F [1, 32] = 49.84, p < .001$). That is, children with higher scores on the hyperactivity disorder of the CARSS had significantly higher scores on conduct problems/hyperactivity subscale as compared to children with lower scores on the hyperactivity disorder of the CARSS. Furthermore, the lowest and highest 25 % of the responses on attention deficit hyperactivity disorder subscale of the CARSS rated by teachers were compared with conduct problems/hyperactivity subscale of the SDQ-Teacher. The analysis of variance revealed a significant difference for conduct problems/hyperactivity ($F [1, 34] = 35.35, p < .001$). That is, children with higher scores on the attention deficit hyperactivity disorder of the CARSS had significantly higher scores on conduct

problems/hyperactivity subscale as compared to children with lower scores on the attention deficit hyperactivity disorder of the CARSS. Moreover, the lowest and highest 25 % of the responses on conduct disorder subscale of the CARSS rated by teachers were compared with conduct problems/hyperactivity subscale of the SDQ-Teacher. The analysis of variance revealed a significant difference for conduct problems/hyperactivity ($F [1, 58] = 46.80, p < .001$). That is, children with higher scores on the conduct disorder of the CARSS had significantly higher scores on conduct problems/hyperactivity subscale as compared to children with lower scores on the conduct disorder of the CARSS. Lastly, the data were divided into two groups according to participants' scores on behavior problems subscale of the HEAS rated by teachers. The lowest and highest 25 % of the responses on behavior problems subscale of the HEAS were compared with conduct problems/hyperactivity subscale of the SDQ-Teacher. The analysis of variance revealed a significant difference for conduct problems/hyperactivity $F [1, 32] = 25.65, p < .001$). That is, children with higher scores on behavior problems subscale of the HEAS had significantly higher scores on conduct problems/hyperactivity as compared to children with lower scores on behavior problems subscale of the HEAS.

Then, the data were divided into two groups according to participants' scores on teachers' ratings of prosocial behaviors in order to check the criterion validity of the prosocial behavior subscale of the SDQ. The lowest and highest 25 % of the responses on teachers' ratings of prosocial behaviors were compared with prosocial behavior subscale of the SDQ. The analysis of variance revealed a significant difference for prosocial behavior ($F [1, 57] = 160.29, p < .001$). That is, children who were rated as having more prosocial behaviors by their teachers, scored significantly higher on prosocial behavior subscale of the SDQ as compared to children rated as having less prosocial behaviors.

Next, for checking the criterion validity of the emotional symptoms subscale of the SDQ-Teacher, the data were divided into two groups according to participants' scores on neurotic problems subscale of the HEAS rated by teachers. The lowest and highest 25 % of the responses on neurotic problems subscale of the HEAS were compared with emotional symptoms subscale of the SDQ-

Teacher. The analysis of variance revealed a significant difference for emotional symptoms ($F [1, 34] = 54.11, p < .001$). That is, children with more neurotic problems scored significantly higher on emotional symptoms as compared to children with lower levels of neurotic problems.

Furthermore, the data were divided into two groups according to participants' scores on inattention subscale and impulsivity subscale of the CARSS rated by teachers in order to check the criterion validity of the inattention problems subscale of the SDQ-Teacher. First, the lowest and highest 25 % of the responses on inattention subscale of the CARSS were compared with inattention problems subscale of the SDQ-Teacher. The analysis of variance revealed a significant difference for inattention problems ($F [1, 32] = 49.08, p < .001$). That is, children with higher inattention scores on the CARSS had significantly more inattention problems as compared to children with lower inattention scores on the CARSS. Then, the lowest and highest 25 % of the responses on impulsivity subscale of the CARSS were compared with inattention problems subscale of the SDQ-Teacher. The analysis of variance revealed a significant difference for inattention problems ($F [1, 42] = 9.76, p < .005$). That is, children with higher impulsivity scores on the CARSS had significantly more inattention problems as compared to children with lower impulsivity scores on the CARSS.

Lastly, for checking the criterion validity of the Total Difficulty scale of the SDQ-Teacher, the data were divided into two groups according to participants' scores on Total Problems score on HEAS rated by teachers. The lowest and highest 25 % of the responses on Total Problems score on HEAS were compared with Total Difficulty scale of the SDQ-Teacher. The analysis of variance revealed a significant difference for total difficulty ($F [1, 30] = 133.38, p < .001$). That is, children with higher total problems score on the HEAS had significantly higher total difficulty scores as compared to children with lower total problems score on the HEAS.

2.2.3 SUMMARY

1. As a result of the reliability and validity analyses, the Turkish version of the parent and teacher forms of the SDQ with four factors, instead of five as in

the original questionnaire, showed respectively reliable and valid results to evaluate the emotional and behavioral problems and prosocial behaviors of children.

2. The Cronbach alpha coefficients of all the three forms of the APSD were reasonably increased after making the corrections in the translation of item #3 and item #19.

CHAPTER III

MAIN STUDY

3.1 METHOD

3.1.1 Participants

The participants of the study composed of 513 teacher-nominated elementary school children with 145 (28.3 %) females and 368 (71.7 %) males. More specifically, among the 513 children, 272 (82 from high SES group, with 16 females and 66 males; and 190 from low SES group, with 31 females and 159 males) were nominated as having conduct problems and 241 (78 from high SES group; with 48 females and 30 males, and 163 from low SES group; with 50 females and 113 males) were nominated as having prosocial behaviors by their elementary school teachers. The age of the total sample ranged from 8 to 11 with a mean of 9.62 years ($SD = 1.20$). Fifteen elementary schools were chosen according to their socioeconomic profile, so that the sample represents two different socio-economic groups (low and high). The schools representing high SES were Özel Bilkent İlköğretim Okulu, Gazi Üniversitesi Vakfı Özel İlköğretim Okulu, Avni Akyol İlköğretim Okulu, Necdet Seçkinöz İlköğretim Okulu, Büyükhaneli Kardeşler İlköğretim Okulu, and Hüseyin Hüsnü Tekişik İlköğretim Okulu, and those representing low SES were Ayşe-Zeki Sayan İlköğretim Okulu, Milli Eğitim Vakfı İlköğretim Okulu, Tepecik Dostlar İlköğretim Okulu, Fatma-Yaşar Önen İlköğretim Okulu, Şahinbey İlköğretim Okulu, Ahmet Hızal İlköğretim Okulu, Hamdi Bulgurlu İlköğretim Okulu, Melikşah İlköğretim Okulu, and Etimesgut İlköğretim Okulu. Children, whom the teacher knows for less than one school-term, were excluded from the study. The socio-demographic characteristics of the sample are given in Table 33 according to nomination group and SES group.

Table 33. Distribution of the Socio-Demographic Characteristics within the Sample According to Nomination Group and SES

		Whole sample		Teacher nominated Conduct problems group		Teacher nominated Prosocial group	
		513 (100 %)		272 (53 %)		241 (47 %)	
		High SES	Low SES	High SES	Low SES	High SES	Low SES
		n / %	n / %	n / %	n / %	n / %	n / %
Number of participants		160 (31.2 %)	353 (68.8 %)	82 (30.1 %)	190 (69.9 %)	78 (32.4 %)	163 (67.6 %)
Gender	female	64 (40 %)	81 (22.9 %)	16 (19.5 %)	31 (16.3 %)	48 (61.5 %)	50 (30.7 %)
	male	96 (60 %)	272 (77.1 %)	66 (80.5 %)	159 (83.7 %)	30 (38.5 %)	113 (69.3 %)
Education of mother	illiterate	—	11 (3.1 %)	—	7 (3.7 %)	—	4 (2.5 %)
	literate	—	9 (2.5 %)	—	5 (2.6 %)	—	4 (2.5 %)
	primary	—	198 (56.1 %)	—	113 (59.5 %)	—	85 (52.1 %)
	secondary	—	51 (14.4 %)	—	27 (14.2 %)	—	24 (14.7 %)
	high school	47 (29.4 %)	78 (22.1 %)	33 (40.2 %)	37 (19.5 %)	14 (17.9 %)	41 (25.2 %)
	senior high school	27 (16.8 %)	6 (1.7 %)	12 (14.6 %)	1 (.5 %)	15 (19.2 %)	5 (3.1 %)
	university	66 (41.3 %)	—	30 (36.7 %)	—	36 (46.2 %)	—
	above university	20 (12.5 %)	—	7 (8.5 %)	—	13 (16.7 %)	—
Education of father	illiterate	—	4 (1.1 %)	—	3 (1.6 %)	—	1 (.6 %)
	literate	—	7 (2 %)	—	3 (1.6 %)	—	4 (2.5 %)
	primary	—	118 (33.7 %)	—	72 (38.3 %)	—	46 (28.4 %)
	secondary	—	85 (24.3 %)	—	59 (31.4 %)	—	26 (16 %)
	high school	30 (18.7 %)	104 (29.7 %)	20 (24.4 %)	45 (23.9 %)	10 (12.8 %)	59 (36.4 %)
	senior high school	10 (6.3 %)	20 (5.6 %)	4 (4.9 %)	3 (1.6 %)	6 (7.7 %)	17 (10.5 %)
	university	81 (50.6 %)	12 (3.4 %)	42 (51.2 %)	3 (1.6 %)	39 (50 %)	9 (5.6 %)
	above university	39 (24.4 %)	—	16 (19.5 %)	—	23 (29.5 %)	—
Order of the child	first	92 (57.5 %)	147 (41.6 %)	49 (59.8 %)	79 (41.6 %)	43 (55.2 %)	68 (41.7 %)
	middle	6 (3.8 %)	46 (13 %)	3 (3.7 %)	31 (16.3 %)	3 (3.8 %)	15 (9.2 %)
	last	62 (38.7 %)	160 (45.4 %)	30 (36.5 %)	80 (42.1 %)	32 (41 %)	80 (49.1 %)
Child's resources	having personal room	151 (94.4 %)	172 (48.7 %)	79 (96.3 %)	87 (45.8 %)	72 (92.3 %)	85 (52.1 %)
	participating in social activities	157 (98.1 %)	228 (64.6 %)	80 (97.6 %)	109 (57.4 %)	77 (98.7 %)	119 (73.0 %)
	participating in sports activities	142 (70 %)	141 (39.9 %)	58 (70.7 %)	73 (38.4 %)	54 (69.2 %)	68 (41.7 %)
	having special interests	156 (97.5 %)	287 (81.3 %)	80 (97.6 %)	144 (75.8 %)	76 (97.4 %)	143 (87.7 %)
Relative with alcohol problem		5 (3.1 %)	20 (5.7 %)	4 (4.9 %)	13 (6.8 %)	1 (1.3 %)	7 (4.3 %)

Table 33. Continued

	Whole sample		Teacher nominated Conduct problems group		Teacher nominated Prosocial group	
	513 (100 %)		272 (53 %)		241 (47 %)	
	High SES	Low SES	High SES	Low SES	High SES	Low SES
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Age (in years)	9.94 (1.21)	9.47 (1.17)	9.82 (1.24)	9.46 (1.16)	10.06 (1.18)	9.48 (1.19)
Age of Mother (in years)	38.18 (4.76)	34.09 (5.08)	37.32 (4.48)	33.81 (5.19)	39.08 (4.90)	34.41 (4.94)
Age of Father (in years)	42.84 (5.33)	38.52 (5.27)	42.05 (5.02)	38.35 (5.46)	43.68 (5.55)	38.73 (5.04)
Number of children	1.81 (0.63)	2.44 (0.96)	1.80 (0.67)	2.58 (1.08)	1.82 (0.58)	2.27 (0.77)
Number of household members	3.80 (0.73)	4.55 (1.05)	3.82 (0.80)	4.69 (1.16)	3.78 (0.64)	4.38 (0.88)
Income in YTL	2728.13 (909.15)	943.34 (508.08)	2658.54 (877.98)	852.63 (410.66)	2801.28 (940.92)	1.049.08 (585.88)
Perceived SES (1-5)*	3.38 (0.76)	2.18 (1.01)	3.36 (0.75)	2.09 (0.95)	3.40 (0.77)	2.29 (1.07)

*1 = low , 2 = below middle, 3 = middle, 4 = above middle, 5 = high

3.1.2 Instruments

Seven instruments were used in this study. All the instruments were sent homes of the nominated children in envelopes. The instruments were put in four different orders except the Demographic Information Form (**See Appendix I**) that was always the first instrument to fulfill. Mothers were asked to fulfill the SDQ-Parent form (**See Appendix B**) for measuring emotional and behavioral problems of children, the APSD-Parent form (**See Appendix E**) for assessing CU traits in children, the SATI (**See Appendix D**) for evaluating the temperament of the children, the Parental Acceptance-Rejection Questionnaire-Mother Form (PARQ-Mother) (**See Appendix J**) for evaluating maternal parenting styles, the McMaster Family Assessment Device (MMFAD) (**See Appendix K**) for assessing family functioning, and the Brief Symptom Inventory (BSI) (**See Appendix L**) for measuring the severity of psychopathology of parents. Besides the mothers, fathers were also given the Brief Symptom Inventory. Lastly, teachers were given SDQ-Teacher form (**See Appendix C**) and the APSD-Teacher form (**See Appendix E**).

3.1.2.1 Demographic Information Form

Demographic Information Form was developed by the researcher in order to collect information about some demographic characteristics of the family members, such as mother's and father's age, education level, employment status, total number of children, birth order of the child among the siblings, whether the child had any psychiatric problem before, and the socioeconomic level of the family in general. The reason for asking about the child's psychiatric problem was to exclude clinic-referred children from the data. The form included also questions regarding child's resources, such as having a personal room, participating in social or sports activities, and having some special interests. In addition, some questions regarding the parents' applied discipline practices were asked in this form.

3.1.2.2 Strengths and Difficulties Questionnaire (SDQ)

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is a brief behavioral screening questionnaire consisting of 25 positive and negative attributes, designed to assess the prosocial behavior and emotional and behavioral problems of children aged 4 to 16. Items' responses range between 0 (not true) and 2 (certainly true). The SDQ has 5 subscales and each of these subscales includes 5 items. The subscales are named as: Emotional Symptoms, Conduct Problems, Hyperactivity-Inattention, Peer Problems, and Prosocial Behavior. Higher scores indicate that the child shows more emotional symptoms, has more conduct problems, is inattentive and highly active, has problems with peers, and shows high prosocial behaviors. All subscales except the Prosocial Behavior subscale are summed to generate a Total Difficulty score. The same questionnaire can be completed by the parents or teachers of the 4-16 year old children. There is also a self-report version suitable for adolescents between 11-16 years of age (Goodman, Meltzer, & Bailey, 1998). Detailed information about the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is given in Study 1 (see Chapter 2, p.56).

The Turkish version of the SDQ has four subscales named as: Conduct Problems/Hyperactivity, Prosocial Behavior, Emotional Symptoms, and Inattention Problems. For details of the Turkish adaptation study, which is conducted by the researcher, see Study 1 and Study 2 which were presented in Chapter 2 of this thesis. In this study, for SDQ-Mother form, internal reliabilities as measured by Cronbach alpha coefficients were found to be .72, .73, .68, .75, and .83 for Conduct Problems/Hyperactivity, Prosocial Behavior, Emotional Symptoms, Inattention Problems subscales and for the Total Difficulty Scale, respectively. Following the same sequence, alpha coefficients were found to be .89, .92, .81, .89, and .91 for SDQ-Teacher form. In the present study Conduct Problems/Hyperactivity, Prosocial Behavior, Emotional Symptoms scales of SDQ were used to assess behavioral and emotional problems of children.

3.1.2.3 Antisocial Process Screening Device (APSD)

The Antisocial Process Screening Device (APSD), developed by Frick and Hare (2002), is a 20-item behavior rating scale that evaluates the presence of psychopathic traits and antisocial behaviors in children between the ages of 6 and 13. Each item on the APSD is rated either as 0 (not at all true), 1 (sometimes true), or 2 (definitely true). The APSD is completed by each child's parent and teacher and the scores obtained from the two informants are combined onto a combined form by taking the higher score from either the parent or the teacher ratings. APSD includes three dimensions, which are Callous-Unemotional, Narcissism, and Impulsivity. For the three APSD dimensions, higher scores indicate that the child is high on callous-unemotional traits, has a greater narcissistic tendency, and is more impulsive. Furthermore, higher Total score indicates that the child has higher antisocial tendencies. Detailed information about the Antisocial Process Screening Device (APSD; Frick & Hare, 2002) is given in the Study 1 (see Chapter 2, p.59). Turkish adaptation study was conducted by the researcher (see Study 1 & Study 2 in Chapter 2).

In this study, for APSD-Mother form, internal reliabilities as measured by Cronbach alpha coefficients were found to be .61, .67, .70, and .83 for Callous-Unemotional, Narcissism, Impulsivity dimensions and for the Total Scale, respectively. Following the same sequence, alpha coefficients were found to be .87, .87, .91, and .95 for APSD-Teacher form and to be .83, .84, .85, and .94 for APSD-Combined form. In the present study only CU subscale of APSD was used to assess CU traits of children.

3.1.2.4 School-Age Temperament Inventory (SATI)

The School-Age Temperament Inventory (SATI) was developed by McClowry (1995) as a parental report in order to assess the temperament of children between 8-11 years of age. It contains 38 Likert-type items with responses ranging between 1 (never) and 5 (always). It contains four dimensions, which are Negative Reactivity, Task Persistence, Approach/Withdrawal, and Activity. Higher scores indicate that the child is high in negative reactivity, is task persistent, has a tendency to withdraw in new and strange situations, and is highly

active (McClowry, 1995). Detailed information about the SATI is given in the method section of Study 1 (see Chapter 2, p.58). Turkish adaptation study was conducted by the researcher (see Study 1 in Chapter 2).

In this study, for the total sample, the internal reliabilities for the dimensions of the SATI as measured by coefficient alphas were found to be .86, .89, .76, and .78 for the Negative Reactivity, Task Persistence, Approach/Withdrawal, and Activity dimensions, respectively. In the present study only the Negative Reactivity dimension was used to assess temperamental characteristics of children.

3.1.2.5 Parental Acceptance-Rejection Questionnaire-Mother Form (PARQ-Mother)

Parental Acceptance-Rejection Questionnaire-Mother Form (PARQ; Rohner, Saavedra, & Granum, 1978) is a self-report of maternal parenting styles. The original PARQ contains 60 Likert-type items with a response range between 1 (never true) and 4 (almost always true). It has four subscales: Warmth-Affection, Aggression-Hostility, Neglect-Indifference, and Undifferentiated Rejection. Higher scores in subscales indicate to higher levels of dysfunctional maternal parenting styles of coldness and lack of affection, hostility and aggression, indifference and neglect, and undifferentiated rejection. In addition, higher total score indicates greater overall rejection. Turkish adaptation of the PARQ-Mother was conducted by Anjel and Erkman (1993). Differently from the original form, the Turkish version of the PARQ-Mother had 56 items. The adaptation study was carried out on a sample of 229 mothers, representing low, middle, and high education levels. Cronbach alpha coefficients ranged from .57 to .80 for the four subscales and .90 for the Total scale, indicating high internal consistency. In addition, test-retest correlation coefficient for two or three weeks' interval was found to be .46 for the Total scale (Anjel & Erkman, 1993).

For the present study, the internal reliability coefficient for the Total Rejection of the Parental Acceptance-Rejection Questionnaire-Mother Form (PARQ-Mother) was found to be .91 for the whole sample. Again for the whole sample, internal reliabilities for the four PARQ subscales as measured by

coefficient alphas were found to be .76, .88, .72, and .71 for the Warmth-Affection, Aggression-Hostility, Neglect-Indifference, and Undifferentiated Rejection subscales, respectively. In the current study the Total Rejection score was used.

3.1.2.6 McMaster Family Assessment Device (MMFAD)

McMaster Family Assessment Device (MMFAD; Epstein, Boldwin, & Bishop, 1983) is a self-report questionnaire which can be completed by family members above 12 years of age. The device was developed in order to get information on different dimensions of family system and problem areas within the family functioning. The MMFAD contains 60 items with responses rated on a 4-point scale, ranging from 1 “I do not agree at all” to 4 “I agree completely”. The MMFAD has six subscales in its original version. In the Turkish version, one more subscale, which assesses general functioning of the family, has been added (Bulut, 1990). Thus, the Turkish version of the MMFAD assesses the following seven problem areas of family functioning: Problem Solving, which refers to family’s ability to solve the problems within the family together; Communication, which refers to direct, open, clear, and effective information exchange within the family for both instrumental and affective reasons; Roles, which refers to the ability to share and accomplish household tasks and responsibilities within the family; Affective Responsiveness, which refers to the family members’ ability to show appropriate emotional responses in necessary situations; Affective Involvement, which refers to the extent of family members’ interest, concern, and affection for each others; Behavior Control, which refers to behavioral boundary between the family system and the others in order to elicit discipline and order within the family, and also the consensus between parents about the rules; and General Functioning, which refers to overall family functioning. Higher subscale scores indicate higher levels of dysfunctional family patterns in the given area.

The Turkish adaptation study of the MMFAD was conducted by Bulut (1990). Cronbach alpha coefficients indicating internal consistency ranged from .38 (for affective involvement) to .86 (for general functioning). In addition, test-retest correlation coefficients for three weeks’ interval were found to be between

.62 (for affective involvement) and .90 (for problem solving) (Bulut, 1990). The construct validity was examined in two different samples. In the first sample, 25 families, which were in the divorce process were compared to 25 families, which were maintaining their marriages; and in the second sample, 190 families, in which there was a psychiatric patient, were compared to 170 families, which had no family member with a psychiatric problem in terms of the seven MMFAD areas. The results showed that all the subscale scores of the MMFAD significantly differentiated the two groups of families from each other in both of the samples in terms of family functioning. In addition, the MMFAD was found to have strong correlations with the Marriage Life Questionnaire developed by Tezer (1986), indicating a satisfactory concurrent validity.

In the present study, for the total sample, the internal reliability of the MMFAD as measured by coefficient alpha was found to be .89. Internal reliabilities for the seven MMFAD subscales as measured by coefficient alphas were found to be .72, .70, .54, .71, .66, .63, and .81 for the Problem Solving, Communication, Roles, Affective Responsiveness, Affective Involvement, Behavior Control, and General Functioning subscales, respectively.

3.1.2.7 Brief Symptom Inventory (BSI)

Brief Symptom Inventory (BSI; Derogatis, 1992) assesses different clinical symptoms and it is the short form of SCL-90 (Derogatis, 1977). The scale is a 53-item instrument, whose response range is between 0 (not at all) and 4 (very much). It has nine subscales: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Higher scores in subscales indicate the existence of higher levels of clinical symptoms. The reliability and validity studies of the BSI for Turkish samples were made by Şahin and Durak (1994). In three different studies, Cronbach alpha coefficients were found to be between .95 and .96 for the Total scale and between .55 and .86 for the subscales (Şahin & Durak, 1994). Concurrent validity was examined by checking the correlations between the subscale scores and other related instruments and was found to be satisfactory. Results gathered from factor analysis indicated that the BSI has five subscales in

Turkish samples. These were: anxiety, depression, negative self, somatization, and hostility (Şahin & Durak, 1994). In the current study, the Total scale score of the BSI was used to assess the severity of psychopathology of the parents. For the total sample, the internal reliabilities of the BSI completed by the mothers and fathers as measured by coefficient alpha were found to be .96 and .94, respectively.

3.1.3 Procedure

In order to conduct this study in the elementary schools, first, permission was taken from Ministry of Education. The instruments were administered between March and June 2006 in fifteen different elementary schools in Ankara, representing high and low SES level according to information that has been taken from Counseling and Research Centers of six districts (Çankaya, Yenimahalle, Mamak, Altındağ, Etimesgut, and Sincan) in Ankara. After information about the general aim of the study were given to all teachers, the class teachers of the second, third, fourth, and fifth grades were asked to nominate the children with conduct problems and the children with prosocial behaviors in their class. Bullying at the school, fighting with peers physically, being aggressive, destroying goods of peers or adults, stealing from peers or from the school, hurting peers physically, not obeying the rules and the authority of the teacher were used as the nomination criteria for children with conduct problems. On the other hand, being helpful, friendly, and being liked by peers were used as the nomination criteria for children with prosocial behaviors. The teachers were not directed to nominate a specific number of children, but they were nominated as much as children appropriate with the nomination criteria.

In an envelope, SDQ-Parent form, APSD-Parent form, SATI, PARQ-Mother form, MMFAD, two forms of BSI, one for the mother and one for the father, and Demographic Information Form were sent home to the mothers or the main caregivers of the teacher nominated children. Besides, an information form was attached at the beginning of the instruments, which contains necessary information regarding the researcher, aim of the study, principle of voluntary participation, and important points in filling in the questionnaires. The completed

questionnaires were brought back to the school by the children within one week. Additionally, teachers were given APSD-Teacher form and SDQ-Teacher form and they were asked to complete them in one week. All instruments were taken back from the schools approximately two weeks later. The total administration time of the questionnaires was approximately 50-60 minutes for parents and 10 minutes for teachers. Return rate of the research instruments will be given in the result section.

3.1.4 Data Screening and Statistical Analyses

Statistical analyses were performed by using the Statistical Package for the Social Sciences (SPSS) Programme (Green, Salkind, & Akey, 1997). Prior to the analyses, data were examined for accuracy of data entry, missing values, and assumptions of multivariate analyses. Among a total of 585 returned cases, sixteen cases were removed from the data due to a large number of missing values. The variables, which had missing values on less than 5 % of cases, were substituted by the mean value of that variable, that is calculated according to nomination group, gender, and SES. Twenty-five cases were identified as multivariate outliers through Mahalanobis distance, with $p < .001$, and they were deleted. Additionally, eighteen cases, in which mother forms were uncompleted or completed by a family member other than the mother, were removed from the data. Moreover, two cases with psychiatric diagnosis of ADHD, two cases with psychiatric diagnosis of CD, and one case with history of meningitis were excluded from the study. Lastly, eight cases were excluded from the data due to the unreliability in teacher nominations, leaving 513 cases for subsequent analyses. For the 513 cases, assumptions of multivariate statistics were checked and found to be satisfactory.

3.2 RESULTS

3.2.1 Overview

The results will be presented in five sections. In the first section, first descriptive statistics of participants and the measures used in the study will be

presented. Then, findings regarding the return rate of the instruments according to Nomination Group (conduct problems vs. prosocial group) and SES Group (high vs. low) will be given. In this section, lastly, results regarding the checking of the categorization of participants in high and low SES groups will be provided.

In the second section, the results regarding the psychometric properties of the punishment scales developed for the present study will be presented.

Next in the third section, the predictors of the conduct problems and CU traits will be presented separately for mother and teacher ratings through five separate regression analyses. In addition, the correlations among the variables used in the study will be presented in this section.

In the fourth section, differences on severity of mother and teacher-reported conduct problems/hyperactivity according to levels of SES and CU traits will be investigated by using two separate 2 (SES: high vs. low) X 2 (CU: high vs. low) between subjects analysis of covariances (ANCOVAs) with gender of the child taken as the covariate.

Finally in the last section, three groups of children, namely, children with conduct problems and high CU traits (CP+CU group, $n = 36$), children with conduct problems and low CU traits (CP-only group, $n = 44$), and children without conduct problems and low CU traits (Control group, $n = 109$) will be compared on child-related measures (namely, temperamental characteristic of negative reactivity, conduct problems/hyperactivity, emotional symptoms, and prosocial behaviors), parenting-related measures (namely, maternal parenting style of acceptance-rejection and style of applied punishment), and other family measures (parental psychopathology and family functioning) through separate Between Subject Factorial analyses.

3.2.2.1 Descriptive Statistics of Participants and Variables Related to Conduct Problems and CU Traits

For the whole sample, in comparison to females, males had higher levels of conduct problems/hyperactivity according to both mother ($t [511] = -3.77, p < .001$) and teacher ($t [447] = -3.99, p < .001$) ratings. In addition, according to mother, teacher, and combined ratings, males had significantly higher CU traits

compared to females, $t(511) = -2.48, p < .05$, $t(444) = -4.51, p < .001$, and $t(511) = -5.09, p < .001$, respectively. Means (and standard deviations) of conduct problems/hyperactivity and CU traits according to gender are presented in Table 34.

Table 34. Means (and Standard Deviations) for Conduct Problems/Hyperactivity and CU Traits across Gender

	Whole Sample (N = 513)	Females (n = 145)	Males (n = 368)
	Mean (SD)	Mean (SD)	Mean (SD)
Conduct problems/hyperactivity-Mother	0.59 (0.44)	0.47a (0.43)	0.63b (0.44)
Conduct problems/hyperactivity-Teacher	0.66 (0.64)	0.47a (0.56)	0.74b (0.65)
CU Traits-Mother	0.39 (0.35)	0.33a (0.36)	0.41b (0.34)
CU-Traits-Teacher	0.71 (0.61)	0.51a (0.52)	0.79b (0.62)
CU-Traits-Combined	0.79 (0.57)	0.60a (0.53)	0.90b (0.57)

Note. The mean scores that do not share the same subscript on the same row are significantly different from each other at .05 alpha level.

In addition, group differences, which are based on teacher-nominations, on severity of conduct problems/hyperactivity were examined by a 2 (Nomination Group: Conduct problem group vs. Prosocial group) X 2 (Rater: mother vs. teacher) mixed design analysis of covariance (ANCOVA) with repeated measure on the last factor. Child's gender was taken as the covariate in this analysis. As can be seen in Table 35, the analysis yielded a significant main effect for the nomination group on conduct problems/hyperactivity, $F(1, 446) = 596.29, p < .001$. Children nominated as having prosocial behavior ($M = 0.25$) had significantly less conduct and hyperactivity problems as compared to children nominated as having conduct problems ($M = 0.97$) by their teachers. In addition, there was no significant main effect for the Rater, $F(1, 446) = 0.69, p > .05$. There were no differences between mother and teacher ratings of conduct problems/hyperactivity for the two nomination groups.

Table 35. Analysis of Covariance for Conduct Problems/Hyperactivity across Nomination Groups and Rater

Source	SS	df	MS	F
Group	109.45	1	109.45	596.29*
Error	81.86	446	0.18	
Rater	0.02	1	0.02	0.16
Group X Rater	21.35	1	21.35	175.96*
Error	54.12	446	0.12	

* $p < .001$

There was a significant Nomination Group X Rater interaction effect, $F(1, 446) = 175.96$, $p < .001$. As shown in Table 36, children nominated as having conduct problems were rated significantly higher on conduct problems/hyperactivity by their teachers ($M = 1.14$) as compared to their mothers ($M = 0.79$). Oppositely, children nominated as having prosocial behavior were rated significantly higher on conduct problems/hyperactivity by their mothers ($M = 0.39$) as compared to their teachers ($M = 0.11$). On the other hand, both mothers and teachers rated the children nominated as having conduct problems ($M_s = 0.79$ and 1.14 , respectively for mother and teacher ratings) significantly higher as compared to children nominated as having prosocial behavior ($M_s = 0.39$ and 0.11 , respectively for mother and teacher ratings) on conduct problems/hyperactivity. The conduct problems/hyperactivity levels of children across the nomination groups for mother and teacher ratings are presented in Figure 1.

Table 36. Means (and Standard Deviations) for Conduct Problems/Hyperactivity across Nomination Groups for Mother and Teacher Ratings

	Mother	Teacher
Conduct Nomination	0.79a (0.03)	1.14b (0.03)
Prosocial Nomination	0.39c (0.03)	0.11d (0.03)

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 at .05 alpha level of Tukey's HSD.

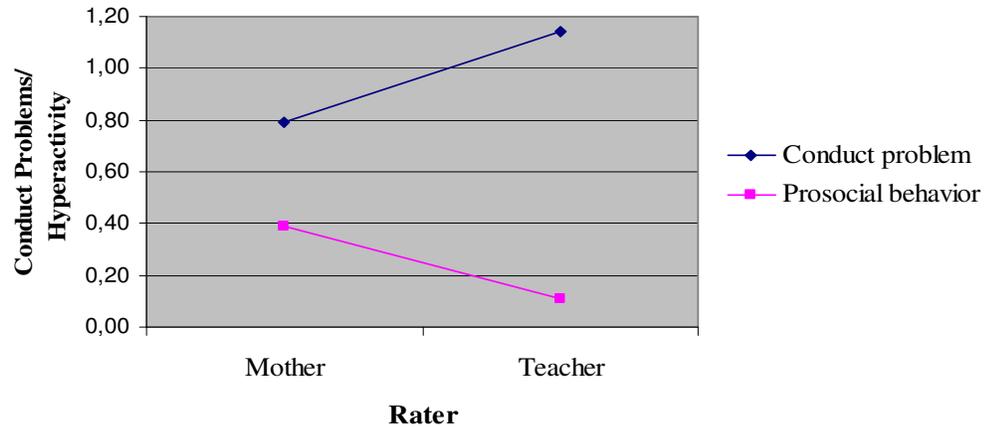


Figure 1. Conduct Problems/Hyperactivity Level of Children across Nomination Groups for Mother and Teacher Ratings

Lastly, group differences, which are based on teacher-nominations, on levels of CU traits were examined by a 2 (Nomination Group: Conduct problem group vs. Prosocial group) X 2 (Rater: mother vs. teacher) mixed design analysis of covariance (ANCOVA) with repeated measure on the last factor. As in the previous analysis, child's gender was taken as the covariate in this analysis. As can be seen in Table 37, the analysis yielded a significant main effect for the nomination group on CU traits, $F(1, 444) = 513.32, p < .001$. Children nominated as having prosocial behavior ($M = 0.23$) had significantly lower levels of CU traits as compared to children nominated as having conduct problems ($M = 0.82$) by their teachers. In addition, there was also a significant main effect for the Rater, $F(1, 443) = 4.52, p < .05$. Teachers ($M = 0.68$) rated the children significantly higher on CU traits as compared to mothers ($M = 0.38$).

Table 37. Analysis of Covariance for CU Traits across Nomination Groups and Rater

Source	SS	df	MS	F
Group	74.47	1	74.47	513.32**
Error	64.27	443	0.15	
Rater	0.50	1	0.50	4.52*
Group X Rater	23.84	1	23.84	213.36**
Error	49.49	443	0.11	

* $p < .05$; ** $p < .001$

There was a significant Nomination Group X Rater interaction effect, $F(1, 443) = 213.36, p < .001$. As shown in Table 38, children nominated as having conduct problems were rated significantly higher on CU traits by their teachers ($M = 1.14$) as compared to their mothers ($M = 0.51$). However, there were no differences between mother and teacher ratings of CU traits for prosocial nominated children. Moreover, both mothers and teachers rated the children nominated as having conduct problems (M s = 0.51 and 1.14, respectively for mother and teacher ratings) significantly higher as compared to children nominated as having prosocial behavior (M s = 0.25 and 0.21, respectively for mother and teacher ratings) on CU traits. The CU levels of children across the nomination groups for mother and teacher ratings are presented in Figure 2.

Table 38. Means (and Standard Deviations) for CU Traits across Nomination Groups for Mother and Teacher Ratings

	Mother	Teacher
Conduct Nomination	0.51a (0.02)	1.14b (0.03)
Prosocial Nomination	0.25c (0.02)	0.21c (0.03)

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 at .05 alpha level of Tukey's HSD.

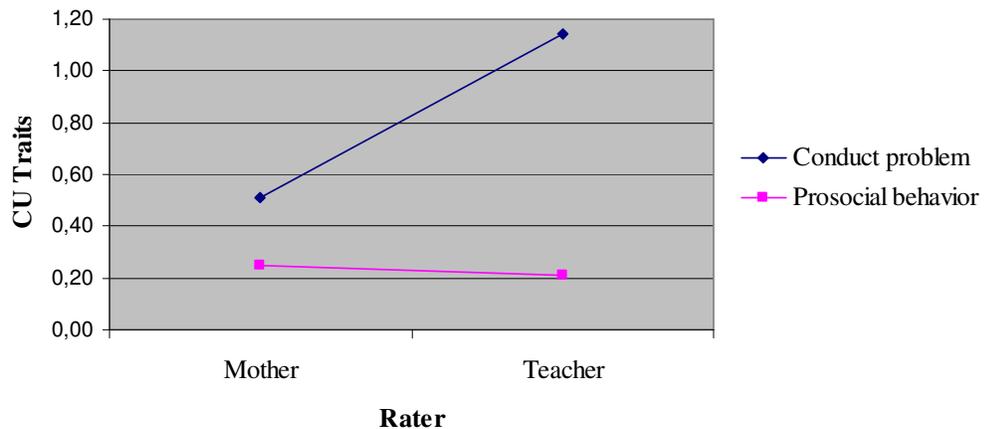


Figure 2. Level of CU Traits of Children across Nomination Groups for Mother and Teacher Ratings

The means, standard deviations and minimum and maximum values of all the variables used in the present study are presented in Table 39. Due to the unequal number of items in factors of the variables, for all the variables, the mean scores were calculated by dividing the obtained total score by the number of items on the given factor.

Table 39. Descriptive Information for the Variables of the Study

		Ranges (Min - Max)	Whole sample (N = 513)		Teacher nominated Conduct problems group (n = 272)		Teacher nominated Prosocial group (n = 241)		
			High SES M (SD)	Low SES M (SD)	High SES M (SD)	Low SES M (SD)	High SES M (SD)	Low SES M (SD)	
Temperament		Negative Reactivity	1.08 - 4.92	2.99 (0.77)	3.06 (0.80)	3.20 (0.83)	3.24 (0.78)	2.77 (0.64)	2.84 (0.78)
Child's Behavior	Mother	Conduct Problems/ Hyperactivity	0 - 1.83	0.46 (0.41)	0.64 (0.45)	0.65 (0.43)	0.83 (0.44)	0.27 (0.28)	0.43 (0.36)
		Prosocial Behavior	0.29 - 2.00	1.65 (0.31)	1.59 (0.37)	1.55 (0.33)	1.48 (0.38)	1.76 (0.25)	1.72 (0.30)
		Emotional Symptoms	0 - 2.00	0.36 (0.35)	0.48 (0.42)	0.42 (0.38)	0.53 (0.43)	0.31 (0.30)	0.42 (0.39)
	Teacher	Conduct Problems/ Hyperactivity	0 - 2.00	0.61 (0.59)	0.68 (0.65)	1.06 (0.43)	1.17 (0.47)	0.08 (0.16)	0.12 (0.27)
		Prosocial Behavior	0 - 2.00	1.40 (0.53)	1.30 (0.63)	1.03 (0.43)	0.86 (0.49)	1.85 (0.19)	1.81 (0.30)
		Emotional Symptoms	0 - 2.00	0.46 (0.43)	0.54 (0.52)	0.63 (0.44)	0.73 (0.53)	0.25 (0.32)	0.31 (0.39)
CU Traits		Mother	0 - 1.50	0.31 (0.29)	0.42 (0.37)	0.40 (0.30)	0.56 (0.37)	0.22 (0.25)	0.27 (0.29)
		Teacher	0 - 2.00	0.70 (0.54)	0.71 (0.63)	1.08 (0.39)	1.17 (0.46)	0.25 (0.26)	0.19 (0.32)
		Combined	0 - 2.00	0.66 (0.50)	0.85 (0.59)	0.96 (0.49)	1.25 (0.43)	0.36 (0.29)	0.39 (0.38)
Maternal Rejection		Overall Rejection	1 - 2.86	1.33 (0.23)	1.42 (0.30)	1.40 (0.24)	1.49 (0.32)	1.27 (0.20)	1.33 (0.24)
Applied Punishment		Physical	1 - 5	1.86 (0.54)	2.07 (0.69)	2.03 (0.59)	2.30 (0.73)	1.69 (0.43)	1.81 (0.51)
		Response Cost	1 - 4.5	2.14 (0.75)	2.00 (0.79)	2.41 (0.77)	2.17 (0.84)	1.86 (0.61)	1.80 (0.68)
Parental Psychopathology	Mother	Severity of symptoms	0 - 3.23	0.48 (0.44)	0.78 (0.64)	0.55 (0.51)	0.88 (0.70)	0.41 (0.34)	0.67 (0.56)
	Father		0 - 2.89	0.40 (0.37)	0.58 (0.48)	0.37 (0.37)	0.60 (0.51)	0.42 (0.36)	0.57 (0.45)
Family Functioning		Problem Solving	1 - 3.67	1.61 (0.48)	1.64 (0.57)	1.62 (0.47)	1.73 (0.59)	1.60 (0.50)	1.54 (0.52)
		Communication	1 - 3.44	1.44 (0.38)	1.66 (0.48)	1.45 (0.36)	1.72 (0.50)	1.42 (0.40)	1.58 (0.44)
		Roles	1 - 3.18	1.95 (0.41)	1.88 (0.41)	2.02 (0.41)	1.99 (0.42)	1.88 (0.39)	1.74 (0.37)
		Affective Responsiveness	1 - 3.83	1.33 (0.41)	1.66 (0.57)	1.36 (0.40)	1.74 (0.58)	1.29 (0.41)	1.57 (0.55)
		Affective Involvement	1.57 - 3.57	2.20 (0.30)	2.38 (0.37)	2.25 (0.31)	2.40 (0.35)	2.15 (0.27)	2.36 (0.39)
		Behavior Control	1.22 - 3.33	1.89 (0.30)	2.01 (0.35)	1.91 (0.32)	2.04 (0.35)	1.87 (0.28)	1.97 (0.35)
		General Functioning	1.00 - 3.17	1.39 (0.38)	1.57 (0.47)	1.42 (0.41)	1.68 (0.48)	1.36 (0.35)	1.44 (0.41)

3.2.2.2 Return Rate of the Instruments

The research instruments were sent to a total of 990 teacher-nominated children with conduct problems ($n = 560$) (210 from high SES group and 350 from low SES group) and with prosocial behaviors ($n = 430$) (160 from high SES group and 270 from low SES group). Totally, 585 completed questionnaires were returned. While in high SES group, the return rate of the research instruments was 50.95 % for children nominated as having conduct problems and 56.88 % for children nominated as having prosocial behaviors, in low SES group the return rates are 58.57 % and 67.41 % for these two groups of children, respectively. According to the percentages, while prosocial children in low SES group have the highest return rate ($n = 182$, 67.41 %), children nominated as having conduct problems in high SES group have the lowest return rate of the research instruments ($n = 107$, 50.95 %).

To determine whether the differences in return rates are significant, two different (2 X 2) Chi Square Tests were conducted for the Nomination Group (conduct problems vs. prosocial group) and for the SES Group (high vs. low). The data show a significant difference between the return rates of the instruments for children with conduct problems versus children with prosocial behaviors, χ^2 (1, $n = 990$) = 6.08, $p < .05$. Children nominated as having prosocial behaviors have returned the questionnaires significantly more ($n = 273$, 63.5 %) as compared to children nominated as having conduct problems ($n = 312$, 55.7 %). In addition, the data showed a significant difference between the return rates of the instruments for high SES versus low SES groups, χ^2 (1, $n = 990$) = 7.60, $p < .05$. Children in low SES group returned the questionnaires significantly more ($n = 387$, 62.4 %) as compared to children in high SES group ($n = 198$, 53.5 %).

3.2.2.3 Checking the Grouping of the Sample According to SES

In order to examine whether the categorization of participants into high and low SES groups according to the school, in which data were collected, was a valid method, a K-means cluster analysis (non-hierarchical) with two desired clusters was performed. The variables indicative of SES were used for the clustering, namely, mother's education, father's education, total number of

children, total number of household members, and income. By using crosstabs, the initial categorization of participants into high and low SES groups was compared with the solution gathered from the cluster analysis. The cluster analysis yielded similar categorization to the initial grouping of the SES, $\chi^2 (1, n = 510) = 373.14, p < .001$, which supported the categorization used in the present study.

3.2.3 Psychometric Properties of the Punishment Scales Developed for the Present Study

In the Demographic Information Form, parents were asked some questions regarding their punishment practices. More specifically, parents were given seven items which refer to different punishment practices that were usually applied to discipline the children by their parents. In the present study, parents were asked to rate these seven items in terms of the frequency they apply the given practice for punishing the child nominated by the teacher.

In order to cluster these punishment practices into different punishment styles, a Principal Components Factor Analysis with 3-factor direct oblique rotation of all cases was carried out. The three factors, all with eigenvalues over one (i.e., 2.26, 1.33, and 1.03) explained 66.02 % of the total variance. When the scree plot, the factor structures and correlations were investigated, a two-factor solution seemed adequate. Then a two-factor solution was carried out with direct oblique rotation. The two factors explained 51.29 % of the total variance. However, two items were not included in any of the two factors, because one of them (item # 7) did not load on any of these factors and the other item (item # 6) decreased the internal reliability of the second factor on which it loaded. Results of factorability indicated that the solution was appropriate for factor analysis (KMO = .66).

As presented in Table 40, the first factor accounted for 32.29 % of the explained variance. Three of the items (1, 2, 3) which loaded on this factor were items related to physical punishment style of applied discipline. Thus, the first factor with 3 items was named as “Physical Punishment”. For the total sample,

the internal reliability of the physical punishment factor as measured by coefficient alpha was found to be .76.

The second factor in the present study, consisting two items, explained 19.00 % of the explained variance. The items (4 and 5) that loaded on this factor were the items related to response-cost style of applied discipline. Thus, the second factor with 2 items was named as “Response-cost Punishment”. For the total sample, the internal reliability of the response-cost factor as measured by coefficient alpha was found to be .52. Although this alpha coefficient is not high, it was found satisfactory when the small number of items and above .30 inter-item correlations were taken into account.

Table 40. Direct Oblique-Rotated Factor Loadings of the Applied Punishment Items and Explained Variance of the Two Factors

	1	2
	Physical Punishment	Response-cost Punishment
% of Variance	32.29	19.00
Eigenvalues	2.26	1.33
items		
2. slapping	.86	-.03
3. beating	.86	-.14
1. shouting	.74	.24
5. prohibiting something he/she enjoys doing	.26	.75
4. not allowing going out of his/her room	.22	.66
6. explaining why his/her behavior was wrong	-.18	.55
7. not punishing	-.12	.18

3.2.4 Regression Analyses: Predictors of Conduct Problems/Hyperactivity and CU Traits

In order to examine the variables that are associated with conduct problems/hyperactivity and CU traits in children, five separate stepwise multiple

regression analyses were conducted: 1. For mother-reported conduct problems/hyperactivity (SDQ-Mother Conduct problems/Hyperactivity), 2. For teacher-reported conduct problems/hyperactivity (SDQ-Teacher Conduct problems/Hyperactivity), 3. For mother-reported CU traits (APSD-Mother CU), 4. For teacher-reported CU traits (APSD-Teacher CU), and 5. For combined CU traits (APSD-Combined CU).

In all of these analyses, the same set of variables was used as predictor variables. In the first block, child-related demographic variables, namely gender (1 = female, 2 = male) and age were entered. In the second block, child's temperament of negative reactivity was entered followed by socio-demographic variables of the family, namely mother's and father's education, mother's and father's age, total number of children, total number of household members, and SES (1 = high, 2 = low) in the third block. Finally, in the fourth block, parenting, parental, and family variables, namely, maternal rejection (PARQ-Mother Total score), style of applied punishment (physical and response-cost), mother's and father's general psychopathology level, and family functioning assessed by seven subscales of MMFAD (i.e., problem solving, communication, roles, affective responsiveness, affective involvement, behavior control, and general functioning) were entered. Thus, all together, twenty-two predictors were entered in four blocks into the equations.

The variables that were entered into the regression equations in four blocks are summarized in Table 41 (For descriptive information of socio-demographic variables and of other predictors see Table 33 and Table 39, respectively).

Table 41. Set of Variables Entered into the Regression Equations

Block	Predictor Variables	Method
1	Child-related demographic variables Gender (1 = female, 2 = male) Age	Enter
2	Child temperament Negative reactivity	Stepwise
3	Family-related socio-demographic variables Mother's age Mother's education Father's age Father's education Total number of children Total number of household members Socio-economic status (1 = high, 2 = low)	Stepwise
4	Parenting, parental, and family variables Maternal parenting style of rejection Applied punishment-physical Applied punishment-response-cost Mother's psychopathology Father's psychopathology Problem solving within family Communication within family Roles within family Affective responsiveness within family Affective involvement within family Behavior control within family General functioning within family	Stepwise

Before conducting the regression analyses, first correlations between dependent variables and predictors were investigated to inspect expected relationships and to detect possible multicollinearity between variables.

3.2.4.1 Correlations among Variables Used in Regression Analyses

Table 42 presents the Pearson correlation coefficients among the dependent variables, namely mother and teacher ratings of conduct problems/hyperactivity and CU traits, and predictors used in the regression analyses. Mother-reported conduct problems/hyperactivity was significantly related to all independent variables used in the study, with positive correlations ranging from $r = .14$, $p < .01$ (for total number of children) to $r = .59$, $p < .001$ (for negative reactivity), and negative correlations ranging from $r = -.14$, $p < .01$ (age

of the child) to $r = -.24$, $p < .001$ (for father's education). On the other hand, teacher-reported conduct problems/hyperactivity was related significantly to all independent variables used in the study, except to age of the child, mother's and father's age, SES, father's psychopathology, and behavior control within the family. The correlation coefficients ranged from $r = .11$, $p < .05$ (for total number of household members) to $r = .37$, $p < .001$ (for physical punishment), and from $r = -.11$, $p < .05$ (for mother's education) to $r = -.17$, $p < .001$ (for father's education) between teacher-reported conduct problems/hyperactivity and the positively and negatively correlated independent variables, respectively.

Mother-reported CU trait was significantly related to all independent variables used in the study, except to the age of the child. The correlation coefficients ranged from $r = .11$, $p < .05$ (for male gender) to $r = .47$, $p < .001$ (for maternal rejection), and from $r = -.13$, $p < .01$ (for father's age) to $r = -.24$, $p < .001$ (for father's education) between mother-reported CU traits and the positively and negatively correlated independent variables, respectively. On the other hand, teacher-reported CU trait was significantly related to all independent variables used in the study, except to age of the child, mother's and father's age, SES, father's psychopathology, and affective involvement within the family. The correlation coefficients ranged from $r = .10$, $p < .05$ (for behavior control within the family) to $r = .36$, $p < .001$ (for physical punishment), and from $r = -.12$, $p < .05$ (for mother's education) to $r = -.18$, $p < .001$ (for father's education) between teacher-reported CU traits and the positively and negatively correlated independent variables, respectively. Lastly, combined CU trait was significantly related to all independent variables used in the study, except to age of the child. The correlation coefficients ranged from $r = .13$, $p < .01$ (for father's psychopathology) to $r = .40$, $p < .001$ (for physical punishment), and from $r = -.13$, $p < .01$ (for father's age) to $r = -.29$, $p < .001$ (for father's education) between combined CU traits and the positively and negatively correlated independent variables, respectively.

Additionally, while children's nomination as having conduct problems by the teachers was correlated moderately and positively with mother ratings of conduct problems/hyperactivity and CU traits, $r = .45$ and $r = .37$, both at $p <$

.001, respectively, it was correlated strongly and positively with teacher ratings of conduct problems/hyperactivity and CU traits, $r = .81$ and $r = .77$, both at $p < .001$, respectively. Moreover, mother and teacher ratings of conduct problems/hyperactivity and mother and teacher ratings of CU traits were moderately and positively correlated with each other, $r = .47$ and $r = .36$, both at $p < .001$, respectively.

Furthermore, according to mother ratings, conduct problems/hyperactivity and CU traits were moderately and positively related to each other, $r = .42$, $p < .001$. However, teacher-reported conduct problems/hyperactivity and CU traits were highly and positively correlated with each other, $r = .80$, $p < .001$, which indicated to multicollinearity between these two variables according to teacher ratings, so when predicting conduct problems/hyperactivity, CU scores, and when predicting CU traits, conduct problems/hyperactivity scores were not entered into the regression analyses.

Table 42. Pearson Correlations of Conduct Problems/Hyperactivity, CU Traits, Demographic Variables, and other Study Variables

	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Gender (1 = female, 2 = male)	-.08	-.05	-.16***	-.06	-.12**	.09	.06	.18***	.07	.08	.12**	.12**	.11*	.02
2. Age		.26***	.14**	.26***	.19***	.00	-.05	-.18***	-.02	-.07	-.12**	-.06	-.07	-.04
3. Mother's age			.33***	.77***	.35***	.15**	.00	-.36***	-.06	-.15**	-.15***	-.13**	-.17***	-.11*
4. Mother's education				.29***	.76***	-.41***	-.37***	-.79***	-.06	-.20***	-.16***	.13**	-.23***	-.18***
5. Father's age					.35***	.12**	-.04	-.36***	-.03	-.12**	-.13**	-.10*	-.13**	-.12**
6. Father's education						-.36***	-.33***	-.75***	-.07	-.21***	-.19***	-.05	-.24***	-.22***
7. Total number of children							.74***	.32***	.08	.18***	.12**	-.06	.10*	.07
8. Total number of household members								.34***	.11*	.17***	.18***	-.02	.13**	.08
9. SES (1 = high, 2 = low)									.04	.14**	.15**	-.08	.25***	.19***
10. Negative reactivity										.40***	.43***	.20***	.40***	.25***
11. Maternal rejection											.53***	.18***	.42***	.31***
12. Physical punishment												.26***	.31***	.26***
13. Response-cost punishment													.10*	.05
14. Mother's psychopathology														.52***
15. Father's psychopathology														

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

Table 42. Continued

	16	17	18	19	20	21	22	23	24	25	26	27	28
1. Gender (1 = female, 2 = male)	.00	.02	.01	.07	.10*	.06	.05	.26***	.17***	.19***	.11*	.21***	.22***
2. Age	-.06	-.06	-.03	-.08	-.08	-.04	-.04	-.02	-.14**	-.02	-.07	-.03	-.07
3. Mother's age	-.03	-.11*	.01	-.09*	-.17***	-.04	-.06	-.10*	-.17***	-.07	-.14**	-.08	-.15**
4. Mother's education	-.05	-.25***	.02	-.34***	-.26***	-.22***	-.22***	-.11*	-.22***	-.11*	-.18***	-.12*	-.23***
5. Father's age	-.02	-.10*	.05	-.09	-.16***	-.05	-.06	-.08	-.15**	-.04	-.13**	-.06	-.13**
6. Father's education	.07	-.26***	-.03	-.31***	-.26***	-.19***	-.24***	-.15***	-.24***	-.17***	-.24***	-.18***	-.29***
7. Total # of children	.02	.12**	.00	.20***	.09*	.08	.12**	.12**	.14**	.14**	.17***	.19***	.24***
8. Total # of household members	.03	.15**	.03	.20***	.14**	.06	.13**	.12**	.17***	.11*	.17***	.15**	.22***
9. SES (1 = high, 2 = low)	.03	.22***	-.08	.28***	.23***	.16***	.19***	.02	.19***	.05	.14**	.01	.15***
10. Negative reactivity	.21***	.28***	.41***	.30***	.19***	.21***	.37***	.26***	.59***	.24***	.35***	.23***	.30***
11. Maternal rejection	.39***	.48***	.52***	.48***	.31***	.38***	.56***	.27***	.49***	.31***	.46***	.28***	.35***
12. Physical punishment	.21***	.24***	.30***	.21***	.21***	.16***	.36***	.35***	.47***	.37***	.35***	.36***	.40***
13. Response-cost punishment	.06	.04	.10*	.02	.01	-.08	.05	.27***	.24***	.26***	.12**	.26***	.21***
14. Mother's psychopathology	.28***	.38***	.31***	.41***	.33***	.33***	.46***	.16***	.41***	.18***	.20***	.17***	.23***
15. Father's psychopathology	.17***	.29***	.19***	.27***	.21***	.19***	.32***	.01	.27***	.07	.20***	.07	.13**
16. Problem solving		.57***	.50***	.54***	.09*	.40***	.67***	.12**	.20***	.14**	.30***	.12*	.19***
17. Communication			.43***	.72***	.25***	.42***	.66***	.12**	.30***	.15**	.33***	.13**	.22***
18. Roles				.40***	.24***	.44***	.61***	.26***	.38***	.23***	.35***	.20***	.23***
19. Affective responsiveness					.30***	.44***	.68***	.14**	.31***	.15**	.34***	.12*	.25***
20. Affective involvement						.21***	.26***	.08	.30***	.14**	.21***	.08	.17***
21. Behavior control							.47***	.09*	.22***	.08	.25***	.10*	.18***
22. General functioning								.21***	.39***	.22***	.40***	.19***	.29***
23. Nomination (1 = prosocial, 2 = conduct)									.45***	.81***	.37***	.77***	.68***
24. Conduct prb/hypact-Mother										.47***	.42***	.40***	.45***
25. Conduct prb/hypact-Teacher											.39***	.80***	.74***
26. CU-Mother												.36***	.59***
27. CU-Teacher													.93***
28. CU-Combined													

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

In addition, the Pearson correlation coefficients among the mother and teacher ratings of conduct problems/hyperactivity and CU traits were investigated for high and low SES levels separately. As can be seen in Table 43, according to mother ratings, conduct problems/hyperactivity and CU traits were moderately and positively related to each other, $r = .40$, $p < .001$ and $r = .41$, $p < .001$, for high and low SES levels, respectively. On the other hand, teacher-reported conduct problems/hyperactivity and CU traits were highly and positively correlated with each other, $r = .74$, $p < .001$ and $r = .82$, $p < .001$, for high and low SES levels, respectively. This indicates that the multicollinearity between teacher-reported conduct problems/hyperactivity and CU traits did not differ as a function of SES level.

Table 43. Pearson Correlations of Conduct Problems/Hyperactivity and CU Traits According to SES Levels

	2	3	4	5
1. Conduct Problems/Hyperactivity-Mother	.42**	.40**	.39**	.43**
2. Conduct Problems/Hyperactivity-Teacher	.48**	.41**	.40**	.43**
3. CU-Mother		.26*	.74**	.64**
4. CU-Teacher		.42**	.82**	.77**
5. CU-Combined			.30**	.51**
			.38**	.60**
				.91**
				.94**

Note. Pearson correlations in boldface type are according to low SES
 * $p < .01$; ** $p < .001$

3.2.4.2 Predictors of Conduct Problems/Hyperactivity

3.2.4.2.1 Mother Ratings

In order to evaluate how well mother-reported conduct problems/hyperactivity is predicted by child-related demographic variables, child temperament of negative reactivity, family-related socio-demographic variables, maternal rejection, applied punishment styles, parental psychopathology, and

family functioning, a stepwise multiple regression analysis was conducted. Variables were entered in four blocks (see Table 41). The dependent variable was the SDQ Conduct Problems/Hyperactivity score of the Mother form. The results of the regression analysis are presented in Table 44.

The result of the regression analysis showed that the child demographics of gender (1 = female, 2 = male) ($\beta = .17$, $t [453] = 3.61$, $p < .001$) and age ($\beta = -.13$, $t [453] = -2.79$, $p < .01$) entered in the equation in the first block explained 5 % of the total variance ($F [2, 453] = 11.09$, $p < .001$). The child temperament of negative reactivity ($\beta = .58$, $t [452] = 15.50$, $p < .001$) entered in the equation in the second block explained 33 % of the total variance, ($F\Delta [1, 452] = 240.26$, $p < .001$). Among the family demographics entered in the third block, only mother's education ($\beta = -.18$, $t [451] = -4.79$, $p < .001$) had significant association with the mother-reported conduct problems/hyperactivity and explained 3 % of the total variance ($F\Delta [1, 451] = 22.98$, $p < .001$). Lastly, among parenting, parental, and family variables entered into the equation in the fourth block, maternal rejection ($\beta = .26$, $t [450] = 6.74$, $p < .001$), response-cost punishment ($\beta = .12$, $t [449] = 3.36$, $p < .001$), physical punishment ($\beta = .12$, $t [448] = 2.87$, $p < .01$), affective involvement within the family ($\beta = .09$, $t [445] = 2.75$, $p < .05$), and mother's psychopathology ($\beta = .11$, $t [446] = 2.11$, $p < .05$) entered into the equation as the fourth, fifth, sixth, seventh, and eighth variables with maternal rejection explaining 5 % ($F\Delta [1, 450] = 45.47$, $p < .001$), response-cost punishment explaining 2 % ($F\Delta [1, 449] = 11.29$, $p < .001$), physical punishment explaining 1 % ($F\Delta [1, 448] = 8.26$, $p < .01$), affective involvement within the family explaining 1 % ($F\Delta [1, 447] = 7.57$, $p < .01$), and mother's psychopathology family explaining 1 % ($F\Delta [1, 446] = 4.44$, $p < .05$) of the total variance. Totally, all variables explained 51 % of the variance in mother-reported conduct problems/hyperactivity ($F [9, 446] = 49.23$, $p < .001$).

Thus, in the final model, this regression analysis indicated that, while male gender, temperamental characteristic of negative reactivity, maternal rejection, response-cost and physical punishments, less affective involvement within the family, and mother's psychopathology appeared to be positively, mother's

education appeared to be negatively related to mother-reported conduct problems/hyperactivity.

Table 44. Predictors of Conduct Problems/Hyperactivity According to Mother Ratings

Order of entry of set	Step	Variables	Beta	FΔ	df	t for within set predictors	Model R ²
I. Child demographics							
	1			11.09***	2, 453		.05
		Gender (1 = female, 2 = male)	.17		453	3.61***	
		Age	-.13		453	-2.79**	
II. Child Temperament							
	2	Negative reactivity	.58	240.26***	1, 452	15.50***	.38
III. Family demographics							
	3	Mother's education	-.18	22.98***	1, 451	-4.79***	.41
IV. Parenting, parental and family variables							
	4	Maternal rejection	.26	45.47***	1, 450	6.74***	.46
	5	Response-cost punishment	.12	11.29***	1, 449	3.36***	.48
	6	Physical punishment	.12	8.26**	1, 448	2.87**	.49
	7	Affective involvement	.10	7.57**	1, 447	2.75**	.50
	8	Mother's psychopathology	.09	4.44*	1, 446	2.11*	.51
		<u>Final Model Values</u>					
		Gender (1 = female, 2 = male)	.07		446	2.17*	
		Age	-.07		446	-1.94	
		Negative reactivity	.40		446	10.10***	
		Mother's education	-.12		446	-3.31***	
		Maternal rejection	.15		446	3.55***	
		Response-cost punish.	.11		446	3.00**	
		Physical punishment	.12		446	2.79**	
		Affective involvement	.09		446	2.36*	

*p < .05; **p < .01; ***p < .001

3.2.4.2.2 Teacher Ratings

A similar stepwise multiple regression analysis was formulated to predict teacher-reported conduct problems/hyperactivity scores by child-related demographic variables, child temperament of negative reactivity, family-related socio-demographic variables, maternal rejection, applied punishment styles, parental psychopathology, and family functioning. Variables were entered in four blocks (see Table 41) as in the previous regression equations. The dependent variable was the SDQ Conduct Problems/Hyperactivity score of the Teacher form. The results of the regression analysis are presented in Table 45.

The result of regression analysis showed that the child demographics of gender (1 = female, 2 = male) ($\beta = .19$, $t [397] = 3.80$, $p < .001$) and age ($\beta = -.02$, $t [397] = -0.32$, $p > .05$) entered in the equation in the first block explained 4 % of the total variance ($F [2, 397] = 7.35$, $p < .001$). The child temperament of negative reactivity ($\beta = .22$, $t [396] = 4.52$, $p < .001$) entered in the equation in the second block explained 4 % of the total variance, ($F\Delta [1, 396] = 20.44$, $p < .001$). Among the family demographics entered in the third block, only father's education ($\beta = -.14$, $t [395] = -2.81$, $p < .01$) and SES of the family (1 = high, 2 = low) ($\beta = -.17$, $t [394] = -2.56$, $p < .05$) had significant associations with the teacher-reported conduct problems/hyperactivity with father's education explaining 2 % ($F\Delta [1, 395] = 7.89$, $p < .01$) and SES of the family (1 = high, 2 = low) explaining 2 % ($F\Delta [1, 394] = 6.56$, $p < .05$) of the total variance. Lastly, among parenting, parental, and family variables entered into the equation in the fourth block, physical punishment ($\beta = .30$, $t [393] = 6.00$, $p < .001$), response-cost punishment ($\beta = .18$, $t [392] = 3.83$, $p < .001$), and maternal rejection ($\beta = .15$, $t [391] = 2.78$, $p < .01$) entered into the equation as the fifth, sixth, and seventh variables with physical punishment explaining 7 % ($F\Delta [1, 393] = 36.04$, $p < .001$), response-cost punishment explaining 3 % ($F\Delta [1, 392] = 14.67$, $p < .001$), and maternal rejection explaining 1 % ($F\Delta [1, 391] = 7.71$, $p < .01$) of the total variance. Totally, all variables explained 23 % of the variance in teacher-reported conduct problems/hyperactivity ($F [8, 391] = 14.96$, $p < .001$).

Thus, in the final model, this regression analysis indicated that, while male gender, high SES, physical and response-cost punishments, and maternal rejection

appeared to be positively, father's education appeared to be negatively related to teacher-reported conduct problems/hyperactivity.

Table 45. Predictors of Conduct Problems/Hyperactivity According to Teacher Ratings

Order of entry of set	Step	Variables	Beta	F Δ	df	t for within set predictors	Model R ²
I. Child demographics							
	1			7.35***	2, 397		.04
		Gender (1 = female, 2 = male)	.19		397	3.80***	
		Age	-.02		397	-0.32	
II. Child Temperament							
	2	Negative reactivity	.22	20.44***	1, 396	4.52***	.08
III. Family demographics							
	3	Father's education	-.14	7.89**	1, 395	-2.81**	.10
	4	SES (1 = high, 2 = low)	-.17	6.56*	1, 394	-2.56*	.12
IV. Parenting, parental and family variables							
	5	Physical punishment	.30	36.04***	1, 393	6.00***	.19
	6	Response-cost punishment	.18	14.67***	1, 392	3.83***	.22
	7	Maternal rejection	.15	7.71**	1, 391	2.78**	.23
		<u>Final Model Values</u>					
		Gender (1 = female, 2 = male)	.15		391	3.38***	
		Age	.02		391	0.50	
		Father's education	-.21		391	-3.26***	
		SES (1 = high, 2 = low)	-.16		391	-2.56*	
		Physical punishment	.21		391	3.84***	
		Response-cost punish.	.17		391	3.73***	

*p < .05; **p < .01; ***p < .001

3.2.4.3 Predictors of CU Traits

3.2.4.3.1 Mother Ratings

In order to evaluate how well mother-reported CU trait is predicted by child-related demographic variables, child temperament of negative reactivity, family-related socio-demographic variables, maternal rejection, applied punishment styles, parental psychopathology, and family functioning, a stepwise multiple regression analysis was conducted. Similar to the previous analysis, variables were entered in four blocks (see Table 41). The dependent variable was APSD-CU score of the Mother form. The results of the regression analysis are presented in Table 46.

The result of regression analysis showed that the child demographics of gender (1 = female, 2 = male) ($\beta = .10$, $t [453] = 2.23$, $p < .05$) and age ($\beta = -.08$, $t [453] = -1.75$, $p > .05$) entered in the equation in the first block explained 2 % of the total variance ($F [2, 453] = 4.28$, $p < .05$). After controlling these variables, the child temperament of negative reactivity ($\beta = .32$, $t [452] = 7.10$, $p < .001$) entered in the equation in the second block explained 10 % of the total variance, ($F\Delta [1, 452] = 50.45$, $p < .001$). Among the family demographics entered in the third block, only father's education ($\beta = -.20$, $t [451] = -4.38$, $p < .001$) and total number of household members ($\beta = .12$, $t [450] = 2.63$, $p < .01$) had significant associations with the mother-reported CU traits and they explained 3 % ($F\Delta [1, 451] = 19.21$, $p < .001$) and 2 % ($F\Delta [1, 450] = 6.93$, $p < .01$) of the total variance, respectively. Lastly, among parenting, parental, and family variables entered into the equation in the fourth block, maternal rejection ($\beta = .36$, $t [449] = 7.95$, $p < .001$), general functioning within the family ($\beta = .18$, $t [448] = 3.60$, $p < .001$), mother's psychopathology ($\beta = -.12$, $t [447] = -2.50$, $p < .05$), and roles within the family ($\beta = .11$, $t [446] = 1.98$, $p < .05$) entered into the equation as the fifth, sixth, seventh, and eighth variables with maternal rejection explaining 10 % ($F\Delta [1, 449] = 63.21$, $p < .001$), general functioning within the family explaining 2 % ($F\Delta [1, 448] = 12.94$, $p < .001$), mother's psychopathology explaining 1 % ($F\Delta [1, 447] = 6.24$, $p < .05$), and roles within the family explaining 1 % ($F\Delta [1, 446] = 3.92$, $p < .05$) of the total variance. Totally, all variables explained 31 % of the variance in mother-reported CU traits ($F [9, 446] = 21.78$, $p < .001$).

Thus, in the final model, this regression analysis indicated that, while male gender, temperamental characteristic of negative reactivity, total number of household members, maternal rejection, less general functioning within the family, and problems regarding the roles within the family appeared to be positively, father's education and mother's psychopathology appeared to be negatively related to mother-reported CU-traits.

Table 46. Predictors of CU Traits According to Mother Ratings

Order of entry of set	Step	Variables	Beta	F Δ	df	t for within set predictors	Model R ²
I. Child demographics	1			4.28*	2, 453		.02
		Gender (1 = female, 2 = male)	.10		453	2.23*	
		Age	-.08		453	-1.75	
II. Child Temperament	2	Negative reactivity	.32	50.45***	1, 452	7.10***	.12
III. Family demographics	3	Father's education	-.20	19.21***	1, 451	-4.38***	.15
	4	# of household members	.12	6.93**	1, 450	2.63**	.17
IV. Parenting, parental and family variables	5	Maternal rejection	.36	63.21***	1, 449	7.95***	.27
	6	General functioning	.18	12.94***	1, 448	3.60***	.29
	7	Mother's psychopathology	-.12	6.24*	1, 447	-2.50*	.30
	8	Roles	.11	3.92*	1, 446	1.98*	.31
		<u>Final Model Values</u>					
		Gender (1 = female, 2 = male)	.06		446	1.95*	
		Age	-.03		446	-0.70	
		Negative reactivity	.15		446	3.22***	
		Father's education	-.10		446	-2.25*	
		# of household members	.10			2.22*	
		Maternal rejection	.27		446	5.14***	
		General functioning	.16		446	2.80**	
		Mother's psychopath.	-.12		446	-2.40*	

*p < .05; **p < .01; ***p < .001

3.2.4.3.2 Teacher Ratings

A similar stepwise multiple regression analysis was formulated to predict teacher-reported CU traits by child-related demographic variables, child temperament of negative reactivity, family-related socio-demographic variables, maternal rejection, applied punishment styles, parental psychopathology, and family functioning. Variables were entered in four blocks (see Table 41) as in the previous regression equations. The dependent variable was APSD-CU score of the Teacher form. The results of the regression analysis are presented in Table 47.

The result of regression analysis showed that the child demographics of gender (1 = female, 2 = male) ($\beta = .21$, $t [397] = 4.23$, $p < .001$) and age ($\beta = .04$, $t [397] = 0.74$, $p > .05$) entered in the equation in the first block explained 4 % of the total variance ($F [2, 397] = 9.13$, $p < .001$). After controlling these variables, the child temperament of negative reactivity ($\beta = .20$, $t [396] = 4.22$, $p < .001$) entered in the equation in the second block explained 5 % of the total variance, ($F \Delta [1, 396] = 17.82$, $p < .001$). Among the family demographics entered in the third block, total number of children ($\beta = .18$, $t [395] = 3.84$, $p < .001$), father's education ($\beta = -.11$, $t [394] = -2.07$, $p < .05$), SES of the family (1 = high, 2 = low) ($\beta = -.23$, $t [393] = -3.53$, $p < .001$), and mother's age ($\beta = -.11$, $t [392] = -2.08$, $p < .05$) had significant associations with the teacher-reported CU traits with total number of children explaining 3 % ($F \Delta [1, 395] = 14.74$, $p < .001$), father's education explaining 1 % ($F \Delta [1, 394] = 4.26$, $p < .05$), SES of the family (1 = high, 2 = low) explaining 2 % ($F \Delta [1, 393] = 12.49$, $p < .001$), and mother's age explaining 1 % ($F \Delta [1, 392] = 4.34$, $p < .05$) of the total variance. Lastly, among parenting, parental, and family variables entered into the equation in the fourth block, physical punishment ($\beta = .27$, $t [391] = 5.26$, $p < .001$), response-cost punishment ($\beta = .18$, $t [390] = 3.80$, $p < .001$), and roles within the family ($\beta = .13$, $t [389] = 2.55$, $p < .05$) entered into the equation as the seventh, eighth, and ninth variables with physical punishment explaining 6 % ($F \Delta [1, 391] = 27.67$, $p < .001$), response-cost punishment explaining 3 % ($F \Delta [1, 390] = 14.40$, $p < .001$), and roles within the family explaining 1 % ($F \Delta [1, 389] = 6.52$, $p < .05$) of the total variance. Totally, all variables explained 26 % of the variance in teacher-reported CU traits ($F [10, 389] = 13.61$, $p < .001$).

Thus, in the final model, this regression analysis indicated that, while male gender, total number of children, high SES, physical and response-cost punishments, and problems regarding the roles within the family appeared to be positively, father's education appeared to be negatively related to teacher-reported CU traits.

Table 47. Predictors of CU Traits According to Teacher Ratings

Order of entry of set	Step	Variables	Beta	FΔ	df	t for within set predictors	Model R ²	
I. Child demographics	1			9.13***	2, 397		.04	
		Gender (1 = female, 2 = male)	.21		397	4.23***		
		Age	.04		397	0.74		
II. Child Temperament	2	Negative reactivity	.20	17.82***	1, 396	4.22***	.09	
III. Family demographics	3	# of children	.18	14.74***	1, 395	3.84***	.12	
	4	Father's education	-.11	4.26*	1, 394	-2.07*	.13	
	5	SES (1 = high, 2 = low)	-.23	12.49***	1, 393	-3.53***	.15	
	6	Mother's age	-.11	4.34*	1, 392	-2.08*	.16	
IV. Parenting, parental and family variables	7	Physical punishment	.27	27.67***	1, 391	5.26***	.22	
	8	Response-cost punishment	.18	14.40***	1, 390	3.80***	.25	
	9	Roles	.13	6.52*	1, 389	2.55*	.26	
		<u>Final Model Values</u>						
		Gender (1 = female, 2 = male)	.17		389	3.89***		
		Age	.07		389	1.54		
		# of children	.16		389	3.25***		
		Father's education	-.22		389	-3.27***		
		SES (1 = high, 2 = low)	-.22		389	-3.43***		
	Physical punishment	.21		389	4.18***			
	Response-cost punish.	.18		389	3.86***			

*p < .05; **p < .01; ***p < .001

3.2.4.3.3 Combined Ratings

In order to evaluate how well combined CU trait is predicted by child-related demographic variables, child temperament of negative reactivity, family-related socio-demographic variables, maternal rejection, applied punishment styles, parental psychopathology, and family functioning, a stepwise multiple regression analysis was conducted. Similar to the previous analysis, variables were entered in four blocks (see Table 41). The dependent variable was APSD Combined CU score. The results of the regression analysis are presented in Table 48.

The result of regression analysis showed that the child demographics of gender (1 = female, 2 = male) ($\beta = .22$, $t [453] = 4.72$, $p < .001$) and age ($\beta = -.08$, $t [453] = -1.73$, $p > .05$) entered in the equation in the first block explained 6 % of the total variance ($F [2, 453] = 13.18$, $p < .001$). After controlling these variables, the child temperament of negative reactivity ($\beta = .26$, $t [452] = 5.87$, $p < .001$) entered in the equation in the second block explained 6 % of the total variance, ($F\Delta [1, 452] = 34.42$, $p < .001$). Among the family demographics entered in the third block, father's education ($\beta = -.25$, $t [451] = -5.80$, $p < .001$), total number of children ($\beta = .16$, $t [450] = 3.58$, $p < .001$), SES of the family (1 = high, 2 = low) ($\beta = -.18$, $t [449] = -2.84$, $p < .01$), and mother's age ($\beta = -.11$, $t [448] = -2.34$, $p < .05$) had significant associations with the combined CU traits with father's education explaining 6 % ($F\Delta [1, 451] = 33.61$, $p < .001$), total number of children explaining 3 % ($F\Delta [1, 450] = 12.79$, $p < .001$), SES of the family (1 = high, 2 = low) explaining 1 % ($F\Delta [1, 449] = 8.07$, $p < .01$), and mother's age explaining 1 % ($F\Delta [1, 448] = 5.46$, $p < .05$) of the total variance. Lastly, among parenting, parental, and family variables entered into the equation in the fourth block, physical punishment ($\beta = .25$, $t [447] = 5.57$, $p < .001$), roles within the family ($\beta = .13$, $t [446] = 2.80$, $p < .01$), and response-cost punishment ($\beta = .12$, $t [445] = 2.73$, $p < .01$) entered into the equation as the seventh, eighth, and ninth variables with physical punishment explaining 5 % ($F\Delta [1, 447] = 31.02$, $p < .001$), roles within the family explaining 1 % ($F\Delta [1, 446] = 7.82$, $p < .01$), and response-cost punishment explaining 1 % ($F\Delta [1, 445] = 7.47$, $p < .01$) of the total variance.

Totally, all variables explained 30 % of the variance in combined CU traits ($F [10, 445] = 19.34, p < .001$).

Thus, in the final model, this regression analysis indicated that, while male gender, total number of children, high SES, physical and response-cost punishments, and problems regarding the roles within the family appeared to be positively, father's education appeared to be negatively related to combined CU-traits.

Table 48. Predictors of CU Traits According to Mother and Teacher Combined Ratings

Order of entry of set	Step	Variables	Beta	FΔ	df	t for within set predictors	Model R ²
I. Child demographics	1			13.18***	2, 453		.06
		Gender (1 = female, 2 = male)	.22		453	4.72***	
		Age	-.08		453	-1.73	
II. Child Temperament	2	Negative reactivity	.26	34.42***	1, 452	5.87***	.12
III. Family demographics	3	Father's education	-.25	33.61***	1, 451	-5.80***	.18
	4	# of children	.16	12.79***	1, 450	3.58***	.21
	5	SES (1 = high, 2 = low)	-.18	8.07**	1, 449	-2.84**	.22
	6	Mother's age	-.11	5.46*	1, 448	-2.34*	.23
IV. Parenting, parental and family variables	7	Physical punishment	.25	31.02***	1, 447	5.57***	.28
	8	Roles	.13	7.82**	1, 446	2.80**	.29
	9	Response-cost punishment	.12	7.47**	1, 445	2.73**	.30
		<u>Final Model Values</u>					
		Gender (1 = female, 2 = male)	.16		445	3.99***	
		Age	-.01		445	-0.22	
		Father's education	-.26		445	-4.08***	
		# of children	.18		445	3.98***	
		SES (1 = high, 2 = low)	-.17		445	-2.67**	
		Physical punishment	.21		445	4.58***	
		Roles	.12		445	2.89**	

*p < .05; **p < .01; ***p < .001

Results of the five regression analyses are given in Table 49.

Table 49. Summary of the Final Models of the Five Regression Analyses

	Reg. 1 CP/ hyperactivity- mother	Reg. 2 CP/ hyperactivity- teacher	Reg. 3 CU- Mother	Reg. 4 CU- Teacher	Reg. 5 CU- Combined
Total R²	.51	.23	.31	.26	.30
1.st Block					
Gender (1 = female, 2 = male)	√ (+)	√ (+)	√ (+)	√ (+)	√ (+)
Age	-	-	-	-	-
2.nd Block					
Negative reactivity	√ (+)	-	√ (+)	-	-
3.rd Block					
Mother's age	-	-	-	-	-
Mother's education	√ (-)	-	-	-	-
Father's age	-	-	-	-	-
Father's education	-	√ (-)	√ (-)	√ (-)	√ (-)
Total number of children	-	-	-	√ (+)	√ (+)
Total number of household members	-	-	√ (+)	-	-
SES (1 = high, 2 = low)	-	√ (-)	-	√ (-)	√ (-)
4.th Block					
Maternal rejection	√ (+)	√ (+)	√ (+)	-	-
Physical punishment	√ (+)	√ (+)	-	√ (+)	√ (+)
Response-cost punishment	√ (+)	√ (+)	-	√ (+)	√ (+)
Mother's psychopathology	√ (+)	-	√ (-)	-	-
Father's psychopathology	-	-	-	-	-
Problems solving in family	-	-	-	-	-
Communication in family	-	-	-	-	-
Roles in family	-	-	√ (+)	√ (+)	√ (+)
Affective responsiveness in family	-	-	-	-	-
Affective involvement in family	√ (+)	-	-	-	-
Behavior control in family	-	-	-	-	-
General functioning in family	-	-	√ (+)	-	-

√ denotes that the variable was significant

- denotes that the association was not significant

(+) denotes that the direction of the relationship was positive

(-) denotes that the direction of the relationship was negative

3.2.5 Comparison of Children According to SES and CU Trait Levels on Conduct Problems/Hyperactivity

Differences in severity of the mother and the teacher-reported conduct problems/hyperactivity according to SES levels and CU trait levels were evaluated by two separate 2 (SES: high vs. low) X 2 (CU: high vs. low) between subjects analysis of covariance (ANCOVAs). Thus, SDQ-Conduct Problems/Hyperactivity scores were taken as the dependent variables, and SES (high vs. low) and CU (high vs. low) as the independent variables. Child's gender was taken as the covariate in these analyses. Before the analyses, combined CU scores were categorized as high and low according to upper and below 25 percentile of the distribution of participants' scores, respectively. According to this grouping, there were 133 children in high CU group and 116 children in low CU group. To investigate whether the mean difference between high CU and low CU groups is significant, an independent sample t-test was conducted on combined CU scores. The result revealed that there was a significant difference between high CU and low CU groups in terms of combined CU scores ($t = -64.51$, $df = 247$, $p < .001$), indicating that children in high CU group have higher combined CU scores ($M = 1.56$, $SD = 0.23$) as compared to children in low CU group ($M = 0.10$, $SD = 0.08$). This showed that the categorization of participants according to upper and lower 25 percentile was appropriate.

As can be seen in Table 50, according to mother ratings, there was a significant main effect of SES on children's conduct problems/hyperactivity, $F(1, 244) = 4.58$, $p < .05$, partial $\eta^2 = .02$. The SES main effect indicated that children from low SES families had significantly higher levels of conduct problems/hyperactivity ($M = 0.64$) than children from high SES families ($M = 0.51$). In addition, according to mother ratings, there was also a significant main effect of CU traits on children's conduct problems/hyperactivity, $F(1, 244) = 38.06$, $p < .001$, partial $\eta^2 = .14$. The main effect of CU traits indicated that children with higher levels of CU traits had significantly higher levels of conduct problems/hyperactivity ($M = 0.77$) than children with lower levels of CU traits ($M = 0.37$). However, the interaction effect was not significant.

Table 50. Analysis of Covariance for Conduct Problems/Hyperactivity-Mother According to SES and CU Levels

Source	SS	df	MS	F
SES	.77	1	.77	4.58*
CU traits	6.40	1	6.40	38.06***
SES X CU traits	.01	1	.01	0.06
Error	41.05	244	.17	

* $p < .05$; *** $p < .001$

On the other hand according to teacher ratings, as can be seen in Table 51, there was not a significant main effect of SES on children's conduct problems/hyperactivity. However, similar to mothers' results, there was also a significant main effect of CU traits on children's conduct problems/hyperactivity, $F(1, 218) = 182.10$, $p < .001$, partial $\eta^2 = .46$. The main effect of CU traits indicated that children with higher levels of CU traits had significantly higher levels of conduct problems/hyperactivity ($M = 1.18$) than children with lower levels of CU traits ($M = 0.17$) according to teacher ratings. However, the main effect of SES and the interaction effect were not significant.

Table 51. Analysis of Covariance for Conduct Problems/Hyperactivity-Teacher According to SES and CU Levels

Source	SS	df	MS	F
SES	.14	1	.14	0.81
CU traits	31.36	1	31.36	182.10*
SES X CU traits	.48	1	.48	2.79
Error	37.54	218	.17	

* $p < .001$

3.2.6 Comparison of Three Groups of Children (CP+CU, CP-only, and Control) on Child, Parenting, and Family-Related Variables

First, the sample was divided into two groups based on the teacher nomination of having conduct problems, and on ratings of mothers and teachers for conduct problems/hyperactivity symptoms. The scores of the Conduct Problems/Hyperactivity scale of the SDQ were converted into T-scores according to normative T-scores gathered from the data of Studies 1 and 2, because both of these previous studies were designed with adaptational purposes and included randomly selected children from elementary schools representing the community

sample. The children, who were nominated by their teachers as having conduct problems and have a Conduct Problems/Hyperactivity score one standard deviation above the mean (T above 60) on both mother and teacher ratings, constituted the Conduct Problem (CP) group. That is, children nominated as having conduct problems by teachers, and getting a T -score above 60 from both mothers and teachers were placed in this group. On the other hand, children, who were nominated by their teachers as having prosocial behaviors and have a Conduct Problems/Hyperactivity score one standard deviation below the mean (T below 40) on both mother and teacher ratings, constituted the Control group. That is, children nominated as having prosocial behaviors by teachers, and getting a T -score below 40 from both mothers and teachers were placed in this group. According to this grouping, there were 80 children in CP-group and 112 children in Control group. To investigate whether the mean difference between CP-group and Control group is significant, two independent sample t -tests were conducted on mother and teacher-rated Conduct Problems/Hyperactivity scores. The results revealed that there were significant differences between CP-group and Control group in terms of both mother-ratings ($t = 42.50$, $df = 190$, $p < .001$) and teacher-ratings ($t = 43.78$, $df = 190$, $p < .001$) of Conduct Problems/Hyperactivity scores, indicating that children in CP-group have higher Conduct Problems/Hyperactivity scores ($M_s = 1.22$ and 1.40) as compared to children in Control group ($M_s = 0.13$ and 0.04) according to mother and teacher ratings, respectively. This showed that the categorization of participants according to upper a T -score of 60 and below a T -score of 40 in Conduct Problems/Hyperactivity scores was appropriate.

Moreover, children in CP group were divided into those with high and low CU traits. Although most of the studies using CU scale of the APSD used the cut-off score of 7 out of a possible score of 12, which approximately corresponds to the upper quartile of the clinic sample and which falls at the 90th percentile of a community sample of elementary school-aged children (Frick et al., 2000), in the present study, T -scores for the CU scale were calculated according to normative T -scores gathered from the data of Studies 1 and 2, similar to the procedure used in the Conduct Problems/Hyperactivity scale of the SDQ. Children having a combined CU score above and below a T -score of 65 constituted the high and low

CU groups, labeled as CP+CU group and CP-only group, respectively. The reason to take T-score of 65 as a cut-off is that it was mentioned that CU traits with T-scores of 65 and above are usually taken to indicate a clinically significant problems (Frick & Hare, 2002). According to this grouping, there were 36 children in CP+CU group and 44 children in CP-only group. To investigate whether the mean difference on CU scores between CP+CU group and CP-only is significant, an independent sample t-test was conducted on combined CU scores. The result revealed that there was a significant difference between CP+CU and CP-only groups in terms of combined CU scores ($t = 10.92$, $df = 78$, $p < .001$), indicating that children in CP+CU group have higher combined CU scores ($M = 1.69$, $SD = 0.23$) as compared to children in CP-only group ($M = 1.09$, $SD = 0.26$). This showed that the categorization of participants according to cutoff-score of 65 on combined CU scores was appropriate. Three children, two males and one female, with CU traits above a T score of 65 but without conduct problems were excluded from the control group. In the end, group comparisons were conducted between these three groups of children: CP+CU group ($n = 36$), CP-only group ($n = 44$), and Control group ($n = 109$).

Age of children in all the three groups ranged from 8 to 11, with $M = 9.53$, $SD = 1.25$; $M = 9.43$, $SD = 1.15$; and $M = 9.68$, $SD = 1.13$ for CP+CU group, CP-only group, and Control group, respectively. To determine whether these three groups differ in age, a one-way between subjects analysis of variance (ANOVA) was conducted. The result of the ANOVA was not significant, indicating no significant differences between the children in CP+CU, CP-only, and Control groups in terms of age. Moreover, in CP+CU group there were 11 females (30.6 %) and 25 males (69.4 %). In CP-only group and Control groups, the gender distribution is as follows: 9 females (20.5 %) and 35 males (79.5 %), and 38 females (34.9 %) and 71 males (65.1 %), respectively. In addition, while 5 (13.9 %) of children in CP+CU group were from high SES families, 31 (86.1 %) children were from low SES families. Distribution of children in CP-only and Control groups according to SES is as follows: 9 (20.5 %) children from high SES and 35 (79.5 %) children from low SES, and 32 (29.4 %) children from high SES and 77 (70.6 %) children from low SES, respectively. The three groups were

compared on the basis of the distributions of gender (female vs. male) and SES group (high vs. low) through two different Chi Square Tests. Similarly, none of the Chi Square Tests were significant, indicating no significant differences between the children in CP+CU, CP-only, and Control groups in terms of distributions of gender and SES. Detailed information about demographic composition of the three groups is presented in Table 52.

Table 52. Distribution of the Socio-Demographic Characteristics within Three Comparison Groups

	CP+CU group (n = 36)	CP-only group (n = 24)	Control group (n = 109)	F (2, 186)
Age				
M (SD)	9.53 (1.25)	9.43 (1.15)	9.68 (1.13)	1.82
				χ^2 (2, n = 189)
Gender (% male)	69.4	79.5	65.1	3.06
SES (% low SES)	86.1	79.5	70.6	3.99

In addition group and gender differences on CU traits of children were examined by a 3 (Group: CP+CU, CP-only, and Control group) X 2 (Gender: female vs. male) between subjects analysis of variance (ANOVA) on level of CU traits according to combined ratings. The analysis yielded a significant main effect for the group on CU traits, $F(2, 183) = 357.59, p < .001$. To interpret this main effect of the Group, Tukey's HSD was conducted at .05 significance level. These post-hoc analyses revealed that children in the Control group ($M = 0.32$) had significantly lower levels of CU traits as compared to children in both CP+CU group ($M = 1.69$) and in CP-only group ($M = 1.09$). There was also a significant difference between CP+CU and CP-only groups, indicating that children in CP+CU group have higher combined CU scores as compared to children in CP-only group. In addition, there was also a significant main effect for the Gender, $F(1, 183) = 5.43, p < .05$. Males ($M = 0.83$) had significantly higher scores on CU traits as compared to females ($M = 0.63$). However, the interaction effect was not significant. Means (and standard deviations) of combined CU scores according to groups and gender are presented in Table 53.

Table 53. Means (and Standard Deviations) for Combined CU Scores of Children across Groups and Gender

	Female	Male
CP+CU	1.64 (0.31)	1.71 (0.18)
CP-only	0.98 (0.18)	1.12 (0.27)
Control group	0.26 (0.24)	0.37 (0.28)

3.2.6.1 Child-Related Variables

Under the section of child-related variables, the differences between the three groups on temperamental characteristic of negative reactivity, conduct problems/hyperactivity, emotional symptoms, and prosocial behaviors will be studied. Age and gender of the child and SES level were expected to be covariates. Thus, the correlations between these variables and child-related variables were first investigated (see Table 41). When the correlation coefficient was above .25, the variable was used as a covariate.

3.2.6.1.1 Temperament

In order to examine group differences (CP+CU, CP-only, and Control group) on negative reactivity as a child temperament, a one-way between subjects analysis of variance (ANOVA) was conducted. Thus, the negative reactivity dimension of SATI was taken as the dependent variable and the Group (CP+CU, CP-only, and Control group) of the child as the independent variable. As can be seen in Table 54, the analysis yielded a significant main effect for the Group on negative reactivity, $F(2, 186) = 64.21, p < .001, \text{partial } \eta^2 = .41$.

Table 54. Analysis of Variance for Negative Reactivity

Source	SS	df	MS	F
Group	62.89	2	31.45	64.21*
Error	91.09	186	0.49	
Total	153.99	188		

* $p < .001$

To interpret this main effect of the Group, Tukey's HSD was conducted at .05 significance level. These post-hoc analyses indicated that children in the Control group ($M = 2.58$) had significantly lower scores on negative reactivity as

compared to children both in CP+CU ($M = 3.74$) and CP-only groups ($M = 3.75$). There were no significant differences between the two conduct groups. The means (and standard deviations) for negative reactivity as a function of the Group are presented in Table 55.

Table 55. Means (and Standard Deviations) for Negative Reactivity as a Function of Group of Children

	Mean	SD	N
CP+CU	3.74a	0.71	36
CP-only	3.75a	0.68	44
Control group	2.58b	0.70	109

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

3.2.6.1.2 Conduct Problems/Hyperactivity

Group differences on severity of conduct problems/hyperactivity of children were examined by a 3 (Group: CP+CU, CP-only, and Control group) X 2 (Rater: mother vs. teacher) mixed design analysis of covariance (ANCOVA) with repeated measure on the last factor. Child's gender was taken as the covariate in this analysis. As can be seen in Table 56, the analysis yielded a significant main effect for the group on conduct problems/hyperactivity, $F(2, 185) = 1872.55$, $p < .001$. To interpret this main effect of the Group, Tukey's HSD was conducted at .05 significance level. These post-hoc analyses revealed that children in the Control group ($M = 0.09$) had significantly less conduct and hyperactivity problems as compared to children both in CP+CU group ($M = 1.34$) and in CP-only group ($M = 1.28$). There was no significant difference between CP+CU and CP-only groups. In addition, there was no significant main effect for the Rater, $F(1, 185) = 0.95$, $p > .05$.

Table 56. Analysis of Covariance for Conduct Problems/Hyperactivity

Source	SS	df	MS	F
Group	135.23	2	67.61	1872.55*
Error	6.68	185	0.04	
Rater	0.03	1	0.03	0.95
Group X Rater	2.36	2	1.18	35.74*
Error	6.11	185	0.03	

* $p < .001$

There was a significant Group X Rater interaction effect, $F(2, 185) = 35.74$, $p < .001$. The post-hoc analyses following the ANCOVA conducted by Tukey's HSD at .05 alpha level, revealed that, as shown in Table 57, children in CP+CU group were rated significantly higher on conduct problems/hyperactivity by their teachers ($M = 1.50$) as compared to their mothers ($M = 1.17$). There was no significant difference between mothers' and teachers' ratings of conduct problems/hyperactivity both for the CP-only group ($M_s = 1.26$ for mothers' and 1.30 for teachers' ratings, respectively) and for the Control group ($M_s = 0.13$ for mothers' and 0.05 for teachers' ratings, respectively).

On the other hand, mothers rated the children in the Control group ($M = 0.13$) significantly lower as compared to children in CP+CU group ($M = 1.17$) and in CP-only group ($M = 1.26$) on conduct problems/hyperactivity. Moreover, children in the CP-only group were rated higher on conduct problems/hyperactivity by their mothers as compared to children in CP+CU group. However, although teachers rated the children in the Control group ($M = 0.05$) significantly lower as compared to children in CP+CU group ($M = 1.50$) and in CP-only group ($M = 1.30$) like the mothers, opposite to mothers' ratings, they rated children in CP+CU group significantly higher on conduct problems/hyperactivity as compared to children in CP-only group. The conduct problems/hyperactivity levels of children across the Groups for mother and teacher ratings are presented in Figure 3.

Table 57. Means (and Standard Deviations) for Conduct Problems/Hyperactivity across Groups for Mother and Teacher Ratings

	Mother	Teacher
CP+CU	1.17a (0.03)	1.50b (0.03)
CP-only	1.26c (0.03)	1.30c (0.03)
Control group	0.13d (0.02)	0.05d (0.02)

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 at .05 alpha level of Tukey's HSD.

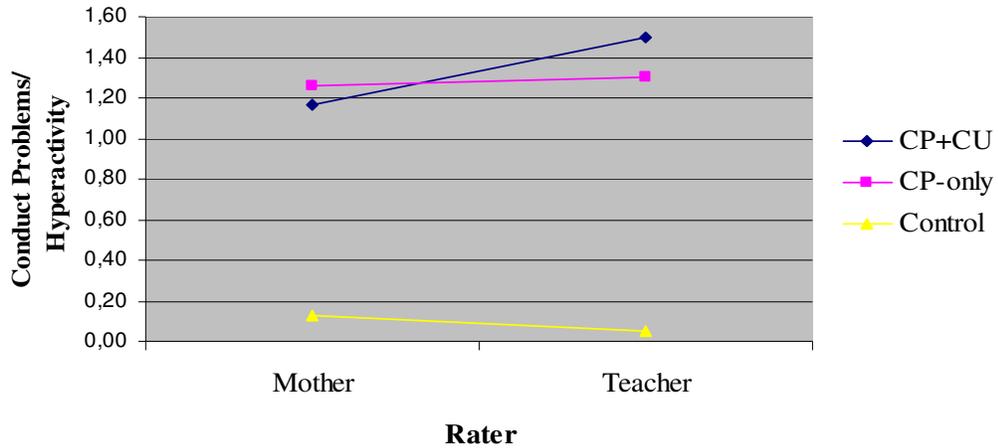


Figure 3. Conduct Problems/Hyperactivity Level of Children across Groups for Mother and Teacher Ratings

3.2.6.1.3 Emotional Symptoms

Group differences on severity of emotional symptoms of children were examined by a 3 (Group: CP+CU, CP-only, and Control group) X 2 (Rater: mother vs. teacher) mixed design analysis of variance (ANOVA) with repeated measure on the last factor. As can be seen in Table 58, the analysis yielded a significant main effect for the Group on emotional symptoms, $F(2, 186) = 60.26$, $p < .001$. To interpret this main effect of the Group, Tukey's HSD was conducted at .05 significance level. These post-hoc analyses revealed that children in the Control group ($M = 0.29$) had significantly less emotional symptoms as compared to children both in CP+CU group ($M = 0.89$) and in CP-only group ($M = 0.74$). There was no significant difference between two conduct groups with high and low CU traits. In addition, there was also a significant main effect for the Rater, $F(1, 186) = 4.76$, $p < .05$. Teachers ($M = 0.69$) rated the children significantly higher on emotional symptoms as compared to mothers ($M = 0.59$).

Table 58. Analysis of Variance for Emotional Symptoms

Source	SS	df	MS	F
Group	25.00	2	12.50	60.26**
Error	38.58	186	0.21	
Rater	0.63	1	0.63	4.76*
Group X Rater	1.13	2	0.56	4.28*
Error	24.51	186	0.13	

* $p < .05$; ** $p < .001$

There is a significant Group X Rater interaction effect, $F(2, 186) = 4.28$, $p < .05$. The post-hoc analyses following the ANOVA conducted by Tukey's HSD at .05 alpha level, revealed that, as shown in Table 59, children in CP+CU group were rated significantly higher on emotional symptoms by their teachers ($M = 1.01$) as compared to their mothers ($M = 0.77$). However, there was no significant difference between mothers' and teachers' ratings on emotional symptoms for the CP-only group ($M_s = 0.70$ and 0.77 , respectively) and for the Control group ($M_s = 0.32$ and 0.27 , respectively). On the other hand, mothers rated the children in the Control group ($M = 0.32$) significantly lower on emotional symptoms as compared to children in CP+CU group ($M = 0.77$) and in CP-only group ($M = 0.70$). There was no significant difference in mothers' ratings on emotional symptoms between children in CP+CU group and CP-only group. However, although teachers rated the children in the Control group ($M = 0.27$) significantly lower as compared to children in CP+CU group ($M = 1.01$) and in CP-only group ($M = 0.77$) like the mothers, they also rated children in CP+CU group significantly higher on emotional symptoms as compared to children in CP-only group. The levels of emotional symptoms of children across the Groups for mother and teacher ratings are presented in Figure 4.

Table 59. Means (and Standard Deviations) for Emotional Symptoms of Children across Groups for Mother and Teacher Ratings

	Mother	Teacher
CP+CU	0.77a (0.06)	1.01c (0.07)
CP-only	0.70a (0.06)	0.77a (0.07)
Control group	0.32b (0.04)	0.27b (0.04)

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 at .05 alpha level of Tukey's HSD.

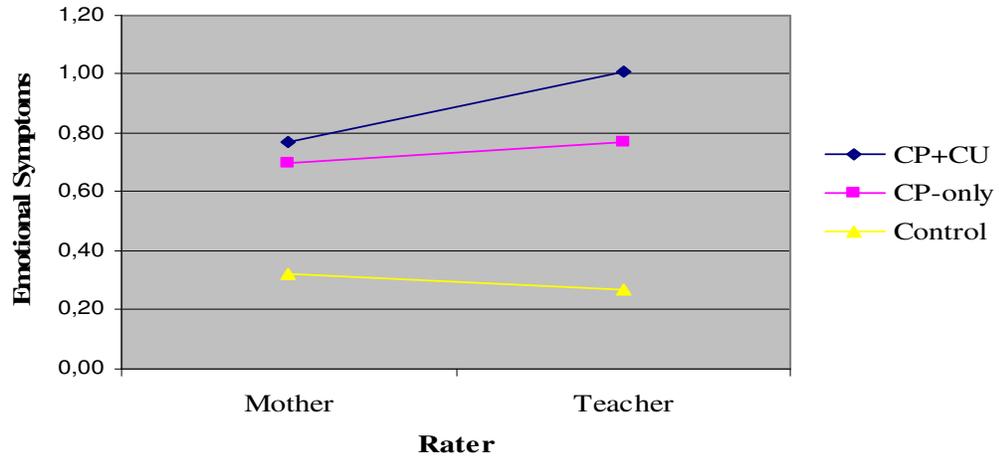


Figure 4. Emotional Symptoms Levels of Children across Groups for Mother and Teacher Ratings

3.2.6.1.4 Prosocial Behaviors

Group differences on prosocial behaviors of children were examined by a 3 (Group: CP+CU, CP-only, and Control group) X 2 (Rater: mother vs. teacher) mixed design analysis of covariance (ANCOVA) with repeated measure on the last factor. Child's gender was taken as the covariate in this analysis. As can be seen in Table 60, the analysis yielded a significant main effect for the Group on prosocial behaviors, $F(2, 185) = 280.29, p < .001$. To interpret this main effect of the Group, Tukey's HSD was conducted at .05 significance level. These post-hoc analyses revealed that children in the Control group ($M = 1.82$) had significantly higher prosocial behaviors as compared to children both in CP+CU group ($M = 0.92$) and in CP-only ($M = 1.20$). Additionally, children in CP+CU group had significantly lower prosocial behaviors as compared to children in CP-only group. On the other hand, there was also a significant main effect for the Rater, $F(1, 185) = 4.20, p < .05$. Mothers ($M = 1.50$) rated their children significantly higher on prosocial behavior as compared to teachers ($M = 1.12$).

Table 60. Analysis of Covariance for Prosocial Behaviors

Source	SS	df	MS	F
Group	54.53	2	27.27	280.29**
Error	18.00	185	0.10	
Rater	0.29	1	0.29	4.20*
Group X Rater	11.10	2	5.55	79.47**
Error	12.92	185	0.07	

* $p < .05$; ** $p < .001$

There was also a significant Group X Rater interaction effect, $F(2, 185) = 79.47$, $p < .001$. The post-hoc analyses following the ANCOVA conducted by Tukey's HSD at .05 alpha level, revealed that, as shown in Table 61, children both in CP+CU group and in CP-only group were rated significantly higher on prosocial behavior by their mothers ($M_s = 1.32$ and 1.40 , respectively) as compared to their teachers ($M_s = 0.52$ and 1.00 , respectively). However, there was no significant difference between mothers' and teachers' ratings of prosocial behavior for the Control group ($M_s = 1.80$ and 1.85 , respectively). On the other hand, mothers rated the children in the Control group ($M = 1.80$) significantly higher as compared to children in CP+CU group ($M = 1.32$) and in CP-only group ($M = 1.40$) on prosocial behaviors. There was no significant difference in mothers' ratings on prosocial behaviors between children in CP+CU group and CP-only group. However, although the teachers, similar to the mothers, also rated the children in the Control group ($M = 1.85$) as significantly higher as compared to children in CP+CU group ($M = 0.52$) and in CP-only group ($M = 1.00$), they also rated children in CP+CU group significantly lower on prosocial behaviors as compared to children in CP-only group. The prosocial behavior levels of children across the Groups for mother and teacher ratings are presented in Figure 5.

Table 61. Means (and Standard Deviations) for Prosocial Behaviors across Groups for Mother and Teacher Ratings

	Mother	Teacher
CP+CU	1.32a (0.05)	0.52c (0.05)
CP-only	1.40a (0.05)	1.00d (0.04)
Control group	1.80b (0.03)	1.85b (0.03)

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 at .05 alpha level of Tukey's HSD.

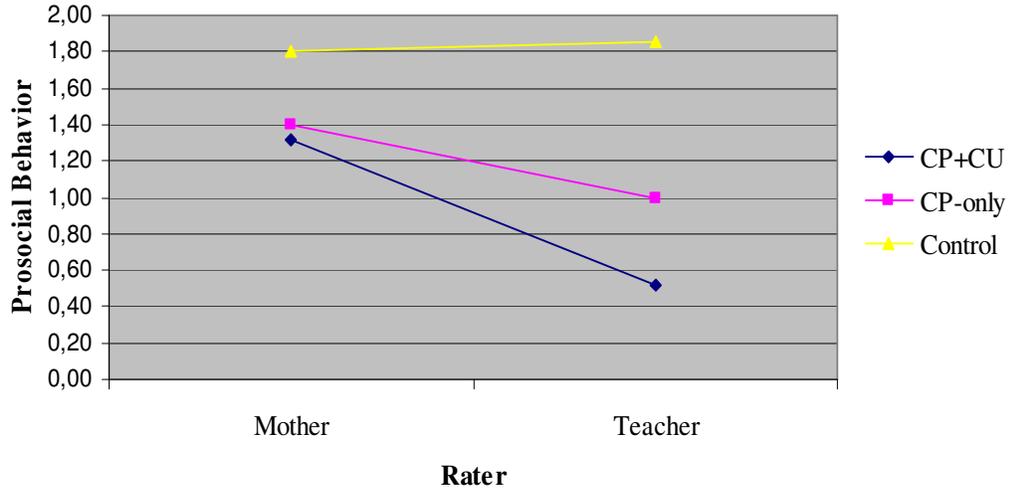


Figure 5. Prosocial Behaviors of Children across Groups for Mother and Teacher Ratings

3.2.6.2 Parenting-Related Variables

Under this section differences between the three groups in maternal rejection and style of applied punishment will be examined. Age of the mother and SES level were expected to be covariates. Thus, the correlations between these variables and parenting-related variables were first investigated. When the correlation coefficient was above .25, the variable was used as a covariate.

3.2.6.2.1 Maternal Acceptance-Rejection

A one-way between subjects analysis of variance (ANOVA) was conducted to evaluate the group differences (CP+CU, CP-only, and Control group) on the maternal acceptance-rejection as reported by the mothers. Thus, PARQ-Mother Total score was taken as the dependent variable and the Group (CP+CU, CP-only, and Control group) of the child as the independent variable. As can be seen in Table 62, the analysis yielded a significant main effect for the Group on maternal rejection, $F(2, 186) = 35.09, p < .001, \text{partial } \eta^2 = .27$.

Table 62. Analysis of Variance for Maternal Rejection

Source	SS	df	MS	F
Group	4.95	2	2.47	35.09*
Error	13.12	186	0.07	
Total	18.06	188		

* $p < .001$

To interpret this main effect of the Group, Tukey's HSD was conducted at .05 significance level. These post-hoc analyses indicated that children in the Control group ($M = 1.27$) had significantly lower scores on maternal rejection as compared to children both in CP+CU ($M = 1.56$) and CP-only ($M = 1.62$) groups. There were no significant differences between the two conduct problem groups. The means (and standard deviations) for maternal rejection as a function of the Group are presented in Table 63.

Table 63. Means (and Standard Deviations) for Maternal Rejection as a Function of Groups

	Mean	SD	N
CP+CU	1.56a	0.33	36
CP-only	1.62a	0.33	44
Control group	1.27b	0.21	109

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

3.2.6.2.2 Style of Applied Punishment

A one-way between subjects multivariate analysis of variance (MANOVA) was conducted to evaluate the group differences (CP+CU, CP-only, and Control group) on the applied punishment styles as reported by the mothers. Thus, applied punishment scores were taken as the dependent variables (Physical and Response-cost Punishment) and the Group (CP+CU, CP-only, and Control group) of the child as the independent variable. The means (and standard deviations) for punishment scores as a function of the Group are given in Table 64.

Table 64. Means (and Standard Deviations) for Styles of Applied Punishment as a Function of Groups

Applied Punishment	CP+CU		CP-only		Control group		Difference Between Groups
	Mean	SD	Mean	SD	Mean	SD	F (2, 186)
Physical	2.59a	0.69	2.45a	0.69	1.63b	0.45	57.47*
Response-cost	2.37a	0.91	2.48a	0.83	1.68b	0.62	24.04*

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

* $p < .001$

MANOVA results indicated a significant Group main effect $F(4, 370) = 30.26, p < .001, \text{partial } \eta^2 = .25$. Univariate analyses indicated a significant main effect for Group on physical punishment, $F(2, 186) = 57.47, p < .001, \text{partial } \eta^2 = .38$, and a significant main effect for Group on the response-cost punishment, $F(2, 186) = 24.04, p < .001, \text{partial } \eta^2 = .21$. Post-hoc comparisons were conducted to evaluate the pair-wise differences among the means for the Group main effects. Tukey's HSD comparisons at .05 alpha level indicated that children in the Control group had significantly lower scores on both physical and response-cost styles of applied punishment ($M_s = 1.63$ and 1.68 respectively) as compared to children both in CP+CU group ($M_s = 2.59$ and 2.37 , respectively) and CP-only group ($M_s = 2.46$ and 2.48 , respectively). There were no significant differences between the two conduct groups.

3.2.6.3 Family-Related Variables

Under this section, severity of general psychopathology of parents and family functioning variables will be studied.

3.2.6.3.1 Parental Psychopathology

Age of the mother and father and SES level were expected to be covariates. Thus, the correlations between these variables and parental psychopathology were first investigated. Only when the correlation coefficient was above .25, it was used as a covariate.

3.2.6.3.1.1 Mothers' Psychopathology

A one-way between subjects analysis of covariance (ANCOVA) was conducted to evaluate the group differences (CP+CU, CP-only, and Control group) on the psychopathology level of mothers. Thus, BSI score of mothers was taken as the dependent variable and the Group (CP+CU, CP-only, and Control group) of the child as the independent variable. Mother's age was taken as the covariate in this analysis. As can be seen in Table 65, the analysis yielded a significant main effect for the Group on severity of mothers' psychopathology, $F(2, 185) = 22.16, p < .001, \text{partial } \eta^2 = .19$.

Table 65. Analysis of Covariance for Mother's Psychopathology

Source	SS	df	MS	F
Group	43464.92	2	21732.46	22.16*
Error	181463.67	185	980.89	
Total	241619.76	188		

* $p < .001$

To interpret this main effect of the Group, Tukey's HSD was conducted at .05 significance level. These post-hoc analyses indicated that mothers of children in Control group ($M = 26.76$) had significantly lower levels of psychopathology as compared to mothers' of children both in CP+CU group ($M = 52.03$) and in CP-only group ($M = 61.97$). However, there was no significant difference between mothers' psychopathology level of children in two conduct problem groups. The means (and standard deviations) for BSI of mothers as a function of the Group are presented in Table 66.

Table 66. Means (and Standard Deviations) for Psychopathology Level of Mothers as a Function of Groups

	Mean	SD	N
CP+CU	52.03a	40.31	36
CP-only	61.97a	45.03	44
Control group	26.76b	35.85	109

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

3.2.6.3.1.2 Fathers' Psychopathology

A one-way between subjects analysis of covariance (ANCOVA) was conducted to evaluate the group differences (CP+CU, CP-only, and Control group) on the psychopathology level of fathers. Thus, BSI score of fathers was taken as the dependent variable and the Group (CP+CU, CP-only, and Control group) of the child as the independent variable. Father's age was taken as the covariate in this analysis. As can be seen in Table 67, the analysis yielded a significant main effect for the group on severity of fathers' psychopathology, $F(2, 167) = 9.55, p < .001, \text{partial } \eta^2 = .11$.

Table 67. Analysis of Covariance for Father's Psychopathology

Source	SS	df	MS	F
Group	9651.26	2	4825.63	9.55*
Error	82402.93	163	505.54	
Total	93454.41	166		

* $p < .001$

To interpret this main effect of the Group, Tukey's HSD was conducted at .05 significance level. These post-hoc analyses indicated that fathers of children in CP-only group ($M = 43.46$) had significantly higher levels of psychopathology as compared to fathers' of children both in CP+CU group ($M = 31.25$) and in Control group ($M = 24.84$). However, there was no significant difference between fathers' psychopathology level of children in CP+CU group and Control group. The means (and standard deviations) for BSI of fathers as a function of the Group are presented in Table 68.

Table 68. Means (and Standard Deviations) for Psychopathology Level of Fathers as a Function of Groups

	Mean	SD	N
CP+CU	31.25a	17.39	28
CP-only	43.46b	32.79	39
Control group	24.84a	18.55	100

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

3.2.6.3.2 Family Functioning

A multivariate analysis of covariance (MANCOVA) was conducted to evaluate the group differences (CP+CU, CP-only, and Control group) on the family functioning as reported by mothers. Thus, MMFAD subscale scores were taken as the dependent variables (Problem Solving, Communication, Roles, Affective Responsiveness, Affective Involvement, Behavior Control, and General Functioning) and the Group (CP+CU, CP-only, and Control group) of the child as the independent variable. Mother's age and SES level of the family were taken as the covariates in this analysis. The means (and standard deviations) for MMFAD subscales as a function of the Group are given in Table 69.

Table 69. Means (and Standard Deviations) for Family Functioning Subscales as a Function of Groups

Family Functioning	CP+CU		CP-only		Control group		Difference
	Mean	SD	Mean	SD	Mean	SD	Between Groups
							F (2, 184)
Problem Solving	1.83a	0.66	1.87a	0.61	1.53b	0.51	7.12**
Communication	1.70a	0.49	1.86a	0.55	1.48b	0.40	11.55**
Roles	2.22a	0.40	2.02b	0.38	1.74c	0.35	27.71**
Affective Responsiveness							
Affective	1.81a	0.63	1.84a	0.62	1.43b	0.56	12.65**
Involvement							
Affective	2.39a	0.38	2.47a	0.33	2.23b	0.31	9.75**
Behavior Control							
Behavior	2.00a	0.31	2.05a	0.34	1.89b	0.31	3.80*
General Functioning							
General	1.70a	0.57	1.82a	0.50	1.40b	0.36	19.09**

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

* $p < .05$; ** $p < .001$

MANCOVA results indicated a significant Group main effect $F(14, 356) = 4.88, p < .001, \text{partial } \eta^2 = .16$. Univariate analyses indicated a significant main effect for Group on Problem Solving, $F(2, 184) = 7.12, p < .001, \text{partial } \eta^2 = .07$; on Communication, $F(2, 184) = 11.55, p < .001, \text{partial } \eta^2 = .11$; on Roles, $F(2, 184) = 27.71, p < .001, \text{partial } \eta^2 = .23$; on Affective Responsiveness, $F(2, 184)$

= 12.65, $p < .001$, partial $\eta^2 = .12$; on Affective Involvement, $F(2, 184) = 9.75$, $p < .001$, partial $\eta^2 = .10$; on Behavior Control, $F(2, 184) = 3.80$, $p < .05$, partial $\eta^2 = .04$, and on General Functioning, $F(2, 184) = 19.09$, $p < .001$, partial $\eta^2 = .17$.

Post-hoc comparisons were conducted to evaluate the pair-wise differences among the means for the Group main effects. Tukey's HSD comparisons at .05 alpha level indicated that mothers of children in the Control group reported significantly higher problem solving abilities within the family ($M = 1.53$), higher communication skills within the family ($M = 1.48$), more allocation and sharing of responsibilities of household tasks ($M = 1.77$), higher ability to show affective responses ($M = 1.43$), higher affective involvement ($M = 2.23$), less problems regarding to behavior control within the family ($M = 1.89$), and in general higher general functioning within the family ($M = 1.40$) as compared to mothers of children both in CP+CU group (M s = 1.83, 1.70, 2.22, 1.81, 2.39, 2.00, and 1.70, respectively) and in CP-only group (M s = 1.87, 1.86, 2.02, 1.84, 2.47, 2.05, and 1.82, respectively). There were no significant differences between the two conduct problem groups on these family functioning subscales, except on the Roles subscale. Mothers of children in CP+CU group reported higher problems regarding allocation and sharing of responsibilities of household tasks ($M = 2.22$) as compared to mothers of children in CP-only group ($M = 2.02$).

CHAPTER IV

DISCUSSION

Applying the concept of psychopathy to the development of conduct problems in children is a relatively new approach in child psychopathology literature. Today, research on Childhood-onset conduct problems suggests a theoretical model with two distinct etiological pathways, each with different relations with variables associated with child antisocial behavior in past research, to conduct problems in children. According to this model, one group of children experience impulsivity and conduct problems, and a second group of children experience impulsivity and conduct problems along with CU traits (Frick, O'Brien et al., 1994), which are similar to the interpersonal and affective characteristics typical in psychopathic adults (Hare et al., 1991; Harpur et al., 1989). The presence of psychopathic traits in the second group has been associated with greater severity and variety of conduct problems suggesting a separate and more severe developmental pathway both in clinic-referred (Christian et al., 1997) and in community samples (Frick, Bodin, & Barry, 2000).

In general, the present study was designed to investigate the predictors of conduct problems and CU traits. In addition, the study aimed to compare children with and without psychopathic tendencies in terms of different risk factors in order to figure out how child, parental, and other familial factors contribute to the development of conduct problems in different subgroups of children, namely with high CU traits and with low CU traits. As mentioned previously, although there are many studies on potential risk factors of conduct problems in children, most of them did not make a distinction between subgroups of children with and without psychopathic tendencies. Very importantly, results of Wootton et al.'s (1997) study showed that children with high CU traits are unresponsive to typical socialization processes, so that they are not affected by ineffective parenting

practices unlike children with low CU traits. Thus, many risk factors may play different roles when the distinction is made according to existence of psychopathic traits among children with conduct problems.

In the first section of the discussion, results regarding the psychometric properties of the instrument adapted to be used with Turkish samples will be discussed. Then, characteristics of the study sample, return rate of the research instruments, and the results regarding to predictors of the dependent variables, namely conduct problems/hyperactivity (mother and teacher reported) and CU traits (mother and teacher reported and combined ratings) will be presented. Thirdly, results regarding group comparisons (children with conduct problems and high on CU traits, children with conduct problems and low on CU traits, and children without conduct problems and low on CU traits) in terms of risk factors will be provided. Next, hypotheses of the study will be reviewed. Next, limitations of the study and suggestions for future studies will be discussed and lastly clinical implications of the current study will be underlined.

4.1 Discussion of Psychometric Studies for the Newly Adapted and Readapted Instruments used in the Present Study

In general, the current study investigated the risk factors of conduct problems and CU traits in children. For measuring assessing behavioral and emotional problems in children, the Strengths and Difficulties Questionnaire, which was already translated into Turkish and adapted for Turkish samples, was used. However, because the psychometric properties of this questionnaire were found unsatisfactory, reliability and validity studies were conducted again. In addition, in the current study it was necessary to translate and adapt two instruments, namely the School-Age Temperament Inventory and the Antisocial Process Screening Device which assess the temperamental characteristic of children and CU traits in children, respectively. These two instruments were not used for Turkish samples before. After obtaining permissions for using the instruments for the Turkish sample, translation and back-translation procedures were followed by a team of four psychologists. Then, reliability and validity studies were conducted to examine the psychometric properties of these two

instruments for the Turkish sample. In the following sections, first the psychometric properties of the readapted Strengths and Difficulties Questionnaire and then the psychometric properties of the newly translated and adapted instruments, namely the School-Age Temperament Inventory and the Antisocial Process Screening Device will be discussed in detail.

4.1.1 Strengths and Difficulties Questionnaire

Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is a brief behavioral screening questionnaire designed to evaluate the prosocial behavior, and emotional and behavioral problems of children aged 4 to 16. The original scale has five subscales, namely Emotional Symptoms, Conduct Problems, Hyperactivity-Inattention Problems, Peer Problems, and Prosocial Behavior, and a Total Difficulty scale. Psychometric properties of the SDQ parent and teacher forms were conducted by Goodman (2001) in a community sample of children. For reliability of the SDQ, Goodman (2001) reported that the Cronbach alpha coefficients of the five factors ranged between .57 and .82 in the SDQ-Parent form and ranged between .70 and .87 in the SDQ-Teacher form. The lowest alpha coefficient belonged to the peer problems factor in both forms.

In the current thesis in Study 1, in order to check the internal consistency, Cronbach alpha coefficients were computed for the parent and teacher forms according to original factor structure of the SDQ. The Cronbach alpha coefficients of the parent-form, ranging from .31 to .79, were lower than the Cronbach alpha coefficients founded in the first Turkish adaptation study conducted by Güvenir et al. (2004). In addition, peer problems subscale had a very low internal consistency both in parent and teacher forms, $r = .31$ and $r = .28$, respectively. The internal consistency coefficient of the peer problems subscale is lower than those values found both in the original study (Goodman, 2001), which were reported as .57 for parent form and .70 for teacher form, and in the Turkish adaptation study (Güvenir et al., 2004), which was reported as .37 for parent form. Thus, similar to the original psychometric study conducted in a community sample by Goodman (2001), a Principal Components Factor analysis was conducted to check the factor structure of the items. Results showed that

there were four subscales named as Conduct Problems/Hyperactivity, Prosocial Behavior, Emotional Symptoms, and Inattention Problems, instead of five subscales in the original scale. The Peer Problems subscale of the original scale did not appear as a separate dimension, in this analysis. Briefly, the original Hyperactivity-Inattention subscale of the SDQ is comprised of five items that cover the three key symptom domains, namely inattention, hyperactivity, and impulsiveness, of the DSM-IV diagnosis of ADHD. However, in the Turkish data, two items referring to Hyperactivity combined with items of conduct problems in one factor, named as “Conduct Problems/Hyperactivity”, and two Inattention items and one Impulsivity item were loaded on another factor, named as “Inattention Problems”. In other words, one key symptom domain of the ADHD, which is hyperactivity, is separated from the other two key symptom domains in the present study. Interestingly, the results of the factor analysis were similar to those found in an Italian community sample (Marzocchi et al., 2004). According to factor analysis of the Italian version of the SDQ-Teacher form, while the two hyperactivity items loaded with conduct problems items on the same factor, the remaining three items reflecting inattention and impulsivity loaded on a different factor. The clustering of symptoms of conduct problems/hyperactivity in the same factor might be due to the high rate of comorbidity of ADHD and disruptive behavior disorders in general (Angold et al., 1999; Lahey, Miller et al., 1999). Some studies conducted in Turkey reported that 54 % of the children with ADHD diagnosis had comorbid diagnoses of DBD (Şenol, 1997) and 85.6 % of children with CD diagnosis had a comorbid ADHD diagnosis (Yavaş, 1995). The results of the factor analyses were consistent with these reports suggesting a high comorbidity between ADHD and DBD diagnoses. Unlike these two studies, in the present study children were not given clinical diagnoses of ADHD or DBD, but they were only rated on continuous scales. However, because the factor analysis was conducted according to teacher data, results indicate that teachers may not be able to exactly differentiate pure conduct problem cases from pure hyperactive cases, but they may be identifying comorbid cases more easily or their observations on children’s conduct problems may be confounded by children’s hyperactive behaviors. This interpretation is consistent

with Reeves et al.'s (1987) study in which cases with pure conduct disorders cannot be easily identified due to the high comorbidity with ADHD. On the other hand, similar to the present results in factor analysis, in a cultural adaptation study of the SDQ conducted in Portugal, researchers found that the original Peer Problem subscale was not replicated in teacher ratings (Marzocchi et al., 2004). However, because they decided that overall pattern of loadings of the items resembled strongly enough to those of the original scale, they used the five factor model in their study. It is clear that using a scale like SDQ, which is adapted and used frequently in many cultures, with its original properties has many advantages. First of all, it helps to make cross cultural comparisons easier. However, ignoring different factor structure may result in losing out some important findings that might be specific to cultures. Thus, in this study, it was preferred to use the four-factor model of SDQ due to the emphasis on cultural differences. This decision made it necessary to design another study (Study 2) that includes the validity analyses of the parent and teacher forms of the SDQ according to the four factors obtained in Study 1.

The Cronbach alpha coefficients were recalculated according to the four factor structure. Both in Study 1 and Study 2 of the current thesis, coefficients were found to be higher as compared to alpha coefficients gathered according to the original factor structure. In addition, interrater reliability was checked through examining the correlations between parent and teacher ratings. These correlations were moderate but similar to those found in the original scale, which is regarded as satisfactory for different informants in the assessment of childhood psychopathology (Piacentini et al., 1992). Moreover, in Study 1, test-retest correlation coefficients for an interval of three or four weeks were checked for a subset of the sample and they were found to be higher as compared to test-retest reliability coefficients reported for the original scale (Goodman, 2001).

In the present study, the construct validity of the SDQ with four factors was investigated by scale intercorrelations. Both in Study 1 and in Study 2, the four subscales and the Total Difficulty score of the SDQ were found to be highly correlated with each other both in parent and teacher forms. According to these results, in line with expectations, conduct problems/hyperactivity, emotional

symptoms, inattention problems, and Total Difficulty score correlated with each other positively. In addition, prosocial behavior correlated negatively with all other subscales. Significant intercorrelations among the four subscales and Total Difficulty score of the SDQ and the high internal consistency of each of the four subscales indicated to construct validity of the SDQ.

Convergent validity of the original SDQ was assessed by Goodman and Scott (1999) by comparing it with the CBCL (Achenbach, 1991). Scores from the SDQ and CBCL were found to be highly correlated and they were equally able to discriminate psychiatric cases from normal cases. In the previous Turkish adaptation study conducted by Güvenir et al. (2004), like in all other cultural adaptation studies, CBCL was used to assess the convergent validity and in this study SDQ was found to differentiate between the clinical and control groups, indicating criterion validity. However, for the present study the permission to use CBCL could not be got. Thus, to get closer to the previous studies, in the present study, the concurrent validity of the SDQ was examined by assessing the correlation between the four subscales and the Total Difficulty score of the SDQ and other related measures. The two main measures used for the validity analyses were The Hacettepe Emotional Adjustment Scale (HEAS; Gökler & Öktem, 1985), which evaluates the emotional adjustment of children, and Childhood and Adolescent Rating and Screening Scale (CARSS; Turgay, 1995), which evaluates the externalizing behavior problems of children. The reason for using HEAS was that it provides two subscales and a Total Adjustment score similar to those of the CBCL. Additionally, CARSS was developed according to DSM-IV diagnostic criteria of ADHD, ODD, and CD.

Parallel to expectations, conduct problems/hyperactivity subscale correlated significantly with hyperactivity, impulsivity, hyperactivity disorder, attention deficit hyperactivity disorder, and conduct disorder subscales of the CARSS, and with behavior problems subscale of the HEAS. Next, prosocial behavior subscale of the SDQ was found to be correlated significantly with parent and teacher ratings of prosocial behavior that was asked as a separate question. Moreover, emotional symptoms subscale of the SDQ correlated significantly with neurotic problems subscale of the HEAS. Furthermore, inattention problems

subscale of the SDQ correlated significantly with inattention and impulsivity subscales of the CARSS. Lastly, Total Difficulty score of the SDQ correlated significantly with Total Adjustment score of the CARSS. These significant correlations with related measures indicated to concurrent validity of the SDQ with four factors.

In addition, in the current study, criterion validity was checked for each of the SDQ subscales and the Total Difficulty score separately for parent and teacher forms through a series of One-Way ANOVAs. The criterion validity of conduct problems/hyperactivity subscale was examined with regard to hyperactivity, impulsivity, hyperactivity disorder, attention deficit hyperactivity disorder, and conduct disorder subscales of the CARSS and to behavior problems subscale of the HEAS. Children with higher scores on each of the subscale of the CARSS had significantly higher scores on conduct problems/hyperactivity subscale of the SDQ as compared to children with lower scores on the corresponding subscale of the CARSS. In addition, children with higher scores on behavior problems subscale of the HEAS had significantly higher scores on conduct problems/hyperactivity subscale as compared to children with lower scores on behavior problems subscale of the HEAS. In addition, the criterion validity of prosocial behavior subscale was examined with regard to responses on parents' ratings of prosocial behaviors. Children who were rated as having more prosocial behaviors by their parents, scored significantly higher on prosocial behavior subscale of the SDQ as compared to children rated as having less prosocial behaviors. Next, the criterion validity of emotional symptoms subscale was investigated with regard to neurotic problems subscale of the HEAS. Children with more neurotic problems scored significantly higher on emotional symptoms as compared to children with lower levels of neurotic problems. Furthermore, the criterion validity of inattention problems subscale was examined with regard to inattention subscale and impulsivity subscale of the CARSS. Results showed that children with higher inattention scores on the CARSS had significantly more inattention problems as compared to children with lower inattention scores on the CARSS. In addition, children with higher impulsivity scores on the CARSS had significantly more inattention problems as compared to children with lower

impulsivity scores on the CARSS. Lastly, the criterion validity of Total Difficulty scale was examined with regard to Total Problems score on HEAS. Children with higher total problems score on the HEAS had significantly higher total difficulty scores as compared to children with lower total problems score on the HEAS.

As a result of the reliability and validity analyses, the Turkish version of the parent and teacher forms of the SDQ with four factors, instead of five as in the original questionnaire, showed respectively reliable and valid results to evaluate the emotional and behavioral problems and prosocial behaviors of children.

4.1.2 School-Age Temperament Inventory

School-Age Temperament Inventory (SATI; McClowry, 1995) is a parental report of temperamental characteristics of children between 8-11 years of age. It contains four empirically driven dimensions, namely Negative Reactivity, Task Persistence, Approach/Withdrawal, and Activity. In the development of the original scale, a Principal Components Factor Analysis was conducted to validate these four empirically driven dimensions. Internal consistencies for the dimensions were reported to be high, with Cronbach alpha coefficients ranging between .85 and .90 for the original scale (McClowry, 1995). Similarly, in the present thesis in Study 1, for evaluating the internal consistency of negative reactivity, task persistence, approach/withdrawal, and activity dimensions, Cronbach alpha coefficients were computed and they were found to range between .79 and .86, indicating a satisfactory internal consistency for all the dimensions. Moreover, in Study 1, test-retest correlation coefficients for an interval of three or four weeks were checked for a subset of the sample and they were found to range between .85 and .93, indicating slightly higher test-retest coefficients than those found in the original study after 4 to 6 months (McClowry, 1995).

For the validity studies, first the intercorrelations among the four dimensions of the SATI were investigated. According to the results, in line with expectations, negative reactivity correlated negatively with task persistence, and positively with approach/withdrawal and activity. In addition, task persistence

correlated negatively with approach/withdrawal and activity. However, there was not a significant correlation between approach/withdrawal and activity dimensions. Significant intercorrelations among the four dimensions of the SATI indicated to construct validity of the SATI.

In the development of the original scale, the convergent validity of the SATI was assessed by comparing it with the Temperament Assessment Battery for Children (TABC-R; Martin, 1988; Presley & Martin, 1994), because its subscales were conceptually similar to the dimensions of the SATI (McClowry, 1995). Similar to the original study, in Study 1, the concurrent validity of SATI dimensions was examined by assessing the correlations between the dimension and the subscale scores and Total Difficulty scores of the parent form of SDQ. The reason for selecting these criteria as evidence of concurrent validity of the scale was theoretical. Because dimensions of the SATI and subscales of the SDQ evaluate conceptually related behaviors in children, SDQ was used to assess concurrent validity of the SATI. Supporting the theoretical expectations, results indicated that temperament dimensions of negative reactivity, task persistence, approach/withdrawal, and activity are significantly correlated with the Total Difficulty score of the SDQ. That is, an increase in negative emotionality, withdrawal in new situations, activity, and a decrease in task persistence were associated with an increase in emotional and behavioral difficulty in children. Furthermore, there was a positive correlation between negative reactivity dimension of SATI and emotional symptoms subscale of the SDQ, a negative correlation between task persistence dimension of the SATI and inattention problems subscale of the SDQ, a negative correlation between approach/withdrawal dimension of the SATI and prosocial behavior subscale of the SDQ, and a positive correlation between activity dimension of the SATI and conduct problems/hyperactivity subscale of the SDQ.

Lastly, criterion validity was checked for each of the SATI dimensions through four separate One-Way ANOVAs. The criterion validity of negative reactivity dimension was examined with regard to emotional symptoms subscale, of task persistence dimension with regard to inattention problems subscale, of approach/withdrawal dimension with regard to prosocial behavior subscale, and

of activity dimension with regard to conduct problems/hyperactivity subscale of the SDQ-Parent. The analysis of variances revealed significant differences for all dimensions. More specifically, children with more emotional symptoms scored higher on negative reactivity as a temperamental characteristic as compared to children with less emotional symptoms; children with higher levels of inattention problems had lower levels of task persistence as compared to children with lower levels of inattention problems; children lower on prosocial behavior withdraw new and strange situations stronger as compared to children higher on prosocial behavior; and children with higher scores on conduct problems/hyperactivity were found to be temperamentally more active as compared to children with lower scores on conduct problems/hyperactivity.

Consequently, according to reliability and validity analyses, the Turkish version of SATI showed reliable and valid results to evaluate the temperament of the children between 8-11 years of age in the Turkish sample.

4.1.3 Antisocial Process Screening Device

Antisocial Process Screening Device (APSD; Frick & Hare, 2002), is a behavior rating scale that evaluates the presence of psychopathic traits and antisocial behaviors in children between the ages of 6 and 13. A validation study performed in a community sample of children revealed three-factor structure underlying this rating scale: Callous-Unemotional, Narcissism, and Impulsivity (Frick, Bodin, & Barry, 2000). In Study 1 of the current thesis, Cronbach alpha coefficients were computed for Callous-Unemotional, Narcissism, and Impulsivity dimensions and for the Total Scale of the APSD-Parent, Teacher, and Combined forms in order to check the internal consistency of the instrument. The Cronbach alpha coefficients of all the three forms were slightly lower than the Cronbach alpha coefficients mentioned in the original version of the scale (Frick, Bodin, & Barry, 2000). However, in the present study, the Cronbach alpha coefficients of the CU dimension were very low in all the three forms, indicating a low internal consistency of this dimension. Examination of the alpha coefficients with each item deleted indicated that the removal of two items out of six items in CU subscale notably increase the internal reliability of this dimension and the

Total Scale. These items were item #3 “Is concerned about how well he/she does at school or work” and item #19 “Does not show feelings or emotions”. When content analysis was conducted, it became evident that there were some problems in the translation of these two items. In the first translation, item # 3 was translated into Turkish as “Okulda ya da yaptığı bir işte ne kadar iyi ya da başarılı olduğu konusunda endişelenir” and item # 19 as “Duygularını veya hislerini göstermez”. The problem in item # 3 might be due to the difficulties in the exact translation of the word “concern” into Turkish. The word “worry” is only one of the meanings of “concern” in Turkish, but not the best one for translation of this sentence. Thus, item # 3 was retranslated as “Okulda ya da yaptığı bir işte ne kadar iyi ya da başarılı olduğu umurunda değildir”, stressing “being not interested or does not care” under the meaning of “concern”. On the other hand, the translation problem in item # 19 was thought to be due to cultural understandings of “showing emotions”. In male dominant Turkish culture, showing emotions might have negative meaning, especially for males. Since showing emotions is believed to indicate weakness especially in some subcultures where masculine characteristics are overvalued, most of the parents of boys might have reported that their child does not show his emotions. However, in the original scale, this item refers to emotional callousness. Thus, item # 19 was retranslated as “Soğuk ve aldırmaz görünür” into Turkish, stressing callousness and unemotionality. After making the corrections in the translations of two items, internal consistency of the APSD dimension were rechecked in Study 2 and results showed that the Cronbach alpha coefficients of all the three forms of the APSD were reasonably increased.

In addition, in the present study, the interrater reliability was checked through examining the correlations between parent and teacher ratings. Except for the narcissism dimension, all correlations between parent and teacher ratings, ranging between .20 and .30, were significant, indicating a satisfactory interrater reliability. For the original scale, interrater correlation coefficients were reported to range between .26 and .43, all at $p < .01$ in the community sample (Frick, Bodin, & Barry, 2000). This degree of correlation between different informants was reported as typical in the assessment of childhood psychopathology

(Piacentini et al., 1992). After making the corrections in the translations of two problematic items in Study 1, interrater reliability was reassessed in Study 2. All correlations between parent and teacher ratings increased, indicating an even higher interrater reliability reported for the original scale (Frick, Bodin, & Barry, 2000). Moreover, in Study 1 of the current thesis, test-retest correlation coefficients for an interval of three or four weeks were checked for a subset of the sample. Results indicated a significant test-retest reliability.

In the present study, the construct validity of the APSD was investigated by scale intercorrelations. All in parent, teacher, and combined forms of the APSD, the three dimensions and the Total Scale score were found to be highly positively correlated with each other. Significant intercorrelations among the three subscales and Total Scale of the APSD indicated the construct validity of the APSD.

In the development of the original scale, concurrent validity of the APSD was evaluated by checking the associations between DSM-IV symptoms and APSD dimensions. In normative studies of the APSD conducted by Frick, Bodin, and Barry (2000) on a large community sample, all the dimensions of the APSD were found to be correlated significantly with disruptive behavior disorders in the community sample, with narcissism exhibiting the strongest correlations and CU exhibiting the weakest correlations. In the current study, the concurrent validity was examined by assessing the correlation between the three dimensions and the Total Scale score of the APSD and the subscale scores of the SDQ and four dimension scores of the SATI.

For the APSD-Parent form, all the dimensions and the Total Scale score of the APSD showed significantly positive correlations with approach/withdrawal and activity dimensions of the SATI, except for the significantly negative and relatively low correlation between CU dimension of the APSD and negative reactivity of the SATI and the nonsignificant correlation between CU dimension of APSD and activity dimension of SATI. Additionally, there was a negative significant correlation between all the three dimensions and the Total Scale of the APSD and task persistence dimensions of the SATI. Moreover, all the dimensions and the Total Scale score of the APSD correlated positively with conduct

problems/hyperactivity, emotional problems, inattention problems subscales, and Total Difficulty of the SDQ-Parent, with the exception of the only nonsignificant correlation between CU dimension of APSD and emotional symptoms subscale of the SDQ-Parent. Additionally, all the dimensions and the Total Scale of the APSD correlated negatively with prosocial behavior subscale of the SDQ-Parent.

Similar to parent correlations, all the dimensions and the Total Scale score of the APSD correlated positively with conduct problems/hyperactivity, emotional problems, inattention problems subscales, and Total Difficulty of the SDQ-Teacher. However, unlike the parent ratings, there was a significant correlation, between CU dimension of APSD and emotional symptoms subscale of the SDQ in teacher ratings. Additionally, all the three dimensions and the Total Scale of the APSD correlated negatively with prosocial behavior subscale of the SDQ-Teacher. Lastly, results showed a satisfactory concurrent validity for the three dimensions and the Total Scale score of the APSD-Combined form.

Results regarding to the negative significant correlation between CU dimension of the APSD and negative reactivity of the SATI in parent ratings, and emotional symptoms subscale of the SDQ in teacher ratings were parallel to results in the literature. Findings in the literature showed that children with CU traits had lower levels of fearfulness and anxiety (Barry et al., 2000; Frick, O'Brien et al., 1994; Frick et al., 1999). In a study Frick et al. (1999) found that while Impulsivity scale correlated positively with measures of anxiety, CU scale correlated negatively with measures of anxiety. In addition, these children were found to be less distressed by certain negative emotional stimuli (Blair, 1999; Frick, Cornell, Bodin et al., 2003; Loney et al., 2003), indicating negative reactivity. On the other hand, the nonsignificant correlation between CU dimension of APSD and emotional symptoms subscale of the SDQ-Parent might be due to the parents' lack of insight about their children's CU traits or due to the parents' difficulties to accept and report that the child is unemotional. It is important to note that as compared to the correlations between CU scale of the APSD and other related measures according to teacher ratings, the correlations between CU scale of the APSD and related measures were lower according to parent ratings.

In addition, in the current study, criterion validity for each of the APSD dimensions and the Total Scale score was checked separately for parent and teacher forms through a series of One-Way ANOVAs. The criterion validity of CU scale was examined with regard to Conduct Problems/Hyperactivity subscale and on prosocial behavior subscale of the SDQ. Children with more conduct and hyperactivity problems scored significantly higher on CU traits as compared to children with lower levels of conduct and hyperactivity problems. In addition, children with higher levels of prosocial behaviors had significantly lower scores on CU traits as compared to children with lower levels of prosocial behaviors. The criterion validity of narcissism scale was evaluated with regard to conduct problems/hyperactivity subscale, prosocial behavior subscale, and Total Difficulty of the SDQ. Children with more conduct and hyperactivity problems scored significantly higher on narcissism as compared to children with lower levels of conduct and hyperactivity problems. Moreover, children with higher levels of prosocial behaviors had significantly lower scores on narcissism as compared to children with lower levels of prosocial behaviors. Lastly, children with higher levels of total difficulty problems had significantly higher scores on narcissism as compared to children with lower levels of total difficulty problems. The criterion validity of impulsivity dimension was examined with regard to conduct problems/hyperactivity subscale and inattention problems subscale of the SDQ, and to task persistence and activity dimensions of the SATI. As expected, children with more conduct and hyperactivity problems scored significantly higher on impulsivity as compared to children with lower levels of conduct and hyperactivity problems. In addition, children with higher levels of inattention problems had significantly higher scores on impulsivity as compared to children with lower levels of inattention problems. Similarly, children with higher levels of task persistency had significantly lower scores on impulsivity as compared to children with lower levels of task persistency. Also, children with higher levels of activity had significantly higher scores on impulsivity as compared to children with lower levels of activity. Lastly, the criterion validity of the Total Scale was evaluated with regard to conduct problems/hyperactivity subscale, prosocial behaviors subscale, and Total Difficulty score of the SDQ. Results showed that

children with more conduct and hyperactivity problems had significantly higher levels of antisocial tendency as compared to children with lower levels of conduct and hyperactivity problems. In addition, children with higher levels of prosocial behaviors had significantly lower levels of antisocial tendency as compared to children with lower levels of prosocial behaviors. Furthermore, children with higher levels of total difficulty problems had significantly higher levels of antisocial tendency as compared to children with lower levels of total difficulty problems.

In general, reliability and validity studies showed that all the three forms of the Turkish version of the APSD are reliable and valid instruments to evaluate the psychopathic traits in children between 8-11 years of age in the Turkish sample.

4.2 Discussion for the Main Study

4.2.1 Descriptive Characteristics of the Sample

The present study used non-clinic referred children with the aim of investigating the predictors of conduct problems and CU traits from different socioeconomic levels. Because studies using clinic-referred conduct disordered children show that these children are usually from low socioeconomic families, the current study was conducted with non-clinic referred children. In order to reach children with conduct problems in a non-clinic population, class teachers were asked to nominate children with conduct problems in their classes. However, in this study, the criteria used for teacher-nomination mainly included features related to overt conduct problems, such as bullying, fighting, or aggressiveness, which are found more common in boys especially during childhood, rather than covert ones (Tiet et al., 2001; Zoccolillo, 1993; Zoccolillo et al., 1996). This might have resulted in having more males ($n = 368$, 71.7 %) as compared to females ($n = 145$, 28.3 %) in the sample. Several analyses were conducted to compare females and males in terms of dependent variables of the study, namely mother and teacher reported conduct problems/hyperactivity and mother and teacher reported and combined CU traits. Results showed that as compared to

females, males have higher levels of conduct problems/hyperactivity and CU traits according to all ratings. This result was consistent with the most repeated finding in the literature, suggesting that there are gender differences in aggression and conduct problems starting during the preschool years (Keenan & Shaw, 1997).

As predicted, children nominated as having conduct problems by their teachers had significantly more conduct problems/hyperactivity as compared to children nominated as having prosocial behaviors. In addition, in line with the expectations and parallel to previous findings that the CU scale of the APSD was correlated with measures of conduct problems (Frick, O'Brien et al., 1994), children nominated as having conduct problems received higher ratings from both their mothers and teachers on CU traits than did children nominated as prosocial.

In addition, as might be expected, children nominated as having prosocial behaviors by their teachers had significantly more return rate than children nominated as having conduct problems. The reason for this might be that parents of children with conduct problems may be reluctant or indifferent to participate in a study on their parenting and other familial characteristics and their children's behavior problems. They might have felt threatened by the questions in the measures used in the study. It is important to note that data were not returned from a large number of children who were nominated as having conduct problems by their teachers. Since CU levels of these children is unknown, it is not clear whether there is a significant difference between children who returned and children who did not return data in terms of severity of conduct problems and levels of CU traits. Additionally, children in low SES group returned the research instruments significantly more as compared to children in high SES group. Because the instruments were collected back from the children by the class teacher, the request and insistence of the teacher about returning the instruments back to the school was very important in determining the return rate. In low SES schools, it was observed that class teachers have more authority and can enforce more compliance in children and in parents. On the other hand, in high SES schools, class teachers seemed to be more passive, and even had a tendency to be rather reluctant to send the instruments home. When collecting data, most of them

were hesitant to nominate children as having conduct problems and they expressed their reservation that parents may feel indisposed or offended because the study questions their parenting and familial skills. Even in two cases, it was realized by the researcher that teachers did not send the instruments to parents of the nominated children, although they had agreed to participate in the study.

4.2.2 Predictors of Conduct Problems/Hyperactivity and CU Traits

4.2.2.1 Overview

In general, in the main study it was hypothesized that conduct problems with high CU traits and conduct problems with low CU traits will be associated with different risk factors, supporting the model for separate developmental pathways of these two groups of children (Christian et al., 1997; Frick, Barry, & Bodin, 2000; Frick, O'Brien et al., 1994; Wootton et al., 1997). First of all, results of this study showed a moderate but significant correlation between conduct problems/hyperactivity and CU traits for mother ratings ($r = .42$). This moderate correlation was consistent with the findings in previous studies. In an earlier study, Frick, O'Brien et al. (1994) found that CU traits, which are the emotional measures of psychopathy, showed a correlation of .50 with behavioral definitions of conduct problems based on DSM diagnoses. They suggested that the low to moderate correlation between CU traits and conduct problems measures indicates that CU traits and conduct problems are two separate, but correlated psychological constructs.

However, one of the most striking findings was the extremely strong positive correlation between conduct problems/hyperactivity and CU traits for teacher ratings ($r = .80$), which was indicative to multicollinearity or a very strong association or lack of differentiation between these two variables according to teacher ratings. The reason for this strong association might be teachers' difficulty to observe children well in crowded classes, which is a highly frequent case in Turkey in low SES schools. Thus, the Pearson correlation coefficients among teacher ratings of conduct problems/hyperactivity and CU traits were investigated separately for high and low SES levels. However, the results indicated that the strong association between teacher-reported conduct problems/hyperactivity and

CU traits did not differ as a function of SES level. Consequently, it might be thought that teachers could not differentiate these two constructs appropriately from each other and as a result when they label a child as having behavior problems, they might be viewing the child as problematic in every aspect. The finding yielding that children's nomination as having conduct problems by the teachers was correlated very strongly with teacher ratings of CU traits ($r = .77$) is consistent with this explanation. In addition, the findings regarding the factor analysis of the SDQ also supported this explanation. In the factor analysis, it was evident that teachers could not differentiate conduct problems from hyperactivity, which implies teachers' inability in differentiating children who display pure conduct problems and pure hyperactivity symptoms. The teachers may have a general schema about negative behaviors of children and may generalize problems present in one aspect to all behavioral and/or emotional domains.

Moreover, while the correlation between teacher-rated conduct problems/hyperactivity and combined-CU traits was very high ($r = .74$), mother-rated conduct problems/hyperactivity and combined-CU traits showed a moderate correlation ($r = .45$). Similarly, while mother-reported CU traits and combined-CU traits were found to be moderately correlated ($r = .59$), teacher-reported CU traits and combined-CU traits were found to be strongly correlated to each other ($r = .93$). These differences suggest that the combined CU scores, which were calculated by taking the higher score for each item from either the parent or the teacher ratings, were mostly influenced by teacher ratings of CU. This was parallel to the findings that teachers evaluated children significantly higher on CU traits as compared to mothers. Possible reasons for this significant difference between mothers' and teachers' ratings of CU traits will be discussed later.

Furthermore, results showed that mother and teacher ratings of conduct problems/hyperactivity and of CU traits were moderately and positively correlated with each other, $r = .47$ and $r = .36$, respectively. This moderate correlation between different informants was consistent with the findings in literature (De Los Reyes & Kazdin, 2005; Piacentini et al., 1992). For example, in the study conducted by Frick, Bodin, and Barry (2000) it was found that although similar

factor structures were evident according to both of the ratings, parent and teacher ratings on the CU scale of the APSD showed a moderate correlation.

4.2.2.2 Predictors of Conduct Problems/Hyperactivity: Mother and Teacher Ratings

A series of the regression analyses were conducted to examine the predictor variables of conduct problems/hyperactivity. The results indicated that male gender, child's temperamental characteristic of negative reactivity, mother's low education level, maternal rejection, response-cost and physical punishments, less affective involvement within the family, and mother's psychopathology were significant predictors of mother-reported conduct problems/hyperactivity. On the other hand, teacher-reported conduct problems/hyperactivity was predicted significantly by male gender, father's low education level, high SES of the family, physical and response-cost punishments, and maternal rejection.

Among the child-related demographic variables, gender appeared to be significantly related to conduct problems/hyperactivity. Being male was found to be related with higher levels of conduct problems/hyperactivity according to both mother and teacher ratings. This result is consistent with the most recursive result on gender in DBD literature, suggesting that these problems are more prevalent among males both in clinical and community samples (Offord et al., 1987; Reeves et al., 1987; Sanson et al., 1991; Webster-Stratton, 1996; Zoccolillo, 1993). In this study, the criteria used for teacher-nomination mainly included features related to overt aggression, which were found to be shown more commonly in boys (Tiet et al., 2001; Zoccolillo, 1993; Zoccolillo et al., 1996). However, covert forms of conduct problems and behaviors are associated with relational aggression, which involves harming others through purposeful manipulation or damaging their relationships (Crick & Grotpeter, 1995) and this kind of aggression is more prevalent in girls (Kazdin, 1992; Loeber & Schmaling, 1985). Since in this study teachers nominated boys and girls mainly according to their overt conduct problems, rather than covert ones, being male was found to be a significant predictor of conduct problems/hyperactivity and this finding is in line with the

literature suggesting that there are gender differences in aggression and conduct problems starting during the preschool years (Keenan & Shaw, 1997).

As expected, child's temperamental characteristics of negative reactivity predicted conduct problems/hyperactivity significantly. However, this significant association was evident in the final model only for mother ratings. Although negative reactivity predicted teacher-reported conduct problems/hyperactivity significantly in the second step, its association with conduct problems/hyperactivity became nonsignificant in the final model, after the entrance of all the variables into the equation. According to the mother ratings, children with higher levels of negative reactivity showed higher levels of conduct problems/hyperactivity. This was consistent with results of many studies in the literature conducted on children's difficult temperament (Eisenberg et al., 1994; Thomas et al., 1968; Sanson et al., 1993), one important dimension of which is negative reactivity (Rothbart & Bates, 1998). For example, in a longitudinal study, child's difficult temperament in early ages reported by their mothers was found to be correlated with externalizing behavior problems at later ages (Bates et al., 1991). The reason for the strong association between negative reactivity and conduct problems was explained by the maladaptive emotion regulation processes found in children with high negative reactivity (Calkins, 1994). Furthermore, because having a child who lacks adaptive emotion regulation processes is stressful for the parents, in a number of cases, parents develop negative parental attitudes and use ineffective parenting practices towards their child, resulting in increasingly maladaptive, coercive parent-child interactions (Patterson & Bank, 1987), which may result in conduct problems. However, mothers' reports of children's negative reactivity did not predict teacher ratings of children's conduct problems/hyperactivity in the final model. One reason for this might be that the association between conduct problems/hyperactivity and other variables entered into the regression prior to negative reactivity were stronger and shadowed the significant relationship between negative reactivity and teacher-reported conduct problems/hyperactivity in the final model.

Among the family-related socio-demographic variables, according to mother ratings only mother's low education level appeared as a significant

predictor of children's conduct problems/hyperactivity. On the other hand, according to teacher ratings, both father's low education level and high SES of the family appeared independently as significant predictors of children's conduct problems/hyperactivity. The positive association between parents' low education level and children's conduct problems/hyperactivity is consistent with previous findings indicating mothers' low education level as a significant predictor of physical aggression in boys (Nagin & Tremblay, 2001) mainly due to the application of ineffective parenting practices frequently by less educated mothers. In addition, the significant association between high SES of the family and severity of children's conduct problems/hyperactivity may be due to high SES parents' lack of enough time to spend with their children. Since the study did not investigate the impact of parental involvement on children's conduct problems/hyperactivity, this explanation needs further investigation. However, it is important to remind that high SES parents returned the instruments significantly less as compared to low SES parents in this study. This difference in return rates of the research instruments may be related to parents' less involvement in their children in high SES families. Furthermore, the significant association between high SES of the family and severity of children's conduct problems/hyperactivity may also be due to parents' lenient attitudes which lead to spoiled behaviors in children.

Among the parenting, parental, and family variables, maternal rejection and response-cost and physical punishments appeared as significant predictors in both mother and teacher ratings of conduct problems/hyperactivity. As maternal self-report of maternal rejection and response-cost and physical punishments applied to the child increased, child's level of conduct problems/hyperactivity became more intense. The result on maternal rejection was consistent with the findings of previous studies, which signified the importance of parental rejection as a parenting style on internalizing and externalizing problems of children (Fauber, Forehand, McCombs, & Wierson, 1990; Muris, Meesters, & van den Berg, 2003) and on children's psychological maladjustment in general (Khaleque & Rohner, 2002). According to PARTheory (Rohner, 1986), the poor psychological well-being of children, which includes both internalizing problems such as dependency, low self-

esteem and low self-adequacy, and externalizing problems such as aggression and hostility, is strongly influenced by their experiences of parenting style of acceptance-rejection, which was regarded as one of the most crucial factors among parenting variables. Rohner (1986) described rejecting parents as disliking, disapproving, neglecting, aggressive, hostile, or indifferent toward their children. Many studies have consistently confirmed the significantly positive relationship between parental rejection and externalizing symptoms (Meesters et al., 1995; Meesters et al., 2004; Muris et al., 1989; Wasserman et al., 1996). The results consistently revealed that subjects with higher levels of hostility perceive less emotional warmth and more rejection of their parents as compared to their counterparts with low levels of hostility. However, it is important to note that in most of these studies on parental acceptance-rejection, child's perceptions of parental rejection were used for measuring parental rejection. Although in the present study measures of maternal rejection were based on mothers' self-report, results were consistent to findings in literature.

Additionally, the finding of the significantly positive relationship between level of physical and response-cost punishments and conduct problems/hyperactivity was also consistent with the literature, which indicates that parents of children with conduct problems are more harsh or abusive in their use of punishment and they use aggression as a disciplinary strategy (Dadds et al., 1992; Lefkowitz et al., 1977; Patterson, Reid, & Dishion, 1992; Shaw & Bell, 1993). In many studies, excessive use of corporal punishment and application of harsh attitudes by parents have been found strongly related to conduct problems in childhood (Becker et al., 1962; Bierman & Smoot, 1991; Campbell, Pierce, Moore, & Marakovitz, 1996; Frick et al., 1992; Larzelere, 1986; Kimonis et al., 2006; Straus, 1991; Laub & Sampson, 1988; Patterson, Dishion, & Bank, 1984; Strassberg et al., 1994; Wells & Rankin, 1988). Patterson (1982) combined the findings regarding to parental rejection and ineffective parenting practices, such as maladaptive punishment, in the theory of "coercive process", which is based on social learning model of childhood antisocial behaviors. Patterson suggested that parents of conduct-disordered children were low in warmth and affection and high in rejection toward their children, and they typically use aversive, harsh, and

physical punishment and discipline, and show high rates of aggression in interactions with their children. According to Patterson's model, these maladaptive parenting behaviors encourage children to use unwanted, aggressive behaviors in their interactions with parents, which then results in a coercive cycle, in which children's and parents' negative behaviors reinforce each other continually. In addition, in another study, Pettit and Bates (1989) found that harsh discipline and maternal warmth operated as independent predictors of child conduct problems. Furthermore, given the significant association between negative reactivity and children's conduct problems/hyperactivity, child's temperamental characteristic of high negative reactivity may result in mother's using of harsh disciplinary and punishment strategies and showing less emotional warmth towards the child. In summary, in line with these previous findings, results of the current study indicated that higher levels maternal rejection and applied punishment are associated independently with severity of conduct problems/hyperactivity according to both mother and teacher ratings.

In addition, results indicated that less affective involvement within the family and mother's psychopathology were significant predictors of conduct problems/hyperactivity but this relationship was evident only for mother reports. More specifically, according to mother ratings, children from families, in which members have low levels of affective involvement with each other, had higher levels of conduct problems/hyperactivity. This finding was similar to results of Woodall and Matthews's (1989) study, in which children who scored high on hostility and anger were found to have families with low levels of interpersonal involvement between its members. Similarly, Hill and Bush (2001) found a negative association between expression of feelings within the family and conduct problems in children.

Results of this study did not replicate findings regarding the strong association between problems solving, communication skills and affective responsiveness, and children's conduct problems. According to Patterson (1982), parents of children with externalizing problems had deficiencies in a number of skills, including problem solving and communication. Although Patterson's suggestion was supported by another study, which showed that maternal self-

report of family dysfunction, including parents' inability to solve problems or conflicts and to communicate with each other, was significantly related to children's conduct problems (Cunningham & Boyle, 2002; Webster-Stratton & Hammond, 1999), in the present study these findings were only partially supported. More specifically, the only significant relation was found between affective responsiveness and conduct problems, but not with problem solving and communication skills. One reason for this might be that affective involvement as a construct may also include other functional aspects of family functioning in itself. In other words, a relatively stronger relationship between affective involvement within the family and children's conduct problems/hyperactivity might have shadowed other significant relationships.

Furthermore, results based on mother ratings showed a significantly positive association between mother's psychopathology and children's conduct problems/hyperactivity. More specifically, mothers with high levels of psychopathology had children with higher levels of conduct problems/hyperactivity. This result was consistent with findings regarding the significant relationship between maternal psychopathology and conduct problems in children in literature. In some studies, maternal antisocial behaviors (Frick et al., 1989; Lahey et al., 1989) were found as significant predictors of conduct problems in children. Other than antisocial tendency of mothers, in some other studies, mothers of children with conduct problems were found more likely to have histrionic problems (Lahey et al., 1989; Stewart & Leone, 1978), somatization problems and depression (Lahey et al., 1989; Lahey, Piacentini et al., 1988). Accordingly, mothers of children with conduct problems may have depressive symptoms which lead them to overestimation of their depressive symptoms and their children's conduct symptoms due to their own distorted or biased view on child's behavior problems (Dumas et al., 1989). For example, in a study, Hammen et al. (1990) found that mothers with high levels of depressive symptoms are more likely to report behavior problems in their children than mothers with low levels of depressive symptoms. Similarly, parents with anxiety disorders were also found to have a tendency to report greater levels of pathology in their children than do independent observers (Frick, Silverthorn, & Evans,

1994). However, because this study evaluated parental psychopathology as a whole in terms of severity of general symptoms, it is impossible to talk about specific types of parental psychopathologies. In addition, another reason for the association between severity of maternal symptoms of psychopathology and levels conduct and hyperactivity problems in their children may be due to mothers' difficulties in coping with the problematic behaviors in children. However, the interpretations on mothers' psychopathology do not go beyond assumptions and need further investigations. Unless the response patterns of mothers in specific types of psychopathologies are specifically examined, this suggestion remains an untested hypothesis. In general, it can be only concluded that severity of maternal psychopathology is related to higher levels conduct and hyperactivity problems in their children.

On the other hand, it is important to note that, although research has consistently shown that the association between parental psychopathology and children's conduct problems is stronger for fathers (Lahey, Piacentini et al., 1988), the current study did not replicate this finding. One reason for this lack of support might be related to fathers' tendency to underrate their own psychopathology, and thus reduce the possibility of a relation between paternal psychopathology and conduct problems in children which is consistently replicated in many previous studies. Perhaps fathers underreported their own psychopathology symptoms in order to portray a better image of themselves. However, this interpretation does not go beyond a suggestion and needs further investigation by examining objective indices of psychopathology rather than self-rated ones.

Lastly, it is important to note that mothers' self-reports on their own psychopathology and family functioning did not predict teacher ratings of children's conduct problems/hyperactivity. However, given the similar content of the teacher-and parent-rated SDQ scales, one would expect to find similar predictors for each informant. On the other hand, in another study, parent-identified conduct disorder was found to be related to the presence of parental depression and family dysfunction, and teacher-identified conduct disorder to be related to the gender of the child and family socio-demographic characteristics

(Offord et al., 1996). In other words, different informants reported different risk factors for conduct disorder. One explanation for this dissimilarity is that conduct and hyperactivity problems may be presented differently at home and at school or putting in other words, different symptoms may appear in different settings, depending on the demands of the situation. For example, disruptive problems often become worse in places where there is more activity and stimulation, so they are more noticeable in school environment (Kazdin & Kagan, 1994; Kolko & Kazdin, 1993). On the other hand, similar levels of conduct problems/hyperactivity may be displayed at both home and school, but the behaviors may be viewed differently in these different settings by different informants. In homes where mothers have psychopathology, especially depressive symptoms, level of conduct problems may be exaggerated. These may account for the different findings between the home and school environments rated by mothers and teachers, respectively. These assumptions need further investigations for clarification.

4.2.2.3 Predictors of CU Traits: Mother and Teacher Ratings

A series of regression analyses were conducted in order to examine the predictor variables of CU traits, and the results indicated that male gender, child's temperamental characteristic of negative reactivity, father's low education level, higher number of household members, maternal rejection, mother's low levels of psychopathology, less general functioning within the family, and problems regarding the roles within the family were significant predictors of mother-reported CU traits. On the other hand, teacher-reported CU traits were predicted significantly by male gender, father's low education level, higher number of children, high SES of the family, physical and response-cost punishments, and problems regarding the roles within the family. Furthermore, according to combined CU traits, the results of the regression analysis indicated that male gender, father's low education level, higher number of children, high SES of the family, physical and response-cost punishments, and problems regarding the roles within the family were significant predictors.

As in conduct problems/hyperactivity, being male was found to be related with higher levels of CU traits according to both mother and teacher ratings. This result is also consistent with another finding of the present study, which showed that females participating in the study had lower levels of CU traits as compared to males in general. This is consistent with Pardini et al.'s (2003) study in which females were found to have higher scores on empathic concerns and perspective taking than males. However, because the male-female ratio of the participants was not equal and there were more males in the current data, this result is tangible.

Similar to the results of predictors of conduct problems/hyperactivity, child's temperamental characteristics of negative reactivity predicted CU traits significantly, but this significant association between negative reactivity and teacher-reported CU traits was evident in the final model only for mother ratings. Although negative reactivity predicted teacher-reported and combined CU traits significantly in the second step, its association became nonsignificant in the final model after entrance of all the variables into the equation. More specifically, according to mother ratings, children with higher levels of negative reactivity had elevated levels of CU traits. This was inconsistent with results of many studies in literature, which showed that children's negative reactivity and CU traits were inversely related to each other (Hubbard et al., 2002; Kimonis et al., 2006). Barry et al. (2000) suggested that youth with antisocial behavior problems show high levels of reactivity to emotional stimuli in the absence of CU traits and underreactivity to emotional stimuli in the presence of CU traits, indicating to etiological differences between these two groups based on the level of CU traits. Supporting this, in a recent study Loney et al. (2003) found that antisocial adolescents with elevated CU traits showed a different pattern of emotion processing than antisocial adolescents who were not elevated in CU traits. While the antisocial youths with high CU traits showed a low level of reactivity to emotional stimuli, antisocial youths with low CU traits showed the opposite pattern of reactivity. The result of the present study is unfortunate because one of the most important divergences between psychopathic traits and antisocial behavior in children is the inverse relationship between negative reactivity and psychopathy that is found positively between negative reactivity and antisocial

behaviors in other studies (Eisenberg et al., 1994; Sanson et al., 1993). One reason for this inconsistent finding might be mothers' inability to differentiate child's temperamental characteristics of negative reactivity from other areas of problems of the child. Because the negative reactivity level of children was assessed only by maternal report, this inconsistent finding needs further testing by using multiple informants and independent observations of children.

Among the family-related socio-demographic variables, according to mother ratings only father's low education level, higher number of household members, and according to teacher ratings only father's low education level, higher number of children, high SES of the family appeared as significant predictors of children's CU traits. This finding was similar to the ones found for conduct problems/hyperactivity. All the variables, except the high SES of the family, are associated with low SES measures. The association between variables related to low SES of the family, such as father's education level, higher number of children and household members, and CU traits is consistent when the high association between conduct problems/hyperactivity and CU traits are taken into account. An interesting finding was the significant association between high SES of the family and CU traits of the children according to teacher ratings, but not according to mother ratings. A similar association was found for teacher ratings between high SES and conduct problems/hyperactivity. One reason for the overlapping results may be due to the strong correlation of children's conduct problems/hyperactivity and CU traits according to teacher ratings. As mentioned before, it is possible that teachers could not differentiate these two constructs appropriately from each other, so that predictors of these two constructs according to teacher ratings overlap.

Among the parenting variables, maternal rejection appeared as a significant predictor of mother ratings of CU traits. As maternal self-report of maternal rejection increased, children's CU traits elevated. On the other hand, according to teacher and combined ratings, CU traits were predicted by higher levels of physical and response-cost punishments. In general these positive associations between ineffective punishment practices and maternal parenting style of rejection, and CU traits seem to be inconsistent with the findings of

previous studies that showed that parenting was unrelated to conduct problems in children who were high on CU traits (Oxford et al., 2003; Wootton et al., 1997). In these studies, researchers found that CU traits moderated the positive relationship between ineffective parenting practices and conduct problems, mainly because the affective style of children with CU traits make them relatively unresponsive to typical socialization processes as it was the case for children with conduct problems but low CU traits. However, the reason for the inconsistency may be due to methodological differences between the previous studies and the present study. In these two previous studies, interaction terms were computed and entered into the regression analyses in order to assess the moderating effect of CU traits on the relationship between ineffective parenting practices and severity of conduct problems. However in the current study, regression analyses were conducted to investigate the predictors of CU traits and mothers were asked whether they apply some parenting practices, not the effectiveness of them on their children's behaviors. In other words, the use of the parenting practices does not mean that they are effective. Mothers may try hard to discipline the child but they cannot get through. Thus, it would be not true to conclude that the results of the present study are contradictory to previous studies. Further studies are needed to investigate the association between the effectiveness of parenting practices and CU traits in children.

Another surprising result of this study was the negative correlation between mother-reported CU traits and mother's psychopathology level. In other words, as mothers' psychopathology level decreased, children tended to score higher on CU traits according to mother ratings. This raises the possibility that children high on CU traits may be able to more successfully organize themselves behaviorally when stressed by the mother's psychopathology. Another explanation might be that mothers with high levels of psychopathology may be reluctant or unresponsive to CU traits of their children. They may not notice CU traits in their children and may not regard them as problematic. Or mothers of children with high CU traits may underestimate or deny their own problems, which resulted in negative correlation between mothers' psychopathology and children's CU traits in this study. This result is inconsistent with the findings in

the literature indicating a stronger parental psychopathology in high CU groups as compared to children with conduct problems but low CU traits (Christian et al., 1997). Thus, mothers of children with high CU traits may underestimate or underreport their own psychopathology to portray a better image of themselves to the researcher, thus reducing the possibility to find a relation between these variables. As mentioned before, without specifically examining response patterns of mothers in specific types of psychopathologies, this suggestion remains an untested hypothesis. In addition, because the data were gathered from the mothers themselves, in order to determine whether mothers are defensive or their psychopathology hinders them to observe CU traits in their children, further investigations using multiple informants are needed. However, the negative association between CU traits and mother's psychopathology might also be due to the moderating effect of the variables entered into the regression equation prior to mother's psychopathology, mainly because the zero-order correlation between these two variables was positive as expected (see Table 41).

One of the most interesting results of the study is the positive association between problems regarding roles within the family and children's CU traits. This significant association was found to be common for mother, teacher, and combined ratings. According to all these three ratings, children from families with higher levels of problems regarding the roles within the family had elevated levels of CU traits. A possible explanation for this finding might be the problems regarding the boundaries between children and parents, especially in families with problems and difficulties with roles. The importance of putting consistent boundaries between parents and children was strongly suggested by many researchers. For example, MacKenzie (2000) mentioned that boundaries between parents and children are necessary for children to learn their limits in their behaviors and to establish proper social relations with others. Thus, problems regarding the roles between family members, in which homes are in control of children, rather than of parents, may result in lack of discipline, increase in emotional and behavioral problems of children, and decrease in general function of the family. Consistently, according to mother ratings, there was a positive association between general dysfunctioning within the family and children's CU traits. In addition, the significant predictors of

higher number of household members according to mother ratings and higher number of children according to teacher ratings might be related to variables associated to family dysfunctioning. In homes where there are many children or there are extended family members, there might be more problems regarding parental roles. For example, it might be more difficult for parents to apply appropriate discipline strategies and to exert their authority in families, in which extended family members engage in and disturb parent-child interactions. However, the significant association between problems regarding the roles in family and CU traits needs further testing for more clear interpretations.

Lastly, similar to findings in conduct problems/hyperactivity, predictors according to mothers' and teachers' ratings of children's CU traits were not the same, except for some overlapping variables. However, given the similar content of the teacher-and parent-rated APSD scales, one would expect to find similar predictors. One explanation for this dissimilarity could be that CU traits, which are regarded as the emotional features of psychopathy, might have been viewed differently by the teachers at school and by mothers at home. It may be possible that while mothers are able to observe emotional characteristics of children more accurately, teachers can detect behavioral problems more accurately, mainly because they can make comparisons between many children. This interpretation is parallel to Abikoff, Courtney, Pelham, and Koplewicz's (1993) suggestion that multi-informant agreement varies considerably depending on item content of the measures. More specifically, while teachers were found to be more sensitive to items referring to disruptive behaviors, parents were found to be more sensitive to items related to internalizing problems such as depression or anxiety. Lastly, predictors of CU traits based on teacher and combined ratings were exactly the same. As mentioned previously, this is mainly due to the calculation way of combined scores that were gathered by taking the higher scores for each item from mother and teacher ratings. Because teachers were found to rate children higher on CU traits as compared to mothers, combined ratings mostly reflected teacher ratings.

4.2.2.4 Predictors of Conduct Problems/Hyperactivity and CU Traits According to Mother Ratings

In general when predictors of mother-reported conduct problems/hyperactivity and CU traits are considered together, it becomes apparent that male gender of the child as an important variable for both conduct problems/hyperactivity and CU traits. This was consistent with previous literature. However, results showed that mothers' report of children's negative reactivity did not differentiate conduct problems and CU traits according to mother ratings. Besides conduct problems/hyperactivity, inconsistent to expectations and to findings in previous literature, negative reactivity also appeared as a significant predictor of CU traits according to mother ratings. As mentioned before, reason for this inconsistent finding might be due to mothers' inability to differentiate child's temperamental characteristics of negative reactivity from other problem areas of the child.

Among the socio-demographic characteristics of the family, while mother's low education level predicted conduct problems/hyperactivity, father's low education level and higher number of household members predicted CU traits. There is no apparent explanation for this difference, but in general results revealed that variables associated with low SES of the family were predictive for conduct problems/hyperactivity and as well as CU traits according to mother reports.

Among parenting variables according to mother ratings, maternal self-report of rejection predicted both conduct problems/hyperactivity and CU traits. However, severity of applied punishment practices predicted only conduct problems/hyperactivity, but not CU traits. The lack of relationship between severity of applied punishment practices and CU traits were consistent with findings of Wootton et al.'s (1997) study, in which conduct problems of children with high CU traits were found to be unrelated to ineffective parenting practices. However, because there are differences among predictors according to mother and teacher reports, further investigations are needed to clarify this picture.

One of the most important findings of this study is the finding of an exact opposite association, as noted in the literature, between maternal psychopathology

and conduct problems/hyperactivity and CU traits. More specifically, while mothers' psychopathology was found to be positively related to conduct problems/hyperactivity, it was found to be negatively related to CU traits. Again as mentioned previously, this unexpected finding needs further testing to clarify the reason of the negative relationship between mother's psychopathology and children's CU levels.

Lastly, while less affective involvement within the family appeared as a significant predictor for conduct problems/hyperactivity, results showed a significant association between general functioning within the family and problems regarding the roles within the family, and CU traits according to mother ratings. The finding on the positive relation between less affective involvement the within the family and children's conduct problems/hyperactivity was consistent with the literature and in line with expectations. However, the finding on the positive relation between problems regarding the roles within the family and children's CU traits was interesting and deserves being highlighted and examined further.

4.2.2.5 Predictors of Conduct Problems/Hyperactivity and CU Traits According to Teacher Ratings

In general when predictors of teacher-reported conduct problems/hyperactivity and CU traits are taken together, it becomes apparent that male gender of the child predicted both conduct problems/hyperactivity and CU traits. This was consistent with previous literature. However, results showed that while mothers' report of children's negative reactivity predicted conduct problems/hyperactivity and CU traits according to mother ratings, it did not predict conduct problems and CU traits according to teacher ratings. This may be due to methodological application, in which variables rated by different informants were used in the analyses when predicting conduct problems/hyperactivity and CU traits based on teacher ratings.

Among the socio-demographic characteristics of the family, both conduct problems/ hyperactivity and CU traits were predicted by father's low education

level and high SES of the family according to teacher ratings. In addition, CU traits were predicted also by higher number of children.

Among parenting variables, according to teacher ratings, maternal report of severity of applied physical and response-cost punishments predicted both conduct problems/hyperactivity and CU traits. However, maternal rejection predicted only conduct problems/hyperactivity, but not CU traits. This result is opposite to the findings regarding the parenting predictors of mother reported conduct problems/hyperactivity and CU traits. Further investigations are needed for clarification of reason for the differences among predictors according to mother and teacher reports.

Lastly, while none of the variables related to family functioning reported by mothers predicted teacher reported conduct problems/hyperactivity, problems regarding the roles within the family predicted CU traits of teacher ratings. Except the male gender of the child, roles within the family is the only common predictor among mother and teacher reported CU traits.

In general, it could be concluded that risk factors predicted mother's report of conduct problems/hyperactivity more consistently to the findings in the literature as compared to teacher's report of conduct problems/hyperactivity. The reason for this relative difference might be related to use mothers as informant for most of the predictors investigated in the study. In addition, it is hard to infer that mothers and teachers could differentiate conduct problems/hyperactivity and CU traits. It seems that mothers could differentiate these two problem areas better than teachers. The reason of the difficulty of teachers to observe CU traits might be due to the emotional nature of this construct. This interpretation is parallel to Abikoff et al.'s (1993) suggestion that mothers were more sensitive to emotional problems in children as compared to teachers. The lack of finding between child's temperamental characteristics of negative reactivity and any of the teacher ratings is also consistent with this explanation. However, the suggestion on mothers ability to differentiate conduct problems/hyperactivity and CU traits better than teachers has some limitations, mainly because some of the predictors were inconsistent with the previous literature. This raises questions about whether there

are cultural differences in expression of CU traits in children or whether as researchers we try to quantify a construct artificially.

It is important to mention that similar to the results of other studies in the literature, there were discrepancies among predictors of mother and teacher ratings of conduct problems/hyperactivity and CU traits. In a meta-analytic study including 119 studies, Achenbach, McConaughy, and Howell (1987) found that ratings of social, emotional, or behavioral problems in children according to different informants, such as parents, teachers, or children themselves are discrepant. This finding was replicated by following studies that have examined differences and similarities among informants' ratings of children's behavioral and emotional problems (Grills & Ollendick, 2002; Kolko & Kazdin, 1993). Thus, informant discrepancy is an important area of research in child psychopathology. However, further inconsistencies were found among the results of studies in the literature investigating informant discrepancies (De Los Reyes & Kazdin, 2005). According to De Los Reyes and Kazdin (2004), the main reason for these inconsistencies among results is due to methodological differences among these studies. In other words, in different studies, different methods are used to measure informant discrepancies and this leads to different conclusions. In addition, it was mentioned that almost all the studies examining informant discrepancies were descriptive and lack of a theoretical framework and further studies are necessary for conceptualizing why informant discrepancies exist (De Los Reyes & Kazdin, 2005). Thus, it is difficult to provide an explanation for discrepancies among mother and teacher reports in this study as well. In summary, the reason for the inconsistency in predictors of mother and teacher ratings of conduct problems/hyperactivity and CU traits in children might be due to informant discrepancies commonly reported in literature of child psychopathology (Achenbach et al., 1987; Grills & Ollendick, 2002; Kolko & Kazdin, 1993). However, the questions regarding to informant discrepancies need further investigations to clarify these issues.

4.2.3 Group Comparisons

Because children's level on conduct problems/hyperactivity, emotional symptoms, and prosocial behaviors were rated by multiple informants, namely by mother and teacher, in this section results regarding the informant discrepancies on child measures will also be provided.

4.2.3.1 Comparison of Nomination Groups

As mentioned previously, in the beginning of the study, class teachers were asked to nominate children with conduct problems and with prosocial behaviors. In line with expectations, both mothers and teachers rated children who were nominated as having conduct problems significantly higher on levels of conduct problems/hyperactivity and CU traits as compared to children who were nominated as having prosocial behaviors. This result has justified the validity of the nomination of children as having conduct problems and prosocial behaviors. In addition, while there were no differences between mothers' and teachers' ratings of conduct problems/hyperactivity, mothers rated their children lower on CU levels as compared to teachers in general. This might be due to teachers' overrating of children on CU traits. This explanation is also consistent with the results of the correlations indicating an extreme positive association between conduct problems/hyperactivity and CU traits according to teacher ratings. However, another possible explanation for mothers' low ratings on CU traits is that mothers might have been defensive in rating their children on items measuring CU traits, which include questions regarding emotional and interpersonal aspects of the children. In other words, it might be difficult for the mother to tell that her child is unemotional. Even when the child has CU traits, the mother may tend to find excuses for or refuse to accept the unemotional aspects of her child. Furthermore, previous findings suggested that the affective disturbance found in psychopathic individuals had a genetic predisposition (Taylor et al., 2003). Similarly, strong association between parental psychopathology, especially parental antisocial behaviors, and children's CU traits was found in some studies (Christian et al., 1997). Thus, mothers' underrating of children who were nominated as having conduct problems on CU traits as compared to teachers

could be related to mothers' own psychopathology level or maybe to their own callousness. Thus, mothers, whose children were nominated as having conduct problems, might be reluctant or unresponsive to CU traits of their children and not regard them as problematic, or they might not notice these unemotional traits in their children mainly because their own unemotional characteristics hindered them to observe these traits in their children. This interpretation is consistent with the findings that the temperament of low behavioral inhibition found in psychopathic individuals result in a deficit in emotional processing, which makes these people unresponsive to emotional cues in others (Blair, 1999).

Another finding was that while there were no differences between mother and teacher ratings on CU traits for prosocial nominated children, there were significant differences on ratings of conduct problems/hyperactivity; that is, children nominated as having prosocial behavior were rated significantly higher on conduct problems/hyperactivity by their mothers as compared to their teachers. There may be many explanations for this disagreement among informants. One explanation might be related to the differences in mothers' and teachers' observation settings. Because teachers have the opportunity to observe many children at once, they may be able to make more comparisons among them. Besides, when there are children with conduct problems in their classroom, the difference between the behaviors of conduct and prosocial children may become sharper or more evident to them. They may not realize minor problems in prosocial children's behaviors as generally observed in every child. On the other hand, since mothers usually observe only their own child, they may not have the chance to make comparisons like teachers. Mothers of prosocial children may realize even the minor problems in their children's behavior or they may have high expectations from their children. However, it is important to note that the lack of agreement between mothers' and teachers' ratings might also be due to children's different behaviors in different settings. Children nominated as having prosocial behaviors may behave more adaptively in schools under the authority of teachers. However, they may show some behavior problems at home where they may feel less authority, feel more secure, or they are being spoiled.

4.2.3.2 Comparison of High and Low CU Groups and High and Low SES Groups on Conduct Problems/Hyperactivity

In the current study, it was predicted that SES would moderate the relationships between children's CU traits and conduct problems. Considering low CU traits, it was expected that children from low SES families would have higher conduct problems as compared to children from high SES families. However, for children high on CU traits, level of conduct problems was expected not to differ according to SES of the families. This assumption was based on the inverse relationships between antisocial behaviors and psychopathy, and low SES level in literature. Previous studies showed that the significant relationship between the antisocial behaviors in children and in adults, and low SES level of the family (Frick et al., 1989; Harpur et al., 1989; Lahey et al., 1995) was not found between psychopathy and low SES in adult literature (Harpur et al., 1989). For testing this prediction, children were grouped into high CU and low CU groups according to upper and lower quartiles of combined CU scores. This way of grouping was used in other studies for clinical samples (Christian et al., 1997). However, the hypothesis expecting a moderating effect of SES in the relation between CU traits and conduct problems was supported neither for mother nor for teacher ratings. The lack of moderating effect of SES might be due to characteristics of the sample. In the current study, the sample was recruited from schools representing both low-income and high-income families. Although the categorization of participants in high and low SES groups was based on the school characteristics, cluster analysis revealed a valid classification. However, it is important to note that most of the data for high SES group could not be collected from private schools as intended, but collected from public-elementary schools like the low SES group. This might have resulted in low variance in the SES variable.

Although there was no significant interaction between SES and CU traits, according to both mother and teacher ratings, children with higher levels of CU traits had significantly higher levels of conduct problems/hyperactivity than children with lower levels of CU traits (Christian et al., 1997; Fisher & Blair, 1998; Frick, O'Brien et al., 1994; Frick et al., 2005). In other words, in both of the

analyses, children high on CU traits were reported as having greater conduct problems/hyperactivity than children low on CU traits.

In addition, consistent to the past research (Frick et al., 1989) children from low SES families were found to have significantly higher levels of conduct problems/hyperactivity than children from high SES families according to mother ratings. However, in contrast to previous literature and to results based on mother ratings in the present study, conduct problems/hyperactivity were found not to be associated with low SES according to teacher ratings in this sample. The failure to find such an association is unfortunate because one of the most important divergences between psychopathic traits and antisocial behavior in adults is the negative relationship between SES and antisocial behaviors that was not found between SES and psychopathy (Harpur et al., 1989). The lack of significant association between low SES and conduct problems in children was also reported by Frick, O'Brien et al. (1994), who explained this as a result of restricted range of SES in their sample. Furthermore, the lack of significant association between low SES and conduct problems in children according to teacher ratings was also consistent with the finding showing that high SES was found as a significant predictor of teacher reported CU traits.

4.2.3.3 Comparison of Problem Groups

Studies on childhood conduct problems showed that both in clinically referred (Frick, O'Brien et al., 1994) and in community samples (Frick, Bodin, & Barry, 2000), there were two groups of conduct-disordered children, who differed from each other in terms of emotional characteristics. While some of the children were found to get high scores on CU traits and characterized by an emotional and interpersonal style similar to that of psychopathic adults, some other were found to have problems characterized by impulse control. Similar to adult psychopathology literature, Frick and his colleagues used the concept of psychopathy to distinguish between these two subgroups of children with conduct problems (Christian et al., 1997; Frick, Barry, & Bodin, 2000; Frick, O'Brien et al., 1994). Further research (Frick 1998a) indicated that CU traits, which refer to a temperamental trait characterized by unresponsiveness to fearful or distressed cues or punishment,

egocentricity, lack of guilt and shame, absence of empathy, and use of others for own sake (Wootton et al., 1997), are critical in differentiation between heterogeneous group of children with conduct problems, because it was argued that there might be differences in the causal mechanisms of conduct problems in children with and without psychopathic traits (Lykken, 1995).

The current study aimed to investigate the differences between children with conduct problems and high psychopathic traits and children with conduct problems and low psychopathic traits in terms of child characteristics and parenting and familial risk factors. Thus, three groups of children, namely, children with conduct problems and high CU traits, children with conduct problems and low CU traits, and children without conduct problems and low CU traits were compared on child-related measures (namely, temperamental characteristic of negative reactivity, conduct problems/hyperactivity, emotional symptoms, and prosocial behaviors), parenting-related measures (namely, maternal parenting style of acceptance-rejection and style of applied punishment), and other family measures (parental psychopathology and family functioning).

4.2.3.3.1 Child-Related Measures

One of the main expectations of this study was that children with conduct problems and high CU traits would have higher level of conduct problems as compared to children with conduct problems but low CU traits and to children without conduct problems and CU traits. First of all, as expected, children in the control group had significantly lower levels of conduct problems/hyperactivity as compared to children in the two conduct groups. However, the hypothesis regarding the difference between two conduct groups was not supported in this study. There were no significant differences between children with conduct problems and high CU traits and children with conduct problems and low CU traits in terms of severity of conduct problems/hyperactivity. In the literature, children high on CU traits were reported as having higher number of and more severe conduct problems than children low on CU traits. In other words, children high on CU traits represented the most severe behaviorally disordered children in

the previous studies (Christian et al., 1997; Fisher & Blair, 1998; Frick, O'Brien et al., 1994; et al., 2005). This finding was not replicated in the present study.

However, there were significant interactions between groups and informants on children's conduct problems/hyperactivity. Children with conduct problems and high CU traits were rated significantly higher on conduct problems/hyperactivity by their teachers as compared to their mothers. There was no significant difference between mothers' and teachers' ratings of conduct problems/hyperactivity both for children with conduct problems/hyperactivity and low CU traits and for children in the control group. On the other hand, as expected, mothers in the control group rated their children significantly lower on conduct problems/hyperactivity as compared to children with conduct problems and high CU traits and to children with conduct problems and low CU traits. Moreover, mothers of children with conduct problems and low CU traits rated their child higher on conduct problems/hyperactivity as compared to children with conduct problems and high CU traits. However, although teachers rated the children in the control group significantly lower on conduct problems/hyperactivity as compared to children with conduct problems and high CU traits and to children with conduct problems and low CU traits like the mothers, opposite to mothers' ratings, they rated children with conduct problems and high CU traits significantly higher on conduct problems/hyperactivity as compared to children with conduct problems and low CU traits.

These interactions indicated that teacher ratings on conduct problems/hyperactivity of children were consistent with the expectations. According to teacher ratings, there were significant differences between children with conduct problems and high CU traits and children with conduct problems and low CU traits. Children having both conduct problems and CU traits showed the highest level of impairment according to teacher ratings. These results supported the previous findings in literature, which indicated that difference exists between groups of children with low and high on CU traits. In other words, findings of teacher ratings based on group comparisons supported the model of different associates and possible different etiological pathways for conduct disordered children with and without CU traits. However, interestingly, opposite

to teachers, mothers rated children with conduct problems and low CU traits higher on conduct problems/hyperactivity as compared to children with conduct problems and high CU traits. The possible explanation for this finding will be provided later.

Similar to the findings on ratings of conduct problems/hyperactivity, differences between mothers and teachers responses were noted also for ratings on prosocial behaviors of children. However, before mentioning the informant discrepancies, it is important to note that unlike the lack of difference between two conduct groups on conduct problems/hyperactivity, children with conduct problems and high CU traits had significantly lower prosocial behaviors as compared to children with conduct problems and low CU traits. In addition, in line with expectations, children in the control group were rated significantly higher on prosocial behaviors as compared to both children with conduct problems and high CU traits and children with conduct problems and low CU traits. This finding is consistent with literature indicating that like adults, children with psychopathic tendencies are excessively focused on potential rewards and instrumental gains (Frick, Cornell, Barry et al., 2003; O'Brien & Frick, 1996) and lack empathic concerns for others (Kochanska, 1993, 1995). In general, the significant difference between the two conduct groups supported the model of different associates and possible different etiological pathways for conduct disordered children with and without CU traits.

However, as mentioned before, there were also significant interactions between groups and informants on children's prosocial behaviors. Children with conduct problems and high CU traits and children with conduct problems and low CU traits were rated significantly higher on prosocial behavior by their mothers as compared to their teachers. However, there was no significant difference between mothers' and teachers' ratings of prosocial behavior for the control group. On the other hand, mothers rated the children in the control group significantly higher as compared to children with conduct problems and high CU traits and to children with conduct problems and low CU traits on prosocial behaviors. There was no significant difference in mothers' ratings on prosocial behaviors between children with conduct problems and high CU traits and children with conduct problems

and low CU traits. However, although teachers rated the children in the control group significantly higher as compared to children with conduct problems and high CU traits and to children with conduct problems and low CU traits, they rated children with conduct problems and high CU traits lower on prosocial behaviors as compared to children with conduct problems and low CU traits.

These interactions between groups and informants indicated that teacher ratings on prosocial behaviors were consistent with the expectations. According to teacher ratings, children having both conduct problems and CU traits showed the highest level of impairment. However, dissimilar to teachers' ratings, there was no significant difference in mothers' ratings on prosocial behaviors between children with conduct problems and high CU traits and children with conduct problems and low CU traits. In general, findings on mother ratings based on group comparisons showed that mothers rated most problematic children group (CU + CP) milder on conduct problems/hyperactivity and on prosocial behaviors as compared to children with conduct problems but without CU traits. It might be that mothers overlook or pretend not to see the problems in these children. They may be doing this because they are defensive in rating these children, who display the highest severity of psychopathology, or they may be trying to deny these problems or they may be trying to portray a better image of their child or they hold back to answer sincerely, maybe because they think that the information based on their ratings will be shared with the school. Another explanation might be that these mothers may not regard these children as having problems, because their own psychopathology may be hindering this as mentioned before. Perceptions and attitudes towards child's CU characteristics by mothers and teachers need to be examined in future studies.

In this study, it was also expected that children with CU traits would have significantly lower levels of negative reactivity and emotional symptoms as compared to children with low CU traits. However, these hypotheses were not supported in this study. There were no significant differences between children with conduct problems and high CU traits and children with conduct problems and low CU traits in terms of levels of negative reactivity and emotional symptoms. This was inconsistent with the results of many studies in literature,

showing that children's negative reactivity (Hubbard et al., 2002; Kimonis et al., 2006) and internalizing problems (Frick et al., 1999; Frick, O'Brien et al., 1994), and CU traits are inversely related to each other. Barry et al. (2000) suggested that youth with antisocial behaviors show high levels of reactivity to emotional stimuli in the absence of CU traits and underreactivity to emotional stimuli in the presence of CU traits, indicating an etiological difference between these two groups based on the levels of CU traits. It was thought that temperamental characteristics of low behavioral inhibition found in children high on CU, which results in a deficit in emotional processing, including emotional arousal evoked by distress or pain of others (Blair, 1999), or emotional distress when they are punished or encountered with a fearful or threatening situation (Kagan & Snidman, 1991; Kochanska, 1993; O'Brien & Frick, 1996). Supporting this, in a recent study Loney et al. (2003) found that antisocial adolescents with elevated CU traits showed a different pattern of emotion processing than antisocial adolescents who were not elevated in CU traits. While the antisocial youths with high CU traits showed a low level of reactivity to emotional stimuli, antisocial youths with low CU traits showed an opposite pattern of reactivity. As mentioned in the previous section, the result of the present study is unexpected because one of the most important divergences between psychopathic traits and antisocial behavior in children is the inverse relationship between negative reactivity and psychopathy that was found positively between negative reactivity and antisocial behaviors (Eisenberg et al., 1994; Sanson et al., 1993). As mentioned previously, one reason for this inconsistent finding might be due to mothers' inability to differentiate child's temperamental characteristics of negative reactivity from other areas of problems of the child. The lack of the significant association between negative reactivity and emotional symptoms and CU traits may also be related to the use of different measures in the present and previous studies. Most of the previous studies on temperamental characteristics and internalizing symptoms in children with psychopathic tendencies were conducted by using physiological measures.

Another important criticism related to the concept of difficult temperament is the use of parents as the major informant. In the literature, correlations between

multiple informants related to child's temperamental characteristics were found as low to moderate (Rothbart & Bates, 1998). This raises the question of whether parents provide an objective report on temperament and internalizing problems of children. A number of studies revealed that agreement across informants or raters differ based on the type of behavior problems being rated. In the present study, when mothers' and teachers' ratings of children were compared, it became evident that teachers rated children significantly higher on emotional symptoms as compared to mothers. However, there was no significant difference between mothers' and teachers' ratings of severity of conduct problems/hyperactivity. This finding is parallel to the results of many other studies that have found greater agreement across informants for externalizing behaviors than for internalizing behaviors (Achenbach et al., 1987; Edelbrock, Costello, Dulcan, Conover, & Kalas, 1986; Kolko & Kazdin, 1993). It was argued that as compared to externalizing behaviors, which are more observable, internalizing behaviors are more difficult to observe and less disturbing to family functioning for parents and to classroom functioning for teachers. Therefore internalizing problems may less likely attract the attention of adult informants, resulting in low interrater reliability (Achenbach et al., 1987; Kolko & Kazdin, 1993; Loeber & Schmalting, 1985). However, despite the obvious limitations, researchers recommend the use of parents as informants for emotional problems and of teachers for externalizing problems (Goodman et al., 2000). Thus, the use of mothers as informants of child's temperament may be problematic. Because the negative reactivity level of children was assessed only by maternal report, this inconsistent finding needs further testing by using independent observations of children. In addition, in this study, children in the control group were found to have significantly lower scores on negative reactivity as compared to children in the two conduct groups. This finding was in line with previous studies indicating that negative emotionality is positively correlated with externalizing problems in children (Eisenberg et al., 1994; Kovacs et al., 1988).

However, there were also significant interactions between groups and informants on children's emotional symptoms. Children with conduct problems and high CU traits were rated significantly higher on emotional symptoms by their

teachers as compared to their mothers. However, there was no significant difference between mothers' and teachers' ratings on emotional symptoms for the children with conduct problems and low CU traits and for children in the control group. On the other hand, mothers rated the children in the control group significantly lower on emotional symptoms as compared to children with conduct problems and high CU traits and to children with conduct problems and low CU traits. This was parallel to findings, which revealed that comorbid emotional disorders, such as anxiety and depression, is higher in children with conduct disorder as compared to children without conduct problems (Kovacs, Paulauskas, Gatsonis, & Richards, 1988; Zoccolillo, 1992). However, there was no significant difference in mothers' ratings on emotional symptoms between children with conduct problems and high CU traits and children with conduct problems and low CU traits. However, although teachers rated the children in the control group significantly lower as compared to children with conduct problems and high CU traits and to children with conduct problems and low CU traits like the mothers, they also rated children with conduct problems and high CU traits significantly higher on emotional symptoms as compared to children with conduct problems and low CU traits.

These results showed that in this study neither mothers nor teachers could differentiate two conduct groups according to emotional symptoms of children. However, there were also important discrepancies between their ratings. While mothers rated their children in the two conduct groups similarly on emotional symptoms, results of teacher ratings were opposite to expectations based on previous studies in literature. They rated children with conduct problems and high CU traits significantly higher on emotional symptoms as compared to children with conduct problems and low CU traits. The inconsistency across mothers' and teachers' ratings found in this study was in line with results of other studies. The results of the meta-analysis conducted by Achenbach et al. (1987) suggested that there is a relation between child problem type and informant agreement, with greater correspondence found in ratings of externalizing problems as compared with internalizing problems of children. As mentioned before, it was argued that internalizing behaviors are more difficult to observe and less likely to attract the

attention of adult informants, because they are not bothersome for others as externalizing behaviors (Achenbach et al., 1987; Kolko & Kazdin, 1993).

4.2.3.3.2 Parenting-Related Measures

Based on previous studies suggesting a significant association between conduct problems and parenting style of rejection (Faubert et al., 1990; Muris et al., 2003; Patterson et al., 1989; Wasserman et al., 1996) and ineffective punishment practices (Lefkowitz et al., 1977; Frick et al., 1992; Patterson et al., 1992), in the present study it was expected that children with conduct problems would have higher levels of maternal rejection and physical and response-cost punishments as compared to children without conduct problems. As expected, children in the control group who displayed low levels of conduct problems and CU traits had significantly lower levels of maternal rejection and physical and response-cost punishments as compared to children in two conduct groups. However, there were no significant differences between the two conduct groups on their levels of maternal rejection and physical and response-cost punishments. This finding indicated that mothers of children with conduct problems and high CU traits and of children with conduct problems and low CU traits reported similar levels of maternal rejection and physical and response-cost punishment applications.

In two studies investigating the relation between CU traits and parenting practices, parenting was found to be unrelated to conduct problems in children who were high on CU traits (Oxford et al., 2003; Wootton et al., 1997). In these studies, researchers found that CU traits moderated the positive relationship between ineffective parenting practices and conduct problems. They explained that the affective style of children with CU traits made them relatively unresponsive to typical socialization processes as it was the case for children with conduct problems but low CU traits. However, these two previous studies were not based on group comparisons like the present study. When the measures of maternal rejection and physical and response-cost punishments in present study were assessing the effectiveness of using these methods on children's behaviors, it could be concluded that the results of the present study did not support the

previous findings. But, in this study, group comparisons were made on the basis of maternal report of parenting practices, in other words whether they were applied or not. Parents may try to cope with children with conduct problems by using punishment, but they may be less effective in children with high CU traits. However, because the present study did not investigate the effectiveness of the parenting practices, the differences between two conduct groups in terms of effectiveness of harsh punishment and maternal rejection could not be noticed. Thus, further studies assessing the effectiveness of parenting practices and also using observational measures of or child self-report of parenting practices are needed to reveal the differences conduct disordered children with and without CU traits in terms of parenting behaviors.

4.2.3.3.3 Parental and Family-Related Measures

4.2.3.3.3.1 Parental Psychopathology

In this study, it was also expected that mothers and fathers of children with conduct problems and high on CU traits would have significantly higher levels of psychopathology as compared to children with conduct problems and low on CU traits. In addition, mothers and fathers of children with conduct problems and low CU traits were expected to have higher levels of psychopathology as compared to children without conduct problems and CU traits. However, in this study these hypotheses were only partially supported. First of all, as expected, results showed that mothers of children in the control group had significantly lower levels of psychopathology as compared to both mothers' of children in both of the conduct groups. This result was consistent with findings regarding the significant relationship between maternal psychopathology and conduct problems in children in literature. As mentioned before, maternal antisocial behaviors (Frick et al., 1989; Lahey et al., 1989), histrionic problems (Lahey et al., 1989; Stewart & Leone, 1978), somatization problems and depression (Lahey et al., 1989; Lahey, Piacentini et al., 1988) were found as significant predictors of conduct problems in children. However, according to the results of the present study, there was no significant difference between mothers' psychopathology level of children in the

two conduct problem groups. In other words, mothers of children with conduct problems and high CU traits and of children with conduct problems and low CU traits had similar levels of psychopathology. However, previous findings suggested that the affective disturbance found in psychopathic individuals have a genetic predisposition (Taylor et al., 2003). Similarly, strong association between parental psychopathology and children's CU traits was found in some studies (Christian et al., 1997). However, the present study revealed contradictory findings and this contradiction may be due to mothers' underestimation or denial of their own psychopathology to portray a better image of themselves to the researcher and as a result the possibility to find a difference between mothers' psychopathology level among children with conduct problems and high CU traits and children with conduct problems and low CU traits may be reduced.

Some studies in the literature indicated that maternal reports of children's behavior problems were likely to be biased by their own psychological problems. For example, in a study conducted by Greenberg, Lengua, Coie, Pinderhughes, and the Conduct Problems Prevention Research Group (1999) it was found that the child behavior problems reported by the mothers, and not by the teachers, were predicted by mothers' depression. The same result was replicated in another study by Shaw, Owens, Giovannelli, and Winslow (2001), who studied behavior problems in boys and found that not the teachers', but the mothers' reports of child behavior problems were associated with mothers' depression. Therefore, the maternal self-reports on their own psychopathology may be much more biased for the group of children with conduct problems and high CU traits, which was the most severe group in terms of child conduct behaviors. This explanation is also consistent with the finding that indicates a negative association between mothers' psychopathology and children's CU traits in the regression analysis mentioned before. Because this study evaluated general psychopathology level of the parents, it is not possible to make inferences about the differences between groups in terms of specific types of parental psychopathologies. Without specifically examining response patterns of mothers in specific types of psychopathologies, these interpretations on mothers' psychopathology do not go beyond assumptions and need further investigations.

Research has consistently shown that the association between parental psychopathology and children's conduct problems was stronger for fathers (Lahey, Piacentini et al., 1988). In this study, fathers of children with conduct problems and low CU traits had significantly higher levels of psychopathology as compared to both fathers' of children with conduct problems and high CU traits and of children without conduct problems and CU traits. The difference between psychopathology levels of fathers of children with conduct problems and low CU traits and of children without problems is consistent with previous literature indicating a strong association between paternal antisocial behaviors and conduct problems in children (Lahey, Hartdagen et al., 1988; Tapscott et al., 1996). However, the higher levels of psychopathology found in fathers of children with conduct problems and low CU traits as compared to fathers of children with conduct problems and high CU traits and the lack of difference between fathers' psychopathology levels of children with conduct problems and high CU traits and children without conduct problems and CU traits were unexpected. One reason for this lack of support might be related to fathers' tendency to underrate their own psychopathology, and thus reducing the possibility of a relation between paternal psychopathology and conduct problems in children. It is also important to remind that fathers' psychopathology did not predict any of the mother- or teacher-reported conduct problems/hyperactivity and CU traits. In addition, when group means of mothers' and fathers' psychopathology levels were as compared roughly in this sample, it appeared that mothers' psychopathology level was higher as compared to fathers'. This shows that mothers rate themselves as having more psychological problems or have more psychopathology as compared to fathers. Perhaps fathers underreported their psychopathology level in order to portray a better image of themselves to the researcher. However, this interpretation does not go beyond a suggestion and needs further investigation.

4.2.3.3.2 Family Functioning

In the present study, children with conduct problems and high CU traits, children with conduct problems and low CU traits, and children without conduct problems were compared on different aspects of family functioning based on reports provided by the mothers. Results showed that mothers of children without

conduct problems reported significantly higher problem solving abilities and communication skills, more allocation and sharing of responsibilities of household tasks, higher ability to show affective responses, higher affective involvement, less problems regarding to behavior control, and in general, higher general functioning within the family as compared to both mothers of children with conduct problems and high CU traits and of children with conduct problems and low CU traits. There were no significant differences between the two conduct problem groups on these family functioning aspects. The only difference between two conduct problem groups was found for the problems regarding the roles within the family. More specifically, mothers of children with conduct problems and high CU traits reported higher problems regarding the roles within the family as compared to mothers of children with conduct problems and low CU traits. This finding is consistent with the previous result, which indicates the roles within the family as a common predictor of CU traits as rated by the mothers, teachers, and combined ratings in this study. As mentioned before, a possible explanation for this finding might be that in families of children with conduct problems and CU traits, there might be more problems regarding the boundaries between children and parents. Reminding the importance of existence of consistent boundaries between parents and children both for children and for parents themselves (MacKenzie, 2000), it could be said that children with conduct problems and high CU traits were more limitless as compared to other children. However, it is not possible to make causal inferences in this study. The question of whether the problems regarding the roles within the family contributes to psychopathology of children with conduct problems and high CU traits or whether these children with conduct problems and high CU traits give rise to problems regarding the roles within the family is unknown.

4.2.4. Support for the Hypotheses of the Study

Hypothesis 1. Presence of CU traits will be significantly associated with severity of conduct problems.

This hypothesis was supported both for mother and teacher ratings. Presence of CU traits was found to be associated with severity of conduct problems/hyperactivity.

Hypothesis 2. Temperament characteristic of negative reactivity will significantly predict conduct problems, but not CU traits.

This hypothesis was only partially supported. Temperamental characteristic of negative reactivity predicted conduct problems/hyperactivity of mother ratings, but not of teacher ratings. However, opposite to expectations, similar results were found for predictors of CU traits. While mother-reported CU traits were predicted by negative reactivity, teacher-reported CU traits were not predicted by this variable.

Hypothesis 3. Conduct problems will be strongly predicted by dysfunctional parenting practices of physical punishment, maternal rejection, and dysfunctional family functioning.

This hypothesis was supported for mother ratings. Result of the regression analysis indicated that mother-reported conduct problems/hyperactivity is predicted by maternal rejection, response-cost and physical punishments, and less affective involvement within the family. More specifically, higher levels of maternal rejection, higher levels of response-cost and physical punishments applied to the child, and less affective involvement among the family members resulted in higher levels of conduct problems/hyperactivity according to mother ratings.

This hypothesis was only partially supported for teacher ratings. Result of the regression analysis indicated that teacher-reported conduct problems/hyperactivity is predicted by maternal rejection, and response-cost and physical punishments. More specifically, higher levels of maternal rejection and higher levels of response-cost and physical punishments applied to the child resulted in higher levels of conduct problems/hyperactivity according to teacher

ratings. None of the family functioning variables significantly predicted teacher-reported conduct problems/hyperactivity.

Hypothesis 4. CU traits will be strongly predicted by parental psychopathology even after controlling the effects of ineffective parenting practices of physical punishment, maternal rejection, and dysfunctional family functioning.

This hypothesis was not supported for mother ratings. Result of the regression analysis indicated that mother's psychopathology appeared to be negatively related to mother-reported CU-traits after controlling the effects of ineffective parenting practices of physical punishment, maternal rejection, and dysfunctional family functioning. More specifically, according to mother ratings, as the level of mother's psychopathology decreased, CU traits in children increased. This negative relationship between mother's psychopathology and CU traits were opposite to the expectation that CU traits will be predicted by higher levels of parental psychopathology. In addition, mother-reported CU-traits were not predicted by father's psychopathology level. This hypothesis was also not supported for teacher ratings. Neither mother's psychopathology nor father's psychopathology predicted CU traits reported by teachers. Finally, this hypothesis was also not supported for combined ratings. Neither mother's psychopathology nor father's psychopathology predicted combined-CU traits.

Hypothesis 5. While conduct problems will be strongly predicted by low SES of the family, CU traits will not be significantly predicted by SES of the family.

This hypothesis was not supported either for conduct problems or for CU traits. According to the mother ratings, conduct problems/hyperactivity was not predicted by SES of the family. However, according to teacher ratings, conduct problems/hyperactivity was predicted by SES of the family, but not by low SES as predicted, rather by high SES. More specifically, results showed that as the SES

of the family gets higher, children's level on conduct problems/hyperactivity reported by the teacher increases. On the other hand, similar to the results for conduct problems, CU traits were not predicted by SES of the family according to mother ratings. This finding was in line with the expectation. However, according to teacher and combined ratings, CU traits were predicted by high SES of the family. More specifically, results showed that similar to those found for conduct problems, as the SES of the family gets higher, children's level on CU traits increases according to teacher and combined ratings.

Hypothesis 6. While conduct problems will be strongly predicted by maternal rejection and ineffective parenting practices of physical punishment, CU traits will not be significantly predicted by these variables.

This hypothesis was only partially supported. As expected, conduct problems were strongly predicted by maternal rejection and ineffective parenting practices of physical and response-cost punishments according to both mother and teacher ratings. However, in addition, unexpectedly, mother-reported CU traits were predicted by maternal rejection and teacher-reported CU traits were predicted by physical and response-cost punishments.

Hypothesis 7. SES will moderate the relationships between children's CU traits and conduct problems. Considering low CU traits, children from low SES families will have higher levels of conduct problems as compared to children from high SES families. However, for children high on CU traits, levels of conduct problems will not differ according to SES of the families.

This hypothesis was not supported either for the mother or for the teacher ratings. Results showed that according to mother ratings, independent of their CU level, children from low SES families had significantly higher levels of conduct problems/hyperactivity as compared to children from high SES families

Hypothesis 8. Children with conduct problems and high CU traits will have higher levels of conduct problems as compared to children with conduct problems and low CU traits and to children without conduct problems and CU traits.

This hypothesis was only partially supported. Children in the Control group had significantly less conduct and hyperactivity problems as compared to both children with conduct problems and high on CU traits and children with conduct problems and low on CU traits. However, results revealed that there was no significant difference between CP+CU and CP-only groups.

Hypothesis 9. Children with conduct problems and high CU traits will have lower levels of emotional symptoms as compared to children with conduct problems and low CU traits, indicating to lower levels of comorbidity with internalizing problems.

This hypothesis was not supported. Children in the Control group had significantly less emotional symptoms as compared to both children with conduct problems and high on CU traits and children with conduct problems and low on CU traits. However, there was no significant difference between two conduct groups with and without CU traits.

Hypothesis 10. Children with conduct problems and high CU traits will have lower levels of prosocial behaviors as compared to children with conduct problems and low CU traits and to children without conduct problems and CU traits.

This hypothesis was supported. Children in the Control group had significantly higher prosocial behaviors as compared to both children with conduct problems and high on CU traits and children with conduct problems and low on CU traits. Additionally, children with conduct problems and high on CU

traits had significantly lower prosocial behaviors as compared to with conduct problems and low on CU traits.

Hypothesis 11. Children with conduct problems and high CU traits will have lower levels of negative reactivity as temperamental characteristic as compared to children with conduct problems and low CU traits. In addition, children with conduct problems and low CU traits will have higher levels of negative reactivity as compared to children without conduct problems and CU traits.

This hypothesis was not supported. Results showed that children in the Control group had significantly lower scores on negative reactivity as a temperamental characteristic as compared to both children with conduct problems and high CU traits and children with conduct problems and low CU traits. However, there were no significant differences between the two conduct groups in terms of negative reactivity level.

Hypothesis 12. Parents of children with conduct problems and high CU traits will have higher levels of psychopathology as compared to parents of children with conduct problems and low CU traits and of children without conduct problems and CU traits.

This hypothesis was only partially supported for mother's psychopathology. Mothers of children in the Control group had significantly lower levels of psychopathology as compared to both mothers' of children with conduct problems and high CU traits and mothers' of children with conduct problems and low CU traits. However, there was no significant difference between mothers' psychopathology level of children in the two conduct problem groups.

This hypothesis was not supported for father's psychopathology. Fathers of children with conduct problems and low CU traits had significantly higher levels of psychopathology as compared to fathers' of children both in conduct

problems and high CU group and in the Control group. However, there was no significant difference between fathers' psychopathology level of children in conduct problems and high CU group and in the Control group.

4.2.5 Conclusion

In general, the present study was designed to investigate the predictors of conduct problems and CU traits. In addition, the study aimed to investigate the differences between children with conduct problems and high psychopathic traits and children with conduct problems and low psychopathic traits in terms of child characteristics and parenting and familial risk factors.

Given the similar content of the teacher-and parent-rated APSD and SDQ scales, one would expect to find similar predictors of conduct problems/hyperactivity and CU traits. However, predictors according to mothers' and teachers' ratings were not the same, except for some overlapping variables. The findings in this study indicated that teachers could not differentiate conduct problems/hyperactivity symptoms and CU traits appropriately from each other. However, when they were asked to compare two groups of children with conduct problems who differ on severity of CU levels, they could make more reliable comparisons as compared to mothers. From the findings of the study, it could be suggested that when working in community and normal samples, mothers could be more reliable informants, but oppositely when working on clinically referred children, teachers could give more reliable information. On the other hand, findings indicated that while mothers were more sensitive to items related to internalizing problems teachers tended to overrate emotional symptoms in children.

The reasons of the inconsistencies between mothers' and teachers' report are difficult to interpret. Mothers might be biased in their observations or ratings, or they may be defensive in accepting the problems of their children, or they may try to portray a better image of their child, or they may be unresponsive to CU traits in their child, maybe due to their own level of CU traits. Whatever the reason is, it is for sure that this inconsistency between informants needs further investigation, which could be best done through case studies. Furthermore, as

mentioned before, the meanings and attitudes towards CU characteristics for mothers and teachers may shed light on these findings.

4.3 Strengths and Limitations of the Study and Suggestions for Future Studies

This study used only non-diagnosed, community sample children who represented relatively a great range of socio-demographic backgrounds. First of all, it is important to lay emphasis on serious limitations of conducting research on antisocial behavior and conduct problems of children in community samples. In order to have a large enough sample of children with conduct problems, it is necessary to collect data on a large number of children, because only a minority of all children in a community sample show severe conduct problems. Even a more difficult problem is to find children with CU traits in community samples, because children with conduct problems and CU traits constitute only a minority of all the children with conduct problems. Thus, it is difficult to find sufficient numbers of children with conduct problems and with different levels of CU traits in order to make comparisons. Because when the group comparisons are conducted with low number of subjects, there would not be sufficient power to detect differences between subgroups. Therefore, one of the strengths of the study is that there were sufficient numbers of children in each of the groups that enables to make group comparisons.

On the other hand, the present study has some limitations. These limitations fall into six broad areas. Firstly, this study was designed as a non-experimental research and all the analyses were correlational. While correlational studies have value in demonstrating potential relationships between variables, it is not possible to determine causality. Secondly, this study was cross-sectional. To determine the impact of parenting practices, parental psychopathology, and family functioning on CU traits and on conduct problems, longitudinal studies that would follow children from birth through school ages are necessary. A longitudinal design would demonstrate the relationship between early CU traits and subsequent conduct problems, and the additional effects of different risk factors on conduct problems.

Third limitation is related to sample characteristics of the current study. This study used only community-sample, non-diagnosed children, and excluded clinic-referred ones. Thus, the conduct problems displayed by the children in this sample may not be at the same level as clinic-referred children diagnosed as ODD or CD. Therefore, these results may not be generalized to more serious, clinic populations. In addition, the sample of the study consisted of unequal number of boys and girls. Although the unequal ratio between boys and girls with conduct problems is consistent with the literature for this age group, this inequality may also have resulted from children nomination criteria. In other words, the teachers are asked to nominate children according to overt conduct problems, which are more commonly found in boys, especially during childhood. Consequently, this might have resulted to have more males as compared to females in the sample, which limited gender comparisons. Therefore, future studies on CU traits in children should also take covert conduct behaviors into account. Furthermore, in the current study, the sample was recruited from schools representing both low-income and high-income families. However, most of the data for high SES group could not be collected from private schools as intended, but collected from public-elementary schools like the low SES group. This might have resulted with low variance in the SES variable. In other words, in this study while children from very low SES families could be represented, children from very high SES families could not be included in the sample. Therefore, future studies should include children from a wider range of socio-demographic characteristics, especially for high SES children.

Fourthly, in this study most of the measures related to children's behaviors were completed both by the mothers and the teachers as recommended by Kamphaus and Frick (1996), who suggested that multiple informants should be used in order to assess childhood psychopathology. However, in this study, all the information on parenting practices and family functioning relied on mother's self-report. Therefore, it is impossible to rule out the potential biases in mothers' reports and the correspondence of these measures to actual parenting behaviors is open to question. Although many studies in clinical child psychology literature indicates that self-report measures used for children under age of 9 are largely

unreliable (Edelbrock, Costello, Dulcan, Kalas, & Conover, 1985; Shelton, Frick, & Wootton, 1996), for assessing parenting practices child's perception is necessary. Thus, in future research observational measures and multiple informants, such as child's or father's reports, could be used to reduce this potential bias and to increase data reliability.

Fifth limitation of the study is related to grouping the children into conduct problem groups and control groups. Most studies using clinic-referred children used DSM diagnosis of OOD and CD for determining conduct problems in children. However, studies addressing conduct problems in children in community samples mostly used clinical cutoffs on continuously rated diagnostic measures. It was suggested that these cutoffs are not necessarily indicative of a diagnosis of CD, but instead they are predictive of children who have significant conduct problems. Consistent to this, in the present study, firstly children were grouped into conduct problem groups and control group based on their scores on "conduct problems and hyperactivity" subscale of the SDQ. However, in the Turkish version, SDQ was found not to be able to differentiate conduct problems and hyperactivity symptoms from each other. As mentioned before, in the Turkish version of the SDQ these two groups of symptoms loaded on the same factor named as "conduct problems and hyperactivity". This might have resulted in high prevalence of comorbid cases in both of the conduct groups. Findings in the literature suggested that children with conduct problems and hyperactivity are more likely to exhibit severe and persistent antisocial behaviors than children with only conduct problems (Schachar et al., 1981; Walker et al., 1987). Children in both of the conduct problems groups, namely conduct group with CU traits and conduct group without CU traits, had also comorbid hyperactivity symptoms, which might have decreased the variability of conduct problems and CU traits among these two groups. In other words, due to the comorbidity of conduct problems and hyperactivity among the children in two conduct problems groups in this study, probably the severe end of the DBD spectrum was represented and children with only conduct problems were possibly underrepresented in this study. This might have resulted in lack of significant differences between the two conduct groups. Thus, future studies should be conducted by controlling the

confounding effect of hyperactivity. In addition, the use of a cutoff T-score of 65 brings the possibility of differentiating children who show conduct problems with CU traits from children with conduct problems-only appropriately into question.. The reason to take T-score of 65 as a cut-off was that it was suggested that CU traits with T-scores of 65 and above are usually taken as an indicator of clinically significant problems (Frick & Hare, 2002). Given the use of cutoff T-score of 65 for differentiating low and high CU group, it appears that the findings of this study could be largely driven by high CU traits. In other words, the use of T-score of 65 as cutoff might have resulted with low variance among children in these conduct problem groups in terms of CU levels. For avoiding this limitation, analyses were replicated by using other cutoff scores, such as T scores of 50 and 55, for grouping children with conduct problems into high and low CU groups. Although the sample size of the groups was small for making comparisons, results of the analyses were not different from the ones reported in this study, which used T-score of 65 as the cutoff. However, it is also important to note that the sample size of the conduct problem groups were smaller as compared to the control group and this might have reduced the power for finding significant differences between groups. Since all of the interpretations are made in light of the relatively small number of participants in each of the conduct problem groups, this study should be considered as a preliminary study, which needs to be replicated by using larger samples.

Lastly, the internal consistency for the CU scale of the APSD was moderate. It had minimally acceptable level of internal consistency which might have contributed to its failure to differentiate high CU and low CU groups. The low level of internal consistency suggests that the measure might not be an adequate measure of the construct that intends to measure.

The findings of this study suggest several implications for future research. One of the important findings of this study is that while mothers' psychopathology was found to be positively related to conduct problems/hyperactivity, it showed a negative association with CU traits. However, because this study evaluated parental psychopathology in terms of severity of general symptoms, it is not possible to make inferences about specific types of

parental psychopathologies. Further studies are needed which examine the relationship between different types of maternal psychopathologies and conduct problems and CU traits in children. Similarly, the reasons for the lack of support for the relation between conduct problems and CU traits, and fathers' psychopathology are needed to be clarified in future studies. Future studies examining the relation between parents' and children's psychopathologies are also necessary. In addition, further studies assessing the effectiveness of parenting practices are needed to reveal the differences conduct disordered children with and without CU traits in terms of parenting behaviors.

Given the finding that those children who both exhibit conduct problems and hyperactivity and have high CU traits show more severe conduct problems than those who only exhibit conduct problems and hyperactivity, examining those children with conduct problems and high CU traits will be clinically useful. However, a more crucial necessity is the examination of those children who have high CU traits but do not have any conduct problems. Although these children are difficult to detect, examining these children could help to identify the protective factors which prevent the development of severe conduct problems in children with high CU traits.

Lastly, one of the research questions raised by this study was whether there are cultural differences in the expression of CU traits. Much of the available research on psychopathy in children is based on the longitudinal study conducted by Frick and his associates in the USA. The reason for the lack of significant differences between high and low CU groups may be related to low level of CU traits in our culture, mainly due to the cultural importance put on emotional expressions, especially in Mediterranean cultures. Therefore, in this culture, CU traits might be suppressed or not displayed or expressed in different ways, maybe in more behavioral ways. Although this is only a suggestion which needs further investigations, if there are cultural differences in the expression of CU traits as suggested, there would be a special need to develop a culturally appropriate early intervention program to prevent antisocial behaviors before they occur in children with high CU traits.

4.4 Clinical Implications of the Present Study

The results of the present study showed that the variables associated with CU traits and conduct problems are not exactly the same, and revealed some differences between them. Accordingly, results provided some evidence that CU traits and conduct problems are different psychological constructs. However, when children with conduct problems with high and low CU traits were compared on different child measures and risk factors, results revealed no significant differences between these two conduct groups, which differ on CU traits, for most of the risk measures, such as dysfunctional parenting practices or family functioning. As mentioned before, the reason for this might be due to reliance on only mothers' reports in these measures. However, comparison of children with conduct problems with high and low CU traits, in terms of their severity on conduct problems/hyperactivity and prosocial behaviors showed that these two groups of children are different in some of their characteristics. Thus, although these findings do not provide a strong support, it provides partial evidence for the theory suggesting that studying CU traits may be important for understanding severe patterns of conduct problems in children.

Further investigation of these findings would contribute clarification of the potential risk and protective factors of conduct problems and CU traits and would provide useful information in developing appropriate interventions and different prevention programs for children with conduct problems with and without CU traits. Currently, many interventions designed for children with conduct problems mainly focusing on child's problem in regulation of his/her emotions and behaviors and parents' deficits in using effective parenting strategies (Frick, 1998b). Similarly, results of the current study indicated that according to both mother and teacher ratings higher levels maternal rejection and applied punishment are associated independently with severity of conduct problems/hyperactivity. This finding supported the importance of including effective parenting strategies in treatment approaches developed for conduct problems. However, most of these interventions do not focus on the emotional processes which are thought to be involved in children with high CU traits. As reported by Frick (2001) children with high CU traits may benefit more from

treatments that focus on empathy development and use reward-oriented strategies for behavior change, rather than punishing them for deviant behaviors.

The finding suggesting that both high SES level of the family and low level of parents' education are predictors of conduct problems and CU traits in general, has also important implications for interventions. In general, most studies designed for prevention of conduct problems are conducted with high risk groups, usually with low SES samples. However, results of this study indicated that there are many children in high risk groups, who are from high SES families. Additionally, the findings suggested that problems regarding the roles within the family is an important predictor of CU traits, and children with conduct problems and high CU traits were found to come from families in which there were more problems regarding the roles as compared to children with conduct problems and low CU traits. This finding implies that treatment approaches that will be developed for children with conduct problems and high CU traits should include problems regarding the roles of parents and children and relational issues within their family.

Furthermore, findings in this study indicated that when working in community and normal samples, mothers could be more reliable informants on children's behavior problems, but oppositely when working on clinically referred children, teachers could give more reliable information. Especially, teachers appeared as more reliable informants on conduct problems of children when making comparisons between subgroups. Thus, when information about externalizing behaviors of children is necessary, teachers' reports should be preferred, because they provide more reliable information, mainly because of their opportunity to make comparisons among many children. However, it is crucial to note that whatever is the reason of lack of consistent findings between information gathered from mothers and teachers, children with CU traits need special attention and should be regarded as special cases. Thus, rather than using questionnaires, which have limited power in giving information as compared to other methods, interviews or in depth case studies may need to be preferred, together with longitudinal studies, following children from early ages until adolescence.

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APPENDIX A

DEMOGRAPHIC INFORMATION FORM (DEMOGRAFİK BİLGİ FORMU)

Değerli Ebeveyn,

Bu araştırmayı, Orta Doğu Teknik Üniversitesi Psikoloji Bölümünde yürütmekte olduğum doktora tezi kapsamında T. C. Milli Eğitim Bakanlığı Araştırma, Planlama ve Koordinasyon Kurulu Başkanlığı'ndan aldığım izinle yapmaktayım. Araştırmanın amacı, çocuklarda görülen bazı olumlu ve olumsuz davranışlar ile kişilik özellikleri arasındaki ilişkiyi incelemektir.

İlişikteki anketleri zarfın üzerinde adı belirtilen çocuğunuzu düşünerek doldurunuz. Bu araştırmaya dahil edilen çocuklar ve aileleri, belirgin bir özellik aranmadan, sınıf listesinden rastgele seçilmiştir. Araştırmanın amacı bu yaş grubundaki çocukların genel özelliklerini incelemek olduğundan, bireysel değerlendirme yapılmayacaktır. Sizden istenen bu bilgiler, araştırmacı dışında kimse tarafından bilinmeyecek, tamamen gizli kalacaktır.

Bu soruların yanıtlanması yaklaşık 30 dakika sürmektedir. Araştırmada doğru sonuçlara ulaşabilmemiz için, soruları içtenlikle ve çocuğunuzu en doğru yansıtacak şekilde cevaplandırmanız çok önemlidir.

Araştırmaya olan değerli katkılarınızdan ötürü çok teşekkür ederim.

Psikolog C. Ekin Eremsoy
Orta Doğu Teknik Üniversitesi
Psikoloji Bölümü

Çocuğun adı ve soyadı: _____

Cinsiyeti: Kız Erkek

Doğum tarihi: Gün____ Ay____ Yıl_____

Okulunun adı:_____ Sınıfı:_____

Formun doldurulduğu tarih: Gün____ Ay____ Yıl_____

Formu dolduran kişinin çocuğa yakınlık derecesi: anne öz üvey

baba öz üvey

diğer_____ (belirtiniz)

COCUĞUN ANNESİ

Hayatta mı? Evet Hayır

Yaşı (hayatta ise): _____

Öğrenim durumu: okuma-yazması yok
 okur-yazar
 ilkokul mezunu
 ortaokul mezunu
 lise mezunu
 yüksek okul mezunu
 üniversite mezunu
 lisans üstü (master-doktora)
 diğer
(açıklayınız)_____

İş durumu: çalışıyor
 çalışmıyor
 emekli

Çalışıyorsa veya emekli ise mesleği nedir? _____

COCUĞUN BABASI

Hayatta mı? Evet Hayır

Yaşı: _____

Öğrenim durumu: okuma-yazması yok
 okur-yazar
 ilkokul mezunu
 ortaokul mezunu
 lise mezunu
 yüksek okul mezunu
 üniversite mezunu
 lisans üstü (master-doktora)
 diğer (açıklayınız) _____

İş durumu: çalışıyor
 çalışmıyor
 emekli

Çalışıyorsa veya emekli ise mesleği nedir? _____

Toplam kaç çocuğunuz var? _____

Bu formu doldurduğunuz çocuğunuzun doğum sırası nedir? ilk çocuk
 ortanca veya
ortancalardan biri
 son çocuk

Bu formu doldurduğunuz çocuğunuz bugüne kadar hiç davranış veya uyum sorunları nedeniyle bir kliniğe veya hastaneye yönlendirildi mi?

Evet Hayır

Cevabınız evet ise, lütfen nedenini belirtiniz _____

Evde toplam kaç kişi yaşıyorsunuz? _____

Aşağıda verilen aile üyelerinden hangileri evde çocukla birlikte yaşıyor? Lütfen uygun olanların hepsini işaretleyiniz.

- anne
 baba
 kardeşler kaç tanesi?____
 teyze/hala/amca/dayı
 büyükanne/büyükbaba
 anneanne/dede
 kuzen/kuzenler
 bakıcı/hizmetçi
 diğer akrabalar belirtiniz_____

Ailece kaç yıldır Ankara'da yaşıyorsunuz? _____

Daha önce nerede yaşıyordunuz? (lütfen belirtiniz)_____

- Büyük şehir
 Şehir
 Kasaba
 Köy

Ailenizin aylık gelir miktarı yaklaşık ne kadar?

- 500 milyon ve altı
 500 milyon – 1 milyar
 1 milyar – 1.5 milyar
 1.5 milyar – 2 milyar
 2 milyar – 2.5 milyar
 2.5 milyar – 3 milyar
 3 milyar ve üstü

Sizce ailenizin gelir düzeyi nedir?

- düşük
 ortanın altı
 orta
 ortanın üstü
 yüksek

APPENDIX B

AB 4-16

STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (SDQ)

(GÜÇLER VE GÜÇLÜKLER ANKETİ)

Her cümle için, Doğru Değil, Kısmen Doğru veya Kesinlikle Doğru kutularından birini işaretleyiniz. Kesinlikle emin olamasanız ya da size anlamsız görünse de elinizden geldiğince tüm cümleleri yanıtlamanız bize yardımcı olacaktır. Lütfen yanıtlarınızı çocuğunuzun son 6 ay içindeki davranışlarını göz önüne alarak veriniz.

Çocuğunuzun Adı:

Kız / Erkek

Doğum Tarihi:

	Doğru Değil	Kısmen Doğru	Kesinlikle Doğru
Diğer insanların duygularını önemser.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Huzursuz, aşırı hareketli, uzun süre kıpırdamadan duramaz.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sıkça baş ağrısı, karın ağrısı ve bulantıdan yakınıdır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diğer çocuklarla kolayca paylaşır (yiyecek, oyuncak, kalem vs.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sıkça öfke nöbetleri olur ya da aşırı sinirlidir.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Daha çok tek başınadır, yalnız oynama eğilimindedir.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Genellikle söz dinler, erişkinlerin isteklerini yapar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Birçok kaygısı vardır. Sıkça endişeli görünür.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eğer birisi incinmiş, morali bozulmuş ya da kendini kötü hissediyor ise ona yardımcı olur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sürekli elleri ayakları kıpır kıpırdır ya da oturduğu yerde kıpırdanıp durur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
En az bir yakın arkadaşı vardır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sıkça diğer çocuklarla kavga eder ya da onlarla alay eder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sıkça mutsuz, kederli ya da ağlamalıdır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Genellikle diğer çocuklar tarafından sevilir.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dikkati kolayca dağılır. Yoğunlaşmakta güçlük çeker.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Yeni ortamlarda gergin ya da huysuzdur. Kendine güvenini kolayca kaybeder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kendinden küçüklere iyi davranır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sıkça yalan söyler ya da hile yapar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diğer çocuklar ona takarlar ya da onunla alay ederler.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sıkça başkalarına (anne, baba, öğretmen, diğer çocuklar) yardım etmeye istekli olur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Birşeyi yapmadan önce düşünür.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ev, okul ya da başka yerlerden çalar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Erişkinlerle çocuklardan daha iyi geçinir.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pek çok korkusu vardır. Kolayca ürker.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Başladığı işi bitirir, dikkat süresi iyidir.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX C

0 4-16

STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (SDQ)

(GÜÇLER VE GÜÇLÜKLER ANKETİ)

Her cümle için, Doğru Değil, Kısmen Doğru veya Kesinlikle Doğru kutularından birini işaretleyiniz. Kesinlikle emin olamasanız ya da size anlamsız görünse de elinizden geldiğince tüm cümleleri yanıtlamanız bize yardımcı olacaktır. Lütfen yanıtlarınızı öğrencinin son 6 ay içindeki davranışlarını göz önüne alarak veriniz.

Öğrencinin Adı:

Kız / Erkek

Doğum Tarihi:

	Doğru Değil	Kısmen Doğru	Kesinlikle Doğru
Diğer insanların duygularını önemser.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Huzursuz, aşırı hareketli, uzun süre kıpırdamadan duramaz.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sıkça baş ağrısı, karın ağrısı ve bulantıdan yakınıdır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diğer çocuklarla kolayca paylaşır (yiyecek, oyuncak, kalem vs.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sıkça öfke nöbetleri olur ya da aşırı sinirlidir.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Daha çok tek başınadır, yalnız oynama eğilimindedir.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Genellikle söz dinler, erişkinlerin isteklerini yapar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Birçok kaygısı vardır. Sıkça endişeli görünür.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eğer birisi incinmiş, morali bozulmuş ya da kendini kötü hissediyor ise ona yardımcı olur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sürekli elleri ayakları kıpır kıpırdır ya da oturduğu yerde kıpırdanıp durur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
En az bir yakın arkadaşı vardır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sıkça diğer çocuklarla kavga eder ya da onlarla alay eder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sıkça mutsuz, kederli ya da ağlamalıdır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Genellikle diğer çocuklar tarafından sevilir.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dikkati kolayca dağılır. Yoğunlaşmakta güçlük çeker.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Yeni ortamlarda gergin ya da huysuzdur. Kendine güvenini kolayca kaybeder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kendinden küçüklere iyi davranır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sıkça yalan söyler ya da hile yapar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diğer çocuklar ona takarlar ya da onunla alay ederler.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sıkça başkalarına (anne, baba, öğretmen, diğer çocuklar) yardım etmeye istekli olur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Birşeyi yapmadan önce düşünür.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ev, okul ya da başka yerlerden çalar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Erişkinlerle çocuklardan daha iyi geçinir.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pek çok korkusu vardır. Kolayca ürker.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Başladığı işi bitirir, dikkat süresi iyidir.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX D

SCHOOL-AGE TEMPERAMENT INVENTORY (OKUL ÇAĞI ÇOCUKLARI İÇİN MİZAÇ ÖLÇEĞİ)

Lütfen aşağıdaki ölçeği kullanarak çocuğunuzun belirtilen davranışı ne sıklıkla yaptığını, her ifadenin karşısındaki uygun rakamı daire içine alarak belirtiniz.

HİÇBİR ZAMAN 1	NADİREN 2	ZAMAN ZAMAN 3	SIKLIKLA 4	HER ZAMAN 5
-------------------	--------------	------------------	---------------	----------------

HİÇBİR ZAMAN
NADİREN
ZAMAN ZAMAN
SIKLIKLA
HER ZAMAN

1.Evin içinde bir odadan diğerine giderken sessizce hareket eder.	1	2	3	4	5
2.Aradığı birşeyi bulamadığında sinirlenir.	1	2	3	4	5
3.Tanımaya bile kendi yaşındaki diğer çocuklara yaklaşır.	1	2	3	4	5
4.Başladığı bir işi bitirmeden diğerine geçer.	1	2	3	4	5
5.Aynı fikri paylaşmadığında bunu sessiz ve sakin bir tavırla ifade eder.	1	2	3	4	5
6.Arkadaşlarının araması veya gelmesi nedeniyle ara verdiği sorumluluklarına (ev ödevi, ev işi gibi), onlar gittikten sonra devam eder.	1	2	3	4	5
7. Evine gelen tanımadığı yetişkinlere karşı güler yüzlüdür.	1	2	3	4	5
8. Hatırlatılmadığı sürece ödevlerini tamamlamaz.	1	2	3	4	5
9. Tanımadığı yetişkinlerin yanında utangaç davranır.	1	2	3	4	5
10. Kendisine yapılan hafif bir eleştiri bile onu çok kızdırır.	1	2	3	4	5
11. Kendi başladığı işleri (resim, model, el işi gibi) bitirmeden yarım bırakır.	1	2	3	4	5
12. Yeni karşılaştığı durumlarda (akraba ziyareti, yeni oyun arkadaşları gibi) endişeli ve kaygılı görünür.	1	2	3	4	5
13. Eve girip çıkarken koşar.	1	2	3	4	5
14. Hayalkırıklığı veya başarısızlık yaşadığında şiddetli tepkiler gösterir (ağlar veya yüksek sesle şikayet eder).	1	2	3	4	5
15. Yaptığı bir iş ya da projede engellenmişlik yaşar, öfkelenir ve işi yarım bırakır.	1	2	3	4	5

	HİÇBİR ZAMAN	NADİREN	ZAMAN ZAMAN	SIKLIKLA	HER ZAMAN
16. Hatırlatmaya gerek kalmadan ödevlerini yapar.	1	2	3	4	5
17. Kendisiyle alay edildiğinde sinirlenir.	1	2	3	4	5
18. Kendi sorumluluğundaki günlük ev işlerini bitirmeden yarım bırakır.	1	2	3	4	5
19. Odaya gürlütle, paldır küldür girer.	1	2	3	4	5
20. Bir hata yaptığında engellenmişlik yaşar ve öfkelenir.	1	2	3	4	5
21. Yeni tanıştığı çocuklara karşı çekingen davranır.	1	2	3	4	5
22. Ödevleri ile bitirene kadar uğraşır.	1	2	3	4	5
23. Sinirlendiğinde karşısındakine bağırır veya kırıcı konuşur.	1	2	3	4	5
24. Merdivenleri koşarak veya zıplayarak iner çıkar.	1	2	3	4	5
25. Yapmakta olduğu iş (ev ödevi, ev işi gibi) bölünse bile tekrar geri döner.	1	2	3	4	5
26. Yanlış bir davranışının düzeltilmesinden hoşlanmaz.	1	2	3	4	5
27. Dükkan, sinema veya oyun salonu gibi yeni mekanlara çekinmeden girer.	1	2	3	4	5
28. Ulaşmak istediği yere koşarak gider.	1	2	3	4	5
29. Onay almadığı durumlarda şiddetli tepkiler gösterir (bağırır, ağlar gibi).	1	2	3	4	5
30. Kendisine verilen işleri (ev ödevi, ev işi gibi) tamamlamakta zorlanır.	1	2	3	4	5
31. Yeni biri ile tanışmak yerine, tanıdığı biri ile oynamayı tercih eder.	1	2	3	4	5
32. Kızgın olduğunda yüksek sesler çıkarır (kapıları hızla çarpar, eşyalara vurur, bağırır gibi).	1	2	3	4	5
33. Daha önceden yapılmış olan planlarda bir değişiklik olduğunda sinirlenir.	1	2	3	4	5
34. Eve tanımadığı misafirler geldiğinde uzak durur, onlarla yakınlaşmaz ve konuşmaz.	1	2	3	4	5
35. Çoğu zaman sanki bir yere yetişecekmiş gibi oldukça telaşlı bir hali vardır.	1	2	3	4	5
36. Zor bir iş ile karşılaştığında kolaylıkla pes eder.	1	2	3	4	5
37. Aksi, mutsuz veya huysuz olduğu günleri vardır.	1	2	3	4	5
38. İlk kez gittiği bir evde kendini rahat hissetmiyormuş gibi görünür.	1	2	3	4	5

APPENDIX E

ANTISOCIAL PROCESS SCREENING DEVICE- PARENT & TEACHER FORMS (ANTİSOSYAL SÜREÇLERİ TARAMA ARACI- EBEVEYN VE ÖĞRETMEN FORMU)

Example Items for the CU Dimension:

Hatalı birşey yaptığında kendini kötü veya suçlu hisseder.
Başkalarının duygularına önem verir, umursar.

Example Items for the Narcissism Dimension:

Duyguları içten değil, sanki yüzeyselmiş gibi görünür.
Diğer insanlardan daha üstün olduğunu düşünüyor gibidir.

Example Items for the Impulsivity Dimension:

Yaptığı şeyin sonuçlarını düşünmeden davranır.
Plan yapmaz veya herşeyi son dakikaya bırakır.

APPENDIX F

HACETTEPE EMOTIONAL ADJUSTMENT SCALE (HACETTEPE RUHSAL UYUM ÖLÇEĞİ)

Adı:

Soyadı:

Okulu:

Sınıfı:

E

K

Formun Doldurulduğu Tarih		Doğum Tarihi (Ay ve Yılı)		Kardeşler (Yaşları ve Cinsiyetleri)
Adres				1.
Baba Adı		Yaşı	Eğitimi	2.
Anne Adı		Yaşı	Eğitimi	3.
Anne-Baba Birlikte		Anne-Baba Boşanma	Ölüm	4.
			İşi	5.
			Üvey	6.
				7.
			
			

Açıklamalar: Lütfen aşağıdaki ölçeği kullanarak değerlendirilen çocuğun, belirtilen davranışı ne sıklıkla yaptığını, uygun ifadenin altındaki kutucuğu işaretleyerek belirtiniz.

Yok

Biraz

Çok

	Yok	Biraz	Çok
1. Sıkılgan, çekingen ve güvensizdir	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Hareketlidir, yerinde duramaz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Korkaktır, ürkektir	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Sinirlidir, çabuk kızar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Bencildir, paylaşmaz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Kıskançtır	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Herşeye ağlar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. İnatçıdır, söz dinlemez	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yok	Biraz	Çok
9. Kendi başına bir şey yapmaz, yardım bekler	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Yalan söyler	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Gece korkar, yalnız yatamaz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Kendine ait olmayan şeyleri izinsiz alır	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Kaygılı ve kuruntuludur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Yaşlılarıyla geçinemez	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Arkadaşsızdır, yalnız oynar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Cezadan etkilenmez, uslanmaz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Okula isteksiz gider	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Kavgacı ve saldırgandır	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Durgun ve içine kapanıktır	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Kırıcı ve zararcıdır	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Neşesiz ve mutsuzdur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Sorumsuzdur, kendi işini yapmaz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Dikkatsizdir	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Gereksiz titizliği vardır	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Kekemelik	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Tik	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Tırnak yeme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Parmak emme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Kaka kaçırma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Yatağa işeme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Okul başarısızlığı	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Diğer sorunlar (açıklayınız)			

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 yaptığınız çocuğun sık rastlanan davranış sorunlarının bazılarını gözden geçirecek ve değerlendirecektir. Lütfen her bir soruda size en uygun gelen seçeneği daire içine alarak işaretleyin.

Çocuğun Adı ve Soyadı:

Yaşı:

Cinsiyeti:

Bugünün Tarihi:

Formu Dolduran Kişinin Çocuğa Olan Yakınlığı:

	YOK	BİRAZ	FAZLA	ÇOK FAZLA
1. Dikkatini ayrıntılara vermez 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 tamamlamaz.	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

	YOK	BİRAZ	FAZLA	ÇOK FAZLA
8. Dikkati kolayca dağılır.	0	1	2	3
9. Günlük etkinliklerde unutkanlıdır.	0	1	2	3
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.	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
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
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
27. Kabadayılık eder, tehdit eder, gözdağı verir.	0	1	2	3
28. Kavga dövüş başlatır.	0	1	2	3
29. Eşyalarına ciddi biçimde fiziksel zarar verecek silah (sopa, taş, kırık şişe, bıçak, tabanca vb.) kullanır.	0	1	2	3

	YOK	BİRAZ	FAZLA	ÇOK FAZLA
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 soygun, silahlı soygun) yapar.	0	1	2	3
33. Başka birisini cinsel etkinlikte bulunmak için zorlar.	0	1	2	3
34. Ciddi hasar vermek amacıyla yangın çıkarır.	0	1	2	3
35. Başkalarının malı mülküne isteyerek zarar verir (yangın çıkarma dışında).	0	1	2	3
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 aldatır).	0	1	2	3
38. Hiç kimse görmeden değerli şeyler çalar (mağazalardan mal çalma, sahtekarlık).	0	1	2	3
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 kaçar.	0	1	2	3

APPENDIX H

RATINGS OF PROSOCIAL BEHAVIORS

Question for Parent:

Diğer çocuklarla karşılaştırdığınızda, çocuğunuzun, arkadaşlarıyla iyi geçinme ve yardımseverlik gibi konularda ne kadar olumlu bir tutum sergilediğini aşağıda verilen ölçek üzerinde işaretleyiniz.

1	2	3	4	5
çok olumsuz olumlu	biraz olumsuz	ne olumlu ne olumsuz	olumlu	çok

Question for Teacher:

Sınıfınızdaki diğer çocuklarla karşılaştırıldığında, bu öğrencinin, arkadaşlarıyla iyi geçinme ve yardımseverlik gibi konularda ne kadar olumlu bir tutum sergilediğini aşağıda verilen ölçek üzerinde işaretleyiniz.

1	2	3	4	5
çok olumsuz olumlu	biraz olumsuz	ne olumlu ne olumsuz	olumlu	çok

APPENDIX I

DEMOGRAPHIC INFORMATION FORM (DEMOGRAFİK BİLGİ FORMU)

Sayın Veli,

Bu arařtırmayı, Orta Doęu Teknik Üniversitesi Psikoloji Bölümünde yürütmekte olduęum doktora tezi kapsamında T. C. Milli Eęitim Bakanlıęı Arařtırma, Planlama ve Koordinasyon Kurulu Başkanlıęı'ndan aldığım izinle yapmaktayım. Arařtırmanın amacı, aile içi ilişkiler, anne-baba tutumları ile çocuklarda görülen bazı olumlu-olumsuz davranıřlar ve kiřilik özellikleri arasındaki ilişkiyi incelemektir.

Öncelikle ilişikteki Aile Bilgi Formunu lütfen doldurunuz. Zarfın içindeki dięer anketlerden üzerinde **EK 1** yazılı olanı, zarfın üzerinde adı belirtilen çocuęun **ANNESİ** tarafından doldurulması gerekmektedir. Annenin doldurmasının mümkün olmadığı durumlarda, soruların çocuęun yetiřtirilmesinden ve bakımından sorumlu olan kiři tarafından doldurulması uygun olacaktır. **EK 2** yazılı olan anketin ise çocuęun **BABASI** tarafından doldurulması gerekmektedir. Babanın soruları cevaplamasının mümkün olmadığı durumlarda, Ek 2 formunu boş bırakınız.

Arařtırmanın amacı bu yař grubundaki çocukların genel özelliklerini incelemek olduęundan, bireysel deęerlendirme yapılmayacaktır. Sizden istenen bu bilgiler, arařtırmacı dıřında kimse tarafından bilinmeyecek, tamamen gizli kalacaktır. Bu soruların yanıtlanması yaklaşık 45 dakika sürmektedir. Arařtırmada doęru sonuçlara ulařabilmemiz için, soruları içtenlikle ve çocuęunuzu en doęru yansıtacak řekilde cevaplandırmanız çok önemlidir.

Arařtırmaya olan deęerli katkılarınızdan ötürü çok teřekkür ederim.

Uzm. Psk. C. Ekin Eremsoy
Orta Doęu Teknik Üniversitesi
Psikoloji Bölümü

Çocuğun adı ve soyadı: _____

Cinsiyeti: Kız Erkek

Doğum tarihi: Gün_____ Ay_____ Yıl_____

Okulunun adı: _____ Sınıfı: _____

Formun doldurulduğu tarih: Gün_____ Ay_____ Yıl_____

Formu dolduran kişinin çocuğa yakınlık derecesi: anne öz üvey

baba öz üvey

diğer _____

ÇOCUĞUN ÖZ ANNESİ

Hayatta mı? Evet Hayır

Yaşı (hayatta ise): _____

Öğrenim durumu: okuma-yazması yok
 okur-yazar
 ilkokul mezunu
 ortaokul mezunu
 lise mezunu
 yüksek okul mezunu
 üniversite mezunu
 lisans üstü (master-doktora)
 diğer (açıklayınız) _____

İş durumu: çalışıyor
 çalışmıyor
 emekli

Çalışıyorsa veya emekli ise mesleği nedir? _____

COCUĞUN ÖZ BABASI

Hayatta mı? Evet Hayır

Yaşı: _____

Öğrenim durumu: okuma-yazması yok
 okur-yazar
 ilkokul mezunu
 ortaokul mezunu
 lise mezunu
 yüksek okul mezunu
 üniversite mezunu
 lisans üstü (master-doktora)
 diğer (açıklayınız) _____

İş durumu: çalışıyor
 çalışmıyor
 emekli

Çalışıyorsa veya emekli ise mesleği nedir? _____

Toplam kaç çocuğunuz var? _____

DİĞER ÇOCUKLARINIZIN:

<u>Yaşı</u>	<u>Cinsiyeti</u>	<u>Yakınlık derecesi</u>
1. _____	Kız <input type="checkbox"/> Erkek <input type="checkbox"/>	Öz <input type="checkbox"/> Üvey <input type="checkbox"/>
2. _____	Kız <input type="checkbox"/> Erkek <input type="checkbox"/>	Öz <input type="checkbox"/> Üvey <input type="checkbox"/>
3. _____	Kız <input type="checkbox"/> Erkek <input type="checkbox"/>	Öz <input type="checkbox"/> Üvey <input type="checkbox"/>
4. _____	Kız <input type="checkbox"/> Erkek <input type="checkbox"/>	Öz <input type="checkbox"/> Üvey <input type="checkbox"/>
5. _____	Kız <input type="checkbox"/> Erkek <input type="checkbox"/>	Öz <input type="checkbox"/> Üvey <input type="checkbox"/>

Bu formu doldurduğunuz çocuğunuzun doğum sırası nedir? ilk çocuk
 ortanca veya ortancalardan biri
 son çocuk

Evde toplam kaç kişi yaşıyorsunuz? _____

Aşağıda verilen aile üyelerinden hangileri evde çocukla birlikte yaşıyor? Lütfen uygun olanların hepsini işaretleyiniz.

- anne
 baba
 kardeşler kaç tanesi?____
 teyze/hala/amca/dayı
 büyükanne/büyükbaba
 anneanne/dede
 kuzen/kuzenler
 bakıcı/hizmetçi
 diğer akrabalar belirtiniz_____

Ailece kaç yıldır Ankara'da yaşıyorsunuz? _____

Daha önce nerede yaşıyordunuz? (lütfen belirtiniz)_____

- Büyük şehir
 Şehir
 Kasaba
 Köy

Ailenizin aylık gelir miktarı yaklaşık ne kadar? 500 YTL ve altı
 500-1000 YTL
 1000-1500 YTL
 1500-2000 YTL
 2000-2500 YTL
 2500-3000 YTL
 3000 YTL ve üstü

Şizce ailenizin gelir düzeyi nedir?

- düşük
 ortanın altı
 orta
 ortanın üstü
 yüksek

Çocuğunuzun bakımıyla evde en çok kim ilgilenir? Lütfen uygun olanların hepsini işaretleyiniz.

- anne
 baba
 büyük kardeş(ler)
 diğer akrabalar (örn; anneanne, teyze vb..)
 bakıcı
 diğer _____(belirtiniz)

Çocuğunuzun terbiye edilmesi, doğru-yanlış davranışları öğrenmesinde ev içinde en çok kimlerin sözü geçer? Lütfen uygun olanların hepsini işaretleyiniz.

- sadece annenin
 sadece babanın
 hem annenin hem babanın
 kardeşlerin
 diğer akrabaların (amca, teyze, anneanne, babaanne, dede, vs...)

Kim olduğunu belirtiniz _____

Çocuğunuzun kendine ait bir odası var mı?

Evet Hayır

Çocuğunuz kendi yaşına uygun sosyal faaliyetlere katılır mı? (geziler, sinema, grup aktiviteleri vs.)

Evet Hayır

Çocuğunuzun yaptığı spor faaliyetleri var mı?

Evet Hayır

Çocuğunuzun ilgilenmekten zevk aldığı uğraşları var mı?

Evet Hayır

Çocuğunuzun geçirdiği önemli bir hastalık oldu mu?

Evet Hayır

Cevabınız evet ise, lütfen hastalığın ne olduğunu belirtiniz _____

Çocuğunuz bugüne kadar hiç davranış veya uyum sorunları nedeniyle bir kliniğe veya hastaneye yönlendirildi mi?

Evet Hayır

Cevabınız evet ise, lütfen nedenini belirtiniz _____

Evinizde alkol problemi olan bir aile üyesi var mı? Evet Hayır

Cevabınız **evet** ise, çocuğa olan yakınlık derecesi nedir? Anne

Baba

Diğer _____

Aşağıda, hatalı davranışlarda bulduklarında ailelerin, çocuklarına uyguladıkları farklı ceza yöntemleri verilmiştir. Bu ifadelerin her birini okuyarak, belirtilen cezalandırma yönteminin çocuğunuza ne sıklıkla uygulandığını ifadenin alt kısmında verilen ölçek üzerinde daire içine alarak işaretleyiniz.

1. Bağırarak

1	2	3	4	5
Hiçbir zaman	Nadiren	Bazen	Sık sık	Her zaman

2. Tokat atmak

1	2	3	4	5
Hiçbir zaman	Nadiren	Bazen	Sık sık	Her zaman

3. Dövmek

1	2	3	4	5
Hiçbir zaman	Nadiren	Bazen	Sık sık	Her zaman

4. Odadan çıkmama cezası vermek

1	2	3	4	5
Hiçbir zaman	Nadiren	Bazen	Sık sık	Her zaman

5. Yapmaktan zevk aldığı bir şeyi yasaklamak

1	2	3	4	5
Hiçbir zaman	Nadiren	Bazen	Sık sık	Her zaman

6. Konuşup, davranışının neden yanlış olduğunu açıklamak

1	2	3	4	5
Hiçbir zaman	Nadiren	Bazen	Sık sık	Her zaman

7. Ceza vermemek

1	2	3	4	5
Hiçbir zaman	Nadiren	Bazen	Sık sık	Her zaman

8. Diğer (belirtiniz ve aşağıda derecelendiriniz)_____

1	2	3	4	5
Hiçbir zaman	Nadiren	Bazen	Sık sık	Her zaman

APPENDIX J

PARENTAL ACCEPTANCE REJECTION QUESTIONNAIRE- MOTHER FORM (PARQ-MOTHER) (AİLE KABUL VE REDDETME ÖLÇEĞİ-ANNE FORMU)

İlişikte, annenin çocuğa karşı çeşitli davranış şekillerini içeren ifadeler verilmiştir. Her ifadeyi dikkatle okuyup, kendi davranışınıza ne derece uyduğunu düşününüz. Fazla zaman kaybetmeden ilk düşüncenizi kaydediniz. Eğer ifade sizin için doğru ise, hemen hemen, her zaman doğru veya bazen doğru şıkkını çarpı işareti (X) koymak suretiyle işaretleyiniz. İfade sizin için doğru değil ise, nadiren doğru veya hiçbir zaman doğru değil şıkkını işaretleyiniz.

Doğru veya yanlış cevap yoktur. Soruları cevaplarken çocuğunuza karşı genelde nasıl davrandığınızı düşününüz. Soruların tamamını dürüst, samimi ve gerçekçi bir şekilde cevaplamanız önemlidir.

Örnek:

	BENİM İÇİN DOĞRU		BENİM İÇİN DOĞRU DEĞİL	
	Hemen hemen her zaman doğru	Bazen doğru	Nadiren doğru	Hiçbir zaman doğru değil
Çocuğum iyi davrandığı zaman ona sarılıp öperim	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Çocuğunuz iyi davrandığında hemen hemen her zaman ona sarılıp öpüyorsanız örnekte gösterildiği şekilde işaretleyiniz.

	BENİM İÇİN DOĞRU		BENİM İÇİN DOĞRU DEĞİL	
	Hemen hemen her zaman doğru	Bazen doğru	Nadiren doğru	Hiçbir zaman doğru değil
1. Ben çocuğum hakkında güzel şeyler söylerim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Çocuğum kötü davrandığında onu küçümseyerek azarlarım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Çocuğuma sanki orada yokmuş gibi davranırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Çocuğumu gerçekten sevip sevmediğimden şüphe ediyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Günlük yaşantımızı çocuğumla tartışır ve fikrini alırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. O beni dinlemediği zaman çocuğumu başkalarına şikayet ederim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Çocuğumla candan ilgilenirim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Çocuğumu arkadaşlarını eve getirmesi için cesaretlendiririm ve onların iyi vakit geçirmesine gayret ederim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Çocuğumla alay ederim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Beni rahatsız etmediği sürece çocuğumun varlığını bilmezlikten gelirim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Kızgın olduğum zaman çocuğuma bağırırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Çocuğumun bana güvenip açılmasını kolaylaştırırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Çocuğuma sert davranırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Çocuğumun etrafımda olmasından hoşlanıyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Çocuğum bir şeyi iyi yaptığında onun gurur duymasını sağlıyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Haketmediği zaman bile çocuğuma vururum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Çocuğum için yapmam gereken şeyleri unutuyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Çocuğumu başkalarına överim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Kızgın olduğum zaman çocuğumu cezalandırırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	BENİM İÇİN DOĞRU		BENİM İÇİN DOĞRU DEĞİL	
	Hemen hemen her zaman doğru	Bazen doğru	Nadiren doğru	Hiçbir zaman doğru değil
20. Çocuğumla şefkat ve sevgi dolu konuşurum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Çocuğuma karşı çok sabırsızım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Çocuğumun sorularına cevap veremeyecek kadar meşgulüm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Çocuğuma içerliyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Çocuğumu hak ettiği zaman överim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Çocuğum sinirime dokunur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Çocuğumun kimlerle arkadaşlık ettiği ile ilgilenirim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Çocuğumun hayatındaki olaylarla gerçekten ilgilenirim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Çocuğumla kırıci konuşurum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Çocuğum yardım istediği zaman anlamazlıktan gelirim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Çocuğumun başı deritte olduğunda ona karşı anlayışsız davranırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Çocuğuma istenilen ve ihtiyaç duyulan biri olduğunu hissettiririm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Çocuğuma sinirime dokunduğunu söylerim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. Çocuğuma büyük özen gösteririm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. Çocuğum iyi davrandığı zaman onunla gurur duyduğumu söylerim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. Çocuğumun kalbini kırarım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. Çocuğumun hatırlamamı beklediği olayları unutturum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. Çocuğum yanlış hareket ettiği zaman onu artık sevmediğimi hissettiririm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. Çocuğuma yaptığı şeyin önemli olduğunu hissettiririm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	BENİM İÇİN DOĞRU		BENİM İÇİN DOĞRU DEĞİL	
	Hemen hemen her zaman doğru	Bazen doğru	Nadiren doğru	Hiçbir zaman doğru değil
39. Çocuğum yanlış bir şey yaptığında onu tehdit ediyorum veya korkutuyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. Çocuğumla birlikte vakit geçirmekten hoşlanırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. Çocuğum üzüldüğü, tasalandığı veya korktuğu zaman ona yardım etmeye çalışırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. Çocuğum kötü davrandığı zaman onu oyun arkadaşlarının yanında küçük düşürürüm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43. Çocuğumun benimle beraber olmasından kaçınırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44. Çocuğumdan şikayet ederim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45. Çocuğumun görüşlerine saygı duyarım ve açıkça söylemesi için onu cesaretlendiririm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46. Çocuğumu olumsuz bir şekilde başka çocuklarla kıyaslarım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47. Plan yaptığım zaman çocuğumu da göz önünde bulundururum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48. Benim için uygun olmasa bile, çocuğumun önemli gördüğü şeyleri yapmasına izin veririm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49. Çocuğum kötü davrandığında onu başka çocuklarla haksız bir şekilde kıyaslarım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50. Çocuğuma istenmediğini hissettiririm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
51. Çocuğumun yaptığı şeylere ilgi duyuyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52. Çocuğum kötü davrandığı zaman ondan utandığımı söylerim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53. Çocuğuma onu sevdiğimi hissettiririm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54. Çocuğuma nazik ve yumuşak davranırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55. Çocuğum yanlış davrandığında onu utandırmaya veya suçlu hissettirmeye çalışırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56. Çocuğumu mutlu etmeye çalışırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX K

MCMASTER FAMILY ASSESSMENT DEVICE (MMFAD) (AİLE DEĞERLENDİRME ÖLÇEĞİ)

Lütfen aşağıdaki ölçeği kullanarak verilen ifadelerin size ne kadar uygun olduğunu, her ifadenin altındaki boşluğa (X) işareti koyarak belirtiniz.

CÜMLELER	Aynen katılıyorum	Büyük ölçüde katılıyorum	Biraz katılıyorum	Hiç katılmıyorum
1. Ailece ev dışında program yapmakta güçlük çekeriz, çünkü aramızda fikir birliği sağlayamayız.				
2. Günlük hayatımızdaki sorunların (problemlerin) hemen hepsini aile içinde hallederiz.				
3. Evde biri üzgün ise, diğer aile üyeleri bunun nedenini bilir.				
4. Bizim evde, kişiler verilen her görevi düzenli bir şekilde yerine getirmezler.				
5. Evde birinin başı derde girdiğinde, diğerleri de bunu kendilerine fazlasıyla dert ederler.				
6. Bir sıkıntı ve üzüntü ile karşılaştığımızda, birbirimize destek oluruz.				
7. Ailemizde acil bir durum olsa, şaşırıp kalırız.				
8. Bazen evde ihtiyacımız olan şeylerin bittiğinin farkına varmayız.				
9. Birbirimize karşı olan sevgi, şefkat gibi duygularımızı açığa vurmaktan kaçınırız.				
10. Gerektiğinde aile üyelerine görevlerini hatırlatır, kendilerine düşen işi yapmalarını sağlarız.				
11. Evde dertlerimizi, üzüntülerimizi birbirimize söylemeyiz.				
12. Sorunlarımızın çözümünde genellikle ailece aldığımız kararları uygularız.				

CÜMLELER	Aynen katılıyorum	Büyük ölçüde katılıyorum	Biraz katılıyorum	Hiç katılmıyorum
13. Bizim evdekiler, ancak onların hoşuna giden şeyler söylediğinizde sizi dinlerler.				
14. Bizim evde bir kişinin söylediklerinden, ne hissettiğini anlamak pek kolay değildir.				
15. Ailemizde eşit bir görev dağılımı yoktur.				
16. Ailemiz üyeleri, birbirlerine hoşgörülü davranırlar.				
17. Evde herkes, başına buyruktur.				
18. Bizim evde herkes, söylemek istediklerini üstü kapalı değil de doğrudan birbirlerinin yüzüne söyler.				
19. Ailede bazılarımız duygularımızı belli etmeyiz.				
20. Acil bir durumda ne yapacağımızı biliriz.				
21. Ailecek, korkularımızı ve endişelerimizi birbirimizle tartışmaktan kaçırırız.				
22. Sevgi, şefkat gibi olumlu duygularımızı birbirimize belli etmekte güçlük çekeriz.				
23. Gelirimiz (ücret, maaş) ihtiyacımızı karşılamaya yetmiyor.				
24. Ailemiz, bir problemi çözdükten sonra, bu çözümün işe yarayıp yaramadığını tartışır.				
25. Bizim ailede herkes kendini düşünür.				
26. Duygularımızı birbirimize açıkça söyleyebiliriz.				
27. Evimizde banyo ve tuvalet bir türlü temiz durmaz.				
28. Aile içinde birbirimize sevgimizi göstermeyiz.				
29. Evde herkes her istediğini birbirinin yüzüne söyleyebilir.				
30. Ailemizde, her birimizin belirli görev ve sorumlulukları vardır.				
31. Aile içinde genellikle birbirimizle pek iyi geçinmeyiz.				
32. Ailemizde sert-kötü davranışlar ancak belli durumlarda gösterilir.				

CÜMLELER	Aynen katılıyorum	Büyük ölçüde katılıyorum	Biraz katılıyorum	Hiç katılmıyorum
33. Ancak hepimizi ilgilendiren bir durum olduğu zaman birbirimizin işine karışırız.				
34. Aile içinde birbirimizle ilgilenmeye pek zaman bulamıyoruz.				
35. Evde genellikle söylediklerimizle söylemek istediklerimiz birbirinden farklıdır.				
36. Aile içinde birbirimize hoşgörülü davranırız.				
37. Evde birbirimize, ancak sonunda kişisel bir yarar sağlayacaksa ilgi gösteririz.				
38. Ailemizde bir dert varsa, kendi içimizde hallederiz.				
39. Ailemizde sevgi, şefkat gibi güzel duygular ikinci plandadır.				
40. Ev işlerinin kimin tarafından yapılacağını hep birlikte konuşarak kararlaştırırız.				
41. Ailemizde herhangi bir şeye karar vermek her zaman sorun olur.				
42. Bizim evdekiler sadece bir çıkarları olduğu zaman birbirlerine ilgi gösterirler.				
43. Evde birbirimize karşı açık sözlüyüzdür.				
44. Ailemizde hiçbir kural yoktur.				
45. Evde birinden bir şey yapması istendiğinde mutlaka takip edilmesi ve kendisine hatırlatılması gerekir.				
46. Aile içinde, herhangi bir sorunun (problemin) nasıl çözüleceği hakkında kolayca karar verebiliriz.				
47. Evde kurallara uyulmadığı zaman ne olacağını bilmeyiz.				
48. Bizim evde aklınıza gelen her şey olabilir.				
49. Sevgi, şefkat gibi olumlu duygularımızı birbirimize ifade edebiliriz.				
50. Ailede her türlü problemin üstesinden gelebiliriz				
51. Evde birbirimizle pek iyi geçinemeyiz.				

CÜMLELER	Aynen katılıyorum	Büyük ölçüde katılıyorum	Biraz katılıyorum	Hiç katılmıyorum
52. Sinirlenince birbirimize küseriz.				
53. Ailede bize verilen görevler pek hoşumuza gitmez, çünkü genelde umduğumuz görevler verilmez.				
54. Kötü bir niyetle olmasa da evde birbirimizin hayatına çok karşıyoruz.				
55. Ailemizde kişiler herhangi bir tehlike karşısında (yangın, kaza gibi) ne yapacaklarını bilirler, çünkü böyle durumlarda ne yapılacağı, aramızda konuşulmuş ve belirlenmiştir.				
56. Aile içinde birbirimize güveniriz.				
57. Ağlamak istediğimizde, birbirimizden çekinmeden rahatlıkla ağlayabiliriz.				
58. İşimize yetişmekte güçlük çekiyoruz.				
59. Aile içinde birisi, hoşlanmadığımız bir şey yaptığında ona bunu açıkça söyleriz.				
60. Problemlerimizi çözmek için ailecek çeşitli yollar bulmaya çalışırız.				

APPENDIX L

BRIEF SYMPTOM INVENTORY (BSI) (KISA SEMPTOM ENVANTERİ)

Aşağıda, insanların bazen yaşadıkları belirtilerin ve yakınmaların bir listesi verilmiştir. Listedeki her maddeyi lütfen dikkatle okuyun. Daha sonra o belirtinin **SİZDE BUGÜN DAHİL, SON BİR HAFTADIR NE KADAR VAROLDUĞUNU** yandaki bölmeden uygun olan yerde işaretleyin. Her belirti için sadece bir yeri işaretlemeye ve hiçbir maddeyi atlamamaya özen gösterin.

Yanıtlarınızı aşağıdaki ölçeğe göre değerlendirin:

Bu belirtiler son bir haftadır sizde ne kadar var?

0. Hiç yok
1. Biraz var
2. Orta derecede var
3. Epey var
4. Çok fazla var

Bu belirtiler son bir haftadır
sizde ne kadar var?

	Hiç				Çok fazla
1. İçinizdeki sinirlilik ve titreme hali	①	②	③	④	
2. Baygınlık, baş dönmesi	①	②	③	④	
3. Bir başka kişinin sizin düşüncelerinizi kontrol edeceği fikri	①	②	③	④	
4. Başınıza gelen sıkıntılardan dolayı başkalarının suçlu olduğu duygusu	①	②	③	④	
5. Olayları hatırlamada güçlük	①	②	③	④	
6. Çok kolayca kızıp öfkelenme	①	②	③	④	
7. Göğüs (kalp) bölgesinde ağrılar	①	②	③	④	
8. Meydanlık (açık) yerlerden korkma duygusu	①	②	③	④	

Bu belirtiler son bir haftadır
sizde ne kadar var?

	Hiç				Çok fazla
9. Yaşamınıza son verme düşünceleri	0	1	2	3	4
10. İnsanların çoğuna güvenilemeyeceği hissi	0	1	2	3	4
11. İştahta bozukluklar	0	1	2	3	4
12. Hiçbir nedeni olmayan ani korkular	0	1	2	3	4
13. Kontrol edemediğiniz duygu patlamaları	0	1	2	3	4
14. Başka insanlarla beraberken bile yalnızlık hissetmek	0	1	2	3	4
15. İşleri bitirme konusunda kendini engellenmiş hissetmek	0	1	2	3	4
16. Yalnız hissetmek	0	1	2	3	4
17. Hüzünlü, kederli hissetmek	0	1	2	3	4
18. Hiçbir şeye ilgi duymamak	0	1	2	3	4
19. Ağlamaklı hissetmek	0	1	2	3	4
20. Kolayca incinebilme, kırılma	0	1	2	3	4
21. İnsanların sizi sevmediğine, kötü davrandığına inanmak	0	1	2	3	4
22. Kendini diğerlerinden aşağı görme	0	1	2	3	4
23. Mide bozukluğu, bulantı	0	1	2	3	4
24. Diğerlerinin sizi gözlediği ya da hakkınızda konuştuğu duygusu	0	1	2	3	4
25. Uykuya dalmada güçlük	0	1	2	3	4
26. Yaptığınız şeyleri tekrar tekrar doğru mu diye kontrol etmek	0	1	2	3	4
27. Karar vermede güçlükler	0	1	2	3	4
28. Otobüs, tren, metro gibi umumi vasıtalarla seyahatlerden korkmak	0	1	2	3	4
29. Nefes darlığı, nefessiz kalmak	0	1	2	3	4
30. Sıcak-soğuk basmaları	0	1	2	3	4
31. Sizi korkuttuğu için bazı eşya, yer ya da etkinliklerden uzak kalmaya çalışmak	0	1	2	3	4
32. Kafanızın “bomboş” kalması	0	1	2	3	4
33. Bedeninizin bazı bölgelerinde uyuşmalar, karıncalanmalar	0	1	2	3	4

Bu belirtiler son bir haftadır
sizde ne kadar var?

	Hiç				Çok fazla
34. Günahlarınız için cezalandırılmanız gerektiği düşüncesi	①	②	③	④	
35. Gelecekle ilgili umutsuzluk duyguları	①	②	③	④	
36. Konsantrasyonda (dikkati bir şey üzerinde toplama) güçlük/zorlanmak	①	②	③	④	
37. Bedenin bazı bölgelerinde zayıflık, güçsüzlük hissi	①	②	③	④	
38. Kendini gergin ve tedirgin hissetmek	①	②	③	④	
39. Ölme ve ölüm üzerine düşünceler	①	②	③	④	
40. Birini dövme, ona zarar verme, yaralama isteği	①	②	③	④	
41. bir şeyleri kırma, dökme isteği	①	②	③	④	
42. Diğerlerinin yanındayken yanlış bir şeyleri yapmamaya çalışmak	①	②	③	④	
43. Kalabalıklarda rahatsızlık duymak	①	②	③	④	
44. Bir başka insana hiç yakınlık duymamak	①	②	③	④	
45. Dehşet ve panik nöbetleri	①	②	③	④	
46. Sık sık tartışmaya girmek	①	②	③	④	
47. Yalnız bırakıldığında / kalındığında sinirlilik hissetmek	①	②	③	④	
48. Başarılarınız için diğerlerinden yeterince takdir görmemek	①	②	③	④	
49. Yerinde duramayacak kadar tedirgin hissetmek	①	②	③	④	
50. Kendini değersiz görmek / değersizlik duyguları	①	②	③	④	
51. Eğer izin verirsiniz insanların sizi sömüreceği duygusu	①	②	③	④	
52. Suçluluk duyguları	①	②	③	④	
53. Aklınızda bir bozukluk olduğu fikri	①	②	③	④	

APPENDIX M

TURKISH SUMMARY

GİRİŞ

Pek çok ülkede, gençler arasında giderek artan oranda görülen şiddet genel nüfusu büyük oranda etkilemekte ve son yıllarda pek çok araştırmaya konu olmaktadır. Araştırmacılar, antisosyal davranışların ve dışa yönelim problemlerin ortaya çıkmasında etkili olan risk faktörleri belirleme yoluyla, çocuklarda ve gençlerde görülen suça yönelik davranışların kökenini açıklamaya çalışmaktadırlar. DSM-IV'te (APA, 1994), klinik açıdan önem taşıyan dışa yönelim problemlerine, Dikkat-Eksikliği ve Yıkıcı Davranış Bozuklukları bölümünde yer verilmektedir. Hem klinik örnekleme hem de klinik dışı topluluk örnekleminde en yaygın problem olarak görülen çocukluk dönemi yıkıcı davranışları, Karşıt Olma-Karşı Gelme Bozukluğu ve Davranım Bozukluğu tanıları içine dahil edilmiştir. Bu problemler, zaman içinde kalıcılık göstermeleri ve daha sonradan daha ciddi yetişkinlik dönemi problemlerine dönüşen antisosyal davranışlar, agresyon, kavga etme, hırsızlık yapma gibi karakteristik semptomları içermeleri bakımından önemlidirler (Lambert, Wahler, Andrade, & Bickman, 2001).

Ne var ki, davranım problemlerinin başlangıç yaşı ile sıklığı, şiddeti ve sürekliliği arasındaki ilişkiyi inceleyen çalışmalar, davranım problemlerinin gelişimsel süreçlere göre farklı gruplara ayrılması gerektiğini göstermiştir (Hinshaw, Lahey, & Hart, 1993). Bu ayrımı yapmanın temel nedeni, dışa yönelim davranışlarının bazı türlerinin, daha ileriki yaşlarda, daha kronik, daha şiddetli ve ciddi antisosyal davranışları içerdiğinin görülmesidir (Moffitt, 1993). Bu gelişimsel modellere göre, en agresif, sürekli ve şiddetli davranım problemleri sergileyen gençler, bu davranışları çocukluk dönemlerinde yapmaya

başlamaktadırlar. Buna karşın, ergenlik dönemine kadar davranım problemleri sergilemeyen gençler, daha az agresif olma ve daha az suç davranışı sergileme eğilimindedirler ve sıklıkla bu davranışları yetişkinlik döneminde sürdürmemektedirler. Moffitt (1993) bu iki grubu sırasıyla, “yaşam boyu süren” ve “ergenlikle sınırlı” olarak adlandırmıştır. DSM-IV bu iki farklı gelişimsel örüntüyü dikkate almaktadır ve davranım problemlerini başlangıç yaşına göre iki alt tipe ayırmaktadır. Bunlar, Çocuklukta Başlayan tip ve Ergenlikte Başlayan tiptir. Çocuklukta başlayan tip, davranım bozukluğuna işaret eden semptomlardan en az birinin 10 yaşından önce başlaması ile karakterizedir. Bu alt tip baskın olarak erkeklerde görülmektedir ve fiziksel agresyon ve bozuk arkadaş ilişkileri ile karakterizedir. Buna karşılık Ergenlikte başlayan tip, 10 yaşından önce davranım bozukluğuna işaret eden herhangi bir semptomun olmayışı ile karakterizedir. Bu alt tipte, davranım problemleri ve antisosyal davranışlar ergenliğin başlangıcı ile gelişmektedir. Bu davranışlar sıklıkla sınırlıdır, yetişkinlik döneminde devam etmez.

Moffitt’e göre (1993), çocuklukta ve ergenlikte başlayan davranım bozukluklarının, risk faktörleri ve koruyucu faktörler ile farklı ilişkileri bulunmaktadır ve bu durum, farklı etiyolojik nedenlere işaret etmektedir. Çocukluk döneminde başlayan grupta, zor bir mizaca neden olan nöro-psikolojik bozuklukları ve maruz kalınan farklı çevresel risk faktörleri önemle rol oynamaktadır. Buna karşın ergenlik döneminde başlayan grupta, nöro-psikolojik bir yatkınlık bulunmamakta, zira bu kişiler yetişkinlerin sahip olduğu ayrıcalıklara sahip olabilmek ve ebeveynlerinden bağımsız hale gelmek istedikleri için antisosyal davranışlar sergilemektedirler.

Araştırmacılar, çocukluk döneminde görülen yıkıcı davranış sorunlarının tek bir temel etkiye bağlı olmadığı, ancak bunun yerine birbiri ile etkileşen birçok risk faktörünün bu davranışların ortaya çıkışında rol oynadığı konusunda fikir birliği içindedirler. Bu sorunların gelişiminde rol oynayan risk faktörleri üç temel kategoriye altında gruplandırılmaktadır (Webster-Stratton, 1996). Bunlar; çocuklara ait özellikler, ebeveynlik-çocuk ilişkisi ile ilgili değişkenler ve ebeveyn-çocuk ilişkisinden ayrı olarak diğer ailevi değişkenlerini içermektedir.

Çocuğa ait özellikler arasında, erkek olmak, zor bir mizaca sahip olmak ve eşlik eden Dikkat Eksikliği-Hiperaktivite Bozukluğu'na (DEHB) sahip olmak, çocuklarda görülen yıkıcı dışa yönelim problemlerinin gelişimi için önemli risk faktörleri olarak belirlemektedir. Pek çok çalışma, çocukluk dönemi davranım problemlerinin gelişimi üzerinde ebeveynlik tarzlarının ve ebeveynlik uygulamalarının etkilerini incelemiştir. Örneğin, Glueck ve Glueck (1950) çocuğa karşı düşmanca tavır ve umursamazlık içeren ebeveynlik tarzları ile hiçbir fiziksel ceza uygulamamaktan aşırı derecede uygulamaya kadar değişen oranda tutarsız disiplin uygulamalarının suçun anlamlı yordayıcıları olduğunu belirtmişlerdir. Literatürde yer alan araştırmalar üzerine yapılan bir meta-analizde Loeber ve Stouthamer-Loeber (1986), ebeveynlerin ilgisizliğinin ve çocuk üzerindeki zayıf denetiminin çocuklarda davranım problemlerinin oluşması açısından önemli faktörler oldukları sonucuna ulaşmışlardır. Buna ek olarak, eleştirel ebeveynlik, çocuğun reddedilmesi, katı veya şiddet içeren disiplin uygulamaları, disiplinin uygulanmasında tutarsızlıkların olması ve istenilen davranışlarda olumlu pekiştirecin kullanılmaması gibi hatalı ebeveynlik becerilerinin kullanılması pek çok çalışmada davranım problemleri ile ilişkilendirilmiştir (Bierman & Smoot, 1991; Frick, Lahey, Loeber, Stouthamer-Loeber, Christ, & Hanson, 1992).

Ebeveyn-çocuk ilişkisinden ayrı olarak diğer ailevi risk faktörleri göz önüne alındığında, başka problemlerle kliniğe yönlendirilen çocuklara nazaran, davranım problemleri bulunan çocukların, hem annelerinde hem de babalarında antisosyal kişilik bozukluğunun daha sık görüldüğü bulunmuştur (Lahey, Piacentini, McBurnett, Sone, Hartdagen, & Hynd, 1988). Bundan dolayı, ebeveynlerde görülen antisosyal davranış örüntülerinin, çocuklarının davranım problemlerinin etiolojisinde önemli bir rol oynadığı sonucuna ulaşılmıştır. Buna ek olarak, diğer bazı çalışmalarda, davranım problemleri olan çocukların annelerinde histeri ve somatizasyon problemlerinin bulunma olasılığının daha fazla olduğu bulunmuştur (Stewart & Leone, 1978; Lahey, Russo, Walker, & Piacentini, 1989).

Davranım problemleri bulunan çocukların ailelerindeki aile işlevselliği ile ilişkili faktörler, geniş oranda araştırılan diğer önemli yordayıcılardır. Düşük düzeyde fikir birliğinin ve uyumun ve yüksek düzeyde çatışmanın bulunması ile

karakterize olan işlevsel olmayan aile ortamının, çocuklarda davranım problemleri bulunması ile anlamlı olarak korelasyon gösterdiği bulunmuştur (Haddad, Barocas, & Hollenbeck, 1991; Şirvanlı, 1999). Çalışmalar, davranım bozukluğu tanısı alan bir çocuğun bulunduğu ailelerde ebeveynlerin, zayıf aile işlevselliği bildirdiklerini, özellikle de daha az uyum bulunduğunu, daha az organize olduğunu ve duyguların daha az ifade edildiğini, ancak daha fazla çatışmanın yer aldığını bildirdiklerini göstermiştir (Slee, 1996; Cunnigham & Boyle, 2002). Ayrıca, pek çok boylamsal çalışma, düşük sosyo-ekonomik statü, tek ebeveynlik, çok sayıda kardeşin bulunması, ergenlik dönemi hamileliği gibi sosyo-kültürel risk faktörleri ile dışa yönelim davranışları arasında anlamlı bir ilişki bulunduğuna işaret etmiştir (Moffitt, 1990; Sanson, Smart, Prior, & Oberklaid, 1993).

Her ne kadar, çocukluk döneminde başlayan antisosyal davranış örüntüsü ile ergenlik döneminde başlayan antisosyal davranış örüntüsü arasındaki ayrım, farklı risk faktörlerinin ve yetişkinlik dönemindeki antisosyal davranışlarının yordanması açısından kabul görse de, son yıllarda yapılan çalışmalar çocukluk döneminde başlayan davranım problemlerinin iki homojen alt gruba ayrılabilceğini göstermiştir. Bu ayrım, antisosyal davranışın türünden, şiddetinden veya başlangıç yaşından ziyade, çocuğun duygusal ve kişilerarası ilişkilerdeki tarzına dayanmaktadır (Frick, O'Brien, Wootton, McBurnett, 1994; Frick & Ellis, 1999). Hem klinik örneklerde (Christian, Frick, Hill, Tyler, & Frazer, 1997) hem de klinik dışı, topluluk örneklerinde (Frick, Bodin, & Barry, 2000) çocukluk dönemi başlangıçlı davranım problemleri bulunan çocuklar iki gruba ayrılmaktadırlar ve bu iki grup çocuk, acımasız-duyarsız özelliklerin bulunması bakımından birbirinden ayrılmaktadır. Bu özellikler, yetişkinlerde psikopatinin tanımlanmasında kullanılan duygusal (örneğin; suçluluk duygusu ve empati yoksunluğu, duyguların fakirliği) ve kişilerarası (örneğin; diğerlerinin duygusuzca kullanılması) özellikler ile benzerlik göstermektedir (Hare, Hart, & Harpur, 1991; Harpur, Hare, & Hakstian, 1989). Bu özellikler, korku veya sıkıntı uyandıran uyarıcılara veya cezalara karşı tepkisizlik, suçluluk ve utanma duygularından yoksunluk, empati yoksunluğu ve kendi çıkarları için başkalarının kullanılması ile karakterizedir (Wootton, Frick, Shelton, & Silverthorn, 1997) ve bu özelliklerin varlığı, sadece davranım problemleri gösteren çocuklardan ayrılan

ayrı bir grup çocuęu belirler. Bu, genetik bir yatkınlıęın bulunduęu dūşünölen ve çocuęu cezaya karřı daha az tepkisel yapan duygusal bir bozukluęa, özellikle de korku ketlenmesinin yoksunluęuna iřaret eder (Kochanska, 1993). Bu çocuklar daha fazla antisosyaldirler, yaygın olarak komorbid DEHB tanısına sahiptirler (Lynam, 1998) ve acımasız-duyarsız özelliklerin bulunmadıęı dięer davranım problemleri çocuklara nazaran daha çeřitli ve řiddetli antisosyal davranıřlar sergilerler (Barry, Frick, DeShazo, McCoy, Ellis, & Loney, 2000). Tüm bu özelliklerle birlikte bu çocuklar, daha sonradan yetiřkin psikopati formunun geliřtięi psikopatik eęilimli çocukların olduęu alt grubu oluřtururlar (Blair, 1999). Dięer boyut, zayıf dürtü kontrolü ile iliřkili antisosyal davranıřları içermektedir. Bu çocuklar, yetiřkinlik dönemlerinde antisosyal bireyler haline gelme eęilimi gösterirler (Fisher & Blair, 1998), ancak psikopati eęilimi göstermezler.

Frick ve arkadaşları, çocuklardaki psikopatik veya acımasız-duyarsız özellikler ile davranım bozukluęu arasındaki iliřkiyi ortaya koymak için bir dizi arařtırma yapmıřlardır (Christian ve ark., 1997; Wootton ve ark., 1997). Bu çalıřmalarla cevaplanması amaçlanan sorulardan biri, acımasız-duyarsız özelliklerin eřlik ettięi davranım bozukluęu olan çocuklardan oluřan alt grubun, dięer davranım bozukluęu bulunan çocuklardan ayrı ve farklı bir gelişimsel yol izleyip izlemedikleridir. Klinięe yönlendirilen çocuklardan oluřan bir örneklemede, acımasız-duyarsız özelliklerde yüksek puan alan davranım bozukluęu bulunan çocuklar, acımasız-duyarsız özellikleri bulunmayan davranım bozukluęu olan çocuklara kıyasla daha fazla ve aynı zamanda daha çok çeřitli davranım problemleri sergilemiřlerdir. Buna ek olarak, acımasız-duyarsız özellikleri bulunmayan davranım problemleri çocukların % 14'lük oranına karřılık, bu özelliklere de sahip çocukların % 40'ının ebeveynlerde antisosyal kiřilik bozukluęuna rastlanmıřtır ve bu durum, aile geçmiřinde antisosyal kiřilik bozukluęunun güçlü bir etkisi olduęuna iřaret etmektedir (Christian ve ark., 1997). Yetiřkinlerdeki psikopati literatürü ile tutarlı olarak, acımasız-duyarsız özellikleri bulunan çocukların, korku ve anksiyete düzeyleri daha düřüktür (Frick, O'Brien ve ark., 1994). Buna ek olarak, yetiřkin bulgularına benzer řekilde, zeka ve davranım problemleri arasındaki ters yönlü iliřki, zeka ve psikopatik özellikler arasında bulunmamıřtır. Dięer bir deyiřle, düřük zekanın, sadece acımasız-

duyarsız özellikler göstermeyen çocukların davranım problemlerinin gelişmesinde rol oynadığı bulunmuştur (Christian ve ark., 1997).

Bu iki boyutu ayırtmak önemlidir, çünkü son zamanlarda yapılan çalışmalar, acımasız-duyarsız özellikler bulunan ve bulunmayan davranım problemlili çocuklarda farklı risk faktörlerinin etkili olması ve farklı nedensel mekanizmaların bulunması olasılığına odaklanmaktadır (Barry ve ark., 2000). Çocukluk döneminde başlayan davranım problemleri gösteren ancak acımasız-duyarsız özelliklerin bulunmadığı çocuklar, yüksek oranda dürtüsel davranışlarla ve duygusal tepkisellikle karakterize gibi durmaktadırlar. Bu problemlerin, zayıf davranışsal ve duygusal regülasyon ile ilişkili olduğu düşünülmektedir (Frick, Barry, ve Bodin, 2000). Diğer taraftan, yüksek düzeyde acımasız-duyarsız özellikler gösteren antisosyal çocuklar, acımasız-duyarsız özellikleri bulunmayan diğer antisosyal çocuklara nazaran, yeni veya tehdit edici durumlarda korku yoksunluğu, cezalandırma ve belirli olumsuz duygusal uyaranlara karşı tepkisizlik şeklinde kendini ortaya koyan ve “düşük davranışsal ketlenme” (Saltaris, 2002) olarak adlandırılan bir mizaç özelliği sergilemektedirler (Blair, 1999).

Ne yazık ki, her ne kadar, yıkıcı davranış sorunları ile ebeveynlik uygulamaları veya psikososyal faktörler gibi farklı risk faktörleri arasındaki ilişkiyi inceleyen oldukça çok çalışma bulunsada, acımasız-duyarsız özellikleri bulunan çocuklarda olası risk faktörlerinin etkisine odaklanan çalışmalar oldukça azdır. Bir çalışmada Wootton ve arkadaşları (1997), acımasız-duyarsız özellikleri bulunan ve bulunmayan çocuklarda ebeveynlik uygulamalarını incelemiştir. Yıkıcı davranış bozukluğu tanısı alan bir grup çocuktan, acımasız-duyarsız özelliklerine sahip alt grubunun zayıf ebeveynlik uygulamalarına karşı tepkisiz oldukları bulunmuştur. Diğer bir deyişle, acımasız-duyarsız özelliklerin, etkili olmayan ebeveynlik uygulamaları ile davranım problemleri arasındaki pozitif ilişkiyi değiştirdiği bulunmuştur. Bunun temel nedeni, acımasız-duyarsız özellikleri bulunan çocukların duygusal tarzlarının bu çocukları, tipik sosyalizasyon sürecinde göreceli olarak tepkisiz hale getirmesidir. Bu durum, acımasız-duyarsız grup tarafından sergilenen davranım problemlerinin, çocuklukta yıkıcı dışa yönelim problemlerini inceleyen araştırmaların işaret

ettiği gibi zayıf ebeveynlik becerilerinden kaynaklanmıyor olabileceğine işaret etmektedir.

Çalışmanın Amacı

Bu çalışmanın amaçlarından biri, anneler ve öğretmenler tarafından değerlendirilen davranım problemlerinin ve acımasız-duyarsız özelliklerin yordayıcılarını incelemektir. Buna ek olarak çalışma, davranım problemleri ve yüksek düzeyde psikopatik özellikleri bulunan çocuklarla davranım problemleri ve düşük düzeyde psikopatik özellikleri bulunan çocuklar arasında çocukla ait özellikler ve ebeveynlik ve aile risk faktörleri açısından bulunan farklılıkları incelemeyi amaçlamıştır. Her ne kadar yıkıcı davranış bozuklukları için, çocuğun özellikleri, ebeveyn psikopatolojisi, ebeveynlik uygulamaları, aile işlevselliği ve sosyo-ekonomik faktörler gibi farklı risk faktörlerini inceleyen pek çok çalışma bulunsada, acımasız-duyarsız özellikleri bulunan çocuklardaki potansiyel risk faktörlerine odaklanan çok az çalışma bulunmaktadır. Yukarıda belirtildiği gibi, çocuklarda görülen yıkıcı davranış sorunlarının potansiyel risk faktörleri üzerine yapılmış çalışmaların çoğu, acımasız-duyarsız özellikleri bulunan ve bulunmayan çocuklardan oluşan alt gruplar arasında ayırım yapmamıştır. Buna ek olarak, kliniklere yönlendirilen davranım bozukluğu olan çocuklarla yapılan çalışmalar, bu çocukların sıklıkla düşük sosyo-ekonomik düzeye sahip ailelerden geldiğini gösterdiğinden ve bu çalışma, hem düşük hem de yüksek sosyo-ekonomik düzeye sahip çocukları içermeyi amaçladığından, çalışmanın kliniğe yönlendirilmemiş çocuklarla yapılması planlanmıştır.

Bu çalışma iki aşamalı olarak düzenlenmiştir. Birinci aşama, bu çalışma için adapte edilen ve yeniden adapte edilen ölçüm araçlarının psikometrik özelliklerinin geçerliğini araştıran iki çalışmayı içermektedir. İkinci aşama ise, davranım problemleri ve acımasız-duyarsız özelliklerin yordayıcılarının hem annelerin hem de öğretmenlerin değerlendirmelerine göre ayrı ayrı incelenmesini ve davranım problemleri ve yüksek düzeyde acımasız-duyarsız özellikleri bulunan bir grup, davranım problemleri ve düşük düzeyde acımasız-duyarsız özellikleri bulunan bir grup ve davranım problemleri ve acımasız-duyarsız özellikleri

bulunmayan bir grup olmak üzere üç grup çocuğun farklı risk faktörleri açısından karşılaştırılmasını içeren ana çalışmayı oluşturmaktadır.

YÖNTEM

Katılımcılar

Bu çalışmanın katılımcıları, öğretmenler tarafından belirlenmiş, 145'i kız ve 368'i erkek olmak üzere 513 ilkokul çocuğundan oluşmaktadır. Bu 513 çocuktan 272 tanesi, öğretmenleri tarafından davranım problemlili olarak ve 241 tanesi de olumlu sosyal davranışları bulunan çocuklar olarak belirlenmiştir. Örneklemin yaş ortalaması 9.62'tir.

Ölçüm Araçları

Demografik Bilgi Formu, aile üyelerinin bazı demografik özellikleri hakkında bilgi toplamak amacı ile araştırmacı tarafından geliştirilmiştir.

Güçler ve Güçlükler Anketi (Strength and Difficulties Questionnaire, SDQ; Goodman, 1997), 4 ile 16 yaşları arasındaki çocukların olumlu sosyal davranışlarını ve duygusal ve davranışsal problemlerini değerlendirmek için geliştirilmiş bir davranış tarama anketidir. Orijinal olarak SDQ, Duygusal Semptomlar, Davranım Problemleri, Hiperaktivite-Dikkat Eksikliği, Arkan Sorunları ve Olumlu Sosyal Davranışlar olmak üzere beş alt ölçeğe sahiptir. Aynı anket ebeveynler veya öğretmenler tarafından doldurulabilir. Bu çalışmada Türk örneklem için SDQ'nun dört faktörünün olduğu belirlenmiştir: Davranım Problemleri/Hiperaktivite, Olumlu Sosyal Davranış, Duygusal Semptomlar ve Dikkat Eksikliği Problemleri. Güvenilirlik ve geçerlilik analizlerinin sonuçlarına göre, dört faktörlü SDQ'nun ebeveyn ve öğretmen formlarının Türkçe versiyonun, çocukların duygusal ve davranışsal problemlerini ve olumlu sosyal davranışlarını değerlendirmek için güvenilir ve geçerli olduğu bulunmuştur.

Antisosyal Süreçleri Tarama Aracı (Antisocial Process Screening Device; APSD; Frick & Hare, 2001), 6 ile 13 yaşları arasındaki çocuklarda psikopatik özelliklerin ve antisosyal davranışların varlığını değerlendiren 20 maddelik davranış değerlendirme ölçeğidir. APSD, her bir çocuğun ebeveyni ve öğretmeni tarafından doldurulur ve Acımasız-Duyarsızlık, Narsisizm ve

Dürtüsellik olmak üzere üç boyut içermektedir. Bu çalışmada, geçerlik ve güvenilirlik analizleri, APSD'nin Türkçe versiyonlarının, Türk örnekleminde 8 ile 11 yaşları arasındaki çocukların psikopati özelliklerini değerlendirmede geçerli ve güvenilir olduğunu göstermiştir.

Okul Çağı Çocukları için Mizaç Ölçeği (School-Age Temperament Inventory; SATI; McClowry, 1995), 8 ile 11 yaşları arasındaki çocukların mizaç özelliklerini değerlendirmede ebeveynin verdiği bilgiye dayanan bir envanterdir. Envanter, 38 Likert-tipi maddeyi ve Olumsuz Tepkisellik, Yaptığı İş Sürdürebilme, Yaklaşma/Kaçınma ve Aktivite olmak üzere dört boyutu içermektedir. Geçerlik ve güvenilirlik analizleri, SATI'nin Türkçe versiyonunun, Türk örnekleminde 8 ile 11 yaşları arasındaki çocukların mizaç özelliklerini değerlendirmede geçerli ve güvenilir olduğunu göstermiştir.

Aile Kabul ve Reddetme Ölçeği-Anne Formu (Parental Acceptance-Rejection Questionnaire-Mother Form, PARQ-Mother; Rohner, Saavedra, & Granum, 1978), annelerin ebeveynlik stillerini ölçme aracıdır. Sevgi, Saldırganlık-Kin, İlgisizlik-İhmal ve Ayrıştırılmamış Reddetme olmak üzere toplam dört alt ölçeği vardır.

Aile Değerlendirme Ölçeği (McMaster Family Assessment Device, MMFAD; Epstein, Boldwin, & Bishop, 1983) aile işlevselliğine yönelik, aile üyelerinin kendilerinin doldurduğu bir ölçektir. MMFAD'ın Türkçe versiyonu, aile işlevselliğinde yedi problem alanını değerlendirir: Problem Çözme, İletişim, Roller, Duygusal Tepki Verebilme, Gereken İlgiyi Gösterme, Davranış Kontrolü ve Genel Fonksiyonlar.

Kısa Semptom Envanteri (Brief Symptom Inventory, BSI; Derogatis, 1992) farklı klinik semptomları değerlendirir ve SCL-90'nın kısa formudur (Derogatis, 1977). Yüksek puan, yüksek düzeyde klinik semptomların varlığına işaret eder.

İşlem

Ölçüm araçları, Ankara'da bulunan ve yüksek ve düşük sosyo-ekonomik düzeyleri temsil eden 15 farklı ilkokulda uygulanmıştır. Çalışmanın genel amaçları öğretmenlere bildirildikten sonra öğretmenlerden, sınıflarında bulunan

davranım problemlili çocukları ve olumlu sosyal davranışlar sergileyen çocukları belirlemeleri istenmiştir. Davranım problemlili bulunan çocukların belirlenmelerinde kullanılan kriterler okulda kabadayılık yapmak, arkadaşları ile fiziksel olarak kavga etmek, agresif olmak, arkadaşları fiziksel olarak incitmek, arkadaşlarının veya yetişkinlerin eşyalarına zarar vermek, arkadaşlarının veya okulun eşyalarını çalmak, öğretmeninin kurallarına ve otoritesine itaat etmemektir. Diğer taraftan, olumlu davranışları bulunan çocukların belirlenmesinde kullanılan kriterler yardımsever olmak, arkadaş canlısı olmak ve arkadaşları tarafından sevmektir. Tüm ölçüm araçları, belirlenen çocukların evlerine zarflar içinde yollanmıştır. Ölçüm araçları, dört farklı sraya konmuştur; ancak Demografik Bilgi Formu her zaman ilk sırada yer almıştır. Annelerden, SDQ'yu, APSD-Ebeveyn Formunu, SATI'yi, PARQ-Anne formunu, MMFAD'ı ve BSI'yi doldurmaları istenmiştir. Annelerin yanı sıra babalara da BSI verilmiştir. Bunlara ek olarak, öğretmenlere SDQ ve APSD-Öğretmen formları verilmiştir.

TEMEL BULGULAR VE TARTIŞMA

Bu çalışmaya, davranım problemlili ve acımasız-duyarsız özelliklerinin yordayıcılarını incelemek amacıyla farklı sosyo-ekonomik düzeylerdeki ailelerden gelen, klinik dışı çocuklar dahil edilmiştir. Klinik dışı bir popülasyonda davranım problemlili çocuklara ulaşmak için, sınıf öğretmenlerinden sınıflarında bulunan davranım problemlili çocukları belirlemeleri istenmiştir. Ancak, bu çalışmada, öğretmen belirlemelerinde kullanılan kriterler temel olarak, örtük davranım problemlilerinden ziyade kabadayılık etmek, kavga etmek veya agresiflik gibi yaygın olarak erkeklerde görülen açık davranım problemlili ile ilişkili özellikleri içermektedir (Tiet, Wasserman, Loeber, McReynolds, & Miller, 2001; Zoccolillo, 1993; Zoccolillo, Tremblay, & Vitaro, 1996). Bu durum, araştırma örnekleminde kızlara oranla daha çok sayıda erkek çocuk olmasına neden olmuş olabilir. Sonuçlar, tüm değerlendirmelerde, erkeklerde kızlara oranla daha yüksek düzeyde davranım problemlili/hiperaktivitenin ve acımasız-duyarsız özelliklerin bulunduğunu göstermiştir. Bu sonuç, agresyon ve davranım problemlilerinde okul öncesi yıllarda başlayarak ortaya çıkan cinsiyet farklılıklarına

işaret eden ve literatürde sıklıkla tekrarlanan bulgu ile tutarlıdır (Keenan & Shaw, 1997). Buna ek olarak, beklendiği gibi, öğretmenleri tarafından davranım problemleri olarak belirlenen çocukların, olumlu sosyal davranışları bulunan çocuklar olarak belirlenenlere nazaran, hem anneleri hem de öğretmenleri tarafından yapılan değerlendirmelerde daha fazla davranım problemleri/hiperaktivite ve acımasız-duyarsız özellikler gösterdikleri bulunmuştur.

Genel olarak, bu çalışmada, yüksek düzeyde acımasız-duyarsız özellikleri içeren davranım problemlerinin ve düşük düzeyde acımasız-duyarsız özellikleri içeren davranım problemlerinin farklı risk faktörleri ile ilişkili olacağı hipotezi geliştirilmiştir, ki bu; iki grup çocukta farklı gelişimsel yollar bulunduğunu öneren bir modeldir (Christian ve ark., 1997; Frick, Barry, & Bodin, 2000; Frick, O'Brien ve ark., 1994; Wootton ve ark., 1997). İlk olarak, bu çalışmanın sonuçları, anne değerlendirmeleri için davranım problemleri/hiperaktivite ile acımasız-duyarsız özellikleri arasında orta düzeyde ancak anlamlı korelasyon bulunduğunu göstermiştir. Bu orta düzeyli korelasyon önceki çalışmaların bulguları ile tutarlıdır (Frick, O'Brien ve ark., 1994). Acımasız-duyarsız özellikleri ile davranım problemleri ölçümleri arasındaki düşük ile orta düzeyli korelasyonun, acımasız-duyarsız özellikleri ile davranım problemlerinin farklı, ancak ilişkili psikolojik yapılar olduğuna işaret ettiği belirtilmiştir. Ancak, en dikkat çekici bulgulardan bir tanesi, öğretmen değerlendirmelerine göre davranım problemleri/hiperaktivite ile acımasız-duyarsız özellikleri arasındaki aşırı derecede güçlü ve pozitif korelasyondur ve bu korelasyon çoklu ortak doğrusallığa veya çok güçlü bir ilişkiye veya öğretmen değerlendirmelerine göre bu iki değişken arasında ayırım yoksunluğuna işaret ediyor olabilir. Ayrıca, annelerin ve öğretmenlerin davranım problemleri/hiperaktivite ve acımasız-duyarsız özellikleri değerlendirmeleri birbirleri ile orta düzeyli ve pozitif yönde ilişkili bulunmuştur. Farklı bilgi kaynakları arasındaki bu orta düzeyli korelasyon literatürdeki bulgularla tutarlıdır (De Los Reyes & Kazdin, 2005; Piacentini, Cohen, & Cohen, 1992).

Çocuklarda davranım problemleri/hiperaktivite ve acımasız-duyarsız özelliklerin yordayıcılarını belirlemek için toplam olarak beş farklı adımsal çoklu regresyon analizi uygulanmıştır. Tüm bu analizlerde, yordayıcı değişken olarak

aynı deęişken seti kullanılmıştır. İlk blokta, çocuęa ait demografik deęişkenler olan cinsiyet ve yaş girilmiştir. İkinci blokta, çocuęun olumsuz tepkisellik mizaç özellięi girilmiştir ve bunu takiben üçüncü blokta ailenin sosyo-demografik deęişkenleri olan annenin ve babanın eęitimi, annenin ve babanın yaşı, toplam çocuk sayısı, evde yaşıyan toplam aile üye sayısı ve sosyo-ekonomik statü girilmiştir. Son olarak, dördüncü blokta, ebeveynlik, ebeveyn ve aile deęişkenleri olan annenin reddi, uygulanan ceza yöntemleri (fiziksel ceza ve hoş giden bir uyarıcıyı ortamdaki çekme), annenin ve babanın genel psikopatoloji düzeyi ve MMFAD'ın yedi alt ölçeęi ile deęerlendirilen aile işlevsellięi girilmiştir.

İlk olarak, davranım problemleri/hiperaktivitenin yordayıcı deęişkenlerini incelemek için iki regresyon analizi uygulanmıştır. Sonuçlar, erkek cinsiyetinin, çocuęun olumsuz tepkisellik mizaç özellięinin, annenin düşük eęitim seviyesine sahip olmasının, annenin çocuęu reddinin ve annenin psikopatolojisinin anneler tarafından bildirilen davranım problemleri/hiperaktivitenin anlamlı yordayıcıları olduęunu göstermiştir. Dięer taraftan, öğretmenler tarafından bildirilen davranım problemleri/hiperaktivite, erkek cinsiyeti, babanın düşük eęitim düzeyi, yüksek sosyo-ekonomik statü, fiziksel ve hoş giden bir uyarıcıyı ortamdaki çekme şeklindeki cezalandırma tarzları ve annenin reddi tarafından yordandadır. Ardından, acımasız-duyarsız özelliklerin yordayıcılarını incelemek için üç regresyon analizi uygulanmıştır ve sonuçlar, erkek cinsiyetinin, ailede çok sayıda aile üyesinin yaşamasının, annenin reddinin, annenin düşük düzeyde psikopatolojisinin olmasının, aile içinde düşük genel işlevsellięin bulunmasının ve aile içindeki roller konusunda problemlerin olmasının anne tarafından bildirilen acımasız-duyarsız özelliklerinin anlamlı yordayıcıları olduęuna işaret etmiştir. Dięer taraftan, öğretmenler tarafından rapor edilen acımasız-duyarsız özellikleri erkek cinsiyeti, babanın düşük eęitim düzeyi, çok sayıda çocuk, ailenin yüksek sosyo-ekonomik düzeyi, fiziksel ve hoş giden bir uyarıcıyı ortamdaki çekme şeklindeki cezalandırma tarzları ve aile içindeki rollere ilişkin problemler tarafından yordandadır. Ayrıca, birleştirilmiş acımasız-duyarsız özelliklerinin yordayıcılarını belirlemek amacıyla yapılan regresyon analizi, erkek cinsiyetinin, babanın düşük eęitim düzeyinin, çok sayıda çocuęun, ailenin yüksek sosyo-ekonomik düzeyinin, fiziksel ve hoş giden bir uyarıcıyı ortamdaki çekme

şeklindeki cezalandırma tarzlarının ve aile içindeki rollere ilişkin problemlerin anlamlı yordayıcılar olduğuna işaret etmiştir.

Genel olarak, anneler tarafından bildirilen davranım problemleri/hiperaktivite ve acımasız-duyarsız özellikler birlikte değerlendirildiğinde, çocuğun erkek olmasının hem davranım problemleri/hiperaktivite hem de acımasız-duyarsız özellikleri için önemli bir değişken olduğu ortaya çıkmaktadır. Ancak annelerin, çocukların olumsuz tepkiselliğine yönelik bildirimleri davranım problemleri ile acımasız-duyarsız özellikleri ayırtıramamaktadır. Annelerin değerlendirmelerine göre, beklentilerin ve literatürdeki bulguların aksine, davranım problemleri/hiperaktivitenin yanı sıra, olumsuz tepkisellik acımasız-duyarsız özelliklerin de anlamlı bir yordayıcısıdır. Bu tutarsız bulgunun bir nedeni, annelerin, çocuklarının olumsuz tepkisellik mizaç özelliklerini, çocuğun diğer problem alanlarından ayırtıramamalarına bağlı olabilir.

Ailenin sosyo-demografik özellikleri arasından, annelerin düşük eğitim düzeyi davranım problemleri/hiperaktiviteyi yordarken, babaların düşük eğitim düzeyi ve ailede çok sayıda aile üyesinin yaşaması acımasız-duyarsız özelliklerini yordamıştır. Bu farklılık için net bir açıklama bulunmamakla birlikte, genel olarak sonuçlar, annelerin bildirimlerine göre ailenin düşük sosyo-ekonomik düzeyi ile ilişkili değişkenlerin davranım problemleri/hiperaktivite ve aynı zamanda da acımasız-duyarsız özellikleri için birer yordayıcı olduğunu göstermiştir.

Annelerin değerlendirmelerine göre, ebeveynlik değişkenleri arasından annenin çocuğu duygusal anlamda reddedişi, hem davranım problemleri/hiperaktiviteyi hem de acımasız-duyarsız özellikleri yordamıştır. Ancak, uygulanan ceza yöntemlerinin şiddeti sadece davranım problemleri/hiperaktiviteyi yordamış, acımasız-duyarsız özellikleri yordamamıştır. Uygulanan ceza yöntemlerinin şiddeti ile acımasız-duyarsız özellikleri arasında anlamlı bir ilişkinin bulunmamış olması, Wootton ve arkadaşlarının (1997) yüksek düzeyde acımasız-duyarsız özellikleri bulunan çocukların problemlerinin etkili olmayan ebeveynlik uygulamaları ile ilişkisiz olduğunu buldukları çalışma ile tutarlıdır. Ancak, annelerin ve öğretmenlerin

raporlarına dayanan yordayıcılar arasında farklılıklar olduğundan, bu tablonun netleşmesi için daha fazla çalışmaya ihtiyaç vardır.

Bu çalışmanın en önemli bulgularından bir tanesi, literatürde belirtildiğinin aksine, annenin psikopatolojisi ile davranım problemleri/hiperaktivite ve acımasız-duyarsız özellikleri arasında bulunan ters yönlü ilişkidir. Daha belirgin olarak, annelerin psikopatolojisi davranım problemleri/hiperaktivite ile pozitif yönde ilişkiyken, acımasız-duyarsız özellikleri ile negatif yönde ilişkilidir. Annenin psikopatolojisi ile çocuğun acımasız-duyarsız düzeyi arasındaki negatif yönlü ilişkinin nedeninin netleştirilmesi için bu beklenmedik bulgunun daha fazla test edilmesi gerekmektedir.

Son olarak, aile içinde daha az gereken ilginin gösterilmesi davranım problemleri/hiperaktivite için anlamlı bir yordayıcı olarak belirirken, sonuçlar annelerin değerlendirmelerine göre aile içindeki genel fonksiyonlar ile aile içindeki rollere yönelik problemler ve acımasız-duyarsız özellikleri arasında anlamlı bir ilişki olduğunu göstermiştir. Aile içinde gereken ilginin az gösterilmesi ile çocuğun davranım problemleri/hiperaktivite arasındaki pozitif yöndeki ilişki literatür ile tutarlıdır ve beklentiler ile uyumludur. Ancak, aile içindeki rollere yönelik problemler ile çocuğun acımasız-duyarsız özellikleri arasındaki pozitif yönlü ilişki ilginçtir ve daha fazla vurgulanmaya ve araştırılmaya değerdir.

Benzer şekilde, öğretmenlerin bildirdiği davranım problemleri/hiperaktivitenin ve acımasız-duyarsız özelliklerinin yordayıcıları birlikte ele alındığında, çocuğun erkek olmasının hem davranım problemleri/hiperaktiviteyi hem de acımasız-duyarsız özelliklerini yordadığı görülmektedir. Bu bulgu, literatürde yer alan bulgularla tutarlıdır. Ancak olumsuz tepkisellik, annelerin değerlendirmelerine göre davranım problemleri/hiperaktiviteyi ve acımasız-duyarsız özelliklerini yordarken, öğretmenlerin değerlendirmelerine göre davranım problemleri/hiperaktiviteyi ya da acımasız-duyarsız özelliklerini yordamamıştır. Bu durum, öğretmenlerin değerlendirmelerine göre davranım problemleri/hiperaktivite ve acımasız-duyarsız özellikleri yordanırken, farklı bilgi kaynakları tarafından değerlendirilen değişkelerin kullanıldığı metodoloji ile ilgili olabilir.

Hem davranım problemleri/hiperaktivite hem de acımasız-duyarsız özellikler, öğretmen değerlendirmelerine göre, ailenin sosyo-ekonomik özellikleri arasından, babanın düşük eğitim düzeyi ve ailenin yüksek sosyo-ekonomik düzeyi tarafından yordamıştır. Buna ek olarak, acımasız-duyarsız özellikler ayrıca yüksek çocuk sayısı tarafından da yordamıştır.

Öğretmen değerlendirmelerine göre, ebeveynlik değişkenleri arasından, annenin bildirimine dayanan fiziksel ve hoş giden bir uyarıcıyı ortamdaki çekme şeklindeki cezalandırma uygulamalarının şiddeti hem davranım problemleri/hiperaktiviteyi hem de acımasız-duyarsız özellikleri yordamıştır. Ancak annenin reddi sadece davranım problemleri/hiperaktiviteyi yordarken, acımasız-duyarsız özellikleri yordamamıştır. Bu sonuç, annenin bildirdiği davranım problemleri/hiperaktivite ve acımasız-duyarsız özelliklerinin ebeveynlik yordayıcılarına yönelik bulgularla terstir. Annelerin ve öğretmenlerin değerlendirmelerine göre yordayıcılar arasında ortaya çıkan bu farklılıkların nedenlerinin netleştirilmesi için daha fazla araştırmaya ihtiyaç vardır.

Son olarak, anneler tarafından bildirilen aile işlevselliği ile ilişkili hiçbir değişken öğretmenler tarafından bildirilen davranım problemleri/hiperaktiviteyi yordamazken, aile içindeki rollere yönelik problemler öğretmen değerlendirmelerinde acımasız-duyarsız özellikleri yordamıştır. Çocuğun erkek olması dışında, aile içindeki roller, anneler ve öğretmenler tarafından bildirilen acımasız-duyarsız özelliklerin tek ortak yordayıcısıdır.

Genel olarak, annelerin bildirdiği davranım problemleri/hiperaktiviteyi yordayan risk faktörleri, öğretmenlerin bildirdiği davranım problemleri/hiperaktivite ile karşılaştırıldığında, literatürde yer alan bulgularla daha fazla tutarlılık göstermektedir. Bu göreceli farklılığın nedeni, çalışmada araştırılan değişkenlerin çoğunluğunda annelerin bilgi kaynağı olarak kullanılması ile ilişkili olabilir. Buna ek olarak, annelerin ve öğretmenlerin davranım problemleri/hiperaktivite ile acımasız-duyarsız özellikleri ayrıştırabildikleri çıkarımına ulaşmak güçtür. Bu iki problem alanı, öğretmenlerden ziyade anneler tarafından daha iyi ayrıştırılabiliyor gibi gözükmektedir. Öğretmenlerin acımasız-duyarsız özellikleri gözlemleyebilmelerindeki güçlüğün nedeni, bu yapının duygusal doğası ile ilişkili olabilir. Bu yorum, Abikoff, Courtney, Pelham, ve

Koplewicz'in (1993), öğretmenlere nazaran annelerin duygusal problemlere daha duyarlı oldukları önerisi ile paralellik göstermektedir. Çocuğun olumsuz tepkisellik mizaç özelliği ile herhangi bir öğretmen değerlendirmesi arasında anlamlı bir ilişkinin bulunamamış olması da bu açıklama ile tutarlıdır. Ancak annelerin, öğretmenlere nazaran, davranım bozukluğu/hiperaktivite ile acımasız-duyarsız özellikleri ayırıştırabilme yeteneği önerisinin bazı sınırlılıkları vardır. Bunun temel nedeni, yordayıcıların, literatürde yer alanlarla paralel olmamasıdır. Bu da, çocuklarda acımasız-duyarsız özelliklerinin ifadesinde kültürel bazı farklılıklar olup olmadığı ya da araştırmacılar olarak bizlerin bir yapıyı yapay bir şekilde mi ölçmeye çalıştığımız sorusunu gündeme getirmektedir.

Literatürde yer alan diğer çalışmaların sonuçlarına benzer şekilde, çocukların davranış ve duygusal problemlerinin yordayıcıları arasında, annelerin ve öğretmenlerin değerlendirmelerine göre farklılıklar bulunduğunu belirtmek gerekir. Toplam 119 çalışmanın yer aldığı bir meta-analiz çalışmasında Achenbach, McConaughy, ve Howell (1987) çocuklardaki sosyal, duygusal veya davranışsal problemlerin, ebeveynler, öğretmenler ya da çocuklar gibi farklı bilgi kaynakları tarafından değerlendirilmesinin farklı sonuçlar ortaya koyduğunu bulmuşlardır. Bu bulgu, çocukların davranışsal ve duygusal problemlerinin farklı bilgi kaynakları tarafından değerlendirilmesinde karşılaşılan benzerlikleri ve farklılıkları araştıran sonraki çalışmalarda da tekrar edilmiştir (Grills & Ollendick, 2002; Kolko & Kazdin, 1993). Bundan dolayı, bilgi kaynakları arasındaki farklılıklar, çocuk psikopatolojisinde önemli bir araştırma alanıdır. Buna ek olarak, bilgi kaynakları arasındaki farklılıkları araştıran çalışmaların çoğunluğu betimseldir ve teorik bir çerçeveden yoksundur. Bu nedenle, bilgi kaynakları arasındaki farklılıkların neden kaynaklandığını kavramsallaştırmak için daha fazla çalışmaya ihtiyaç vardır (De Los Reyes & Kazdin, 2005). Bundan dolayı, bu çalışmada da yer alan anne ve öğretmen değerlendirmeleri arasındaki farklılıklara bir açıklama sunmak da zordur. Özetle, anne ve öğretmenlerin çocuklardaki davranım bozukluğu ve acımasız-duyarsız özellikleri değerlendirmeleri arasındaki yordayıcı tutarsızlıklarının nedeni, çocuk psikopatolojisi literatüründe de yaygın olarak belirtilen bilgi kaynağı farklılıklarına bağlı olabilir (Achenbach ve ark., 1987; Grills & Ollendick, 2002; Kolko & Kazdin, 1993). Ancak, bu konuların

netleştirilmesi için bilgi kaynağı farklılıklarına yönelik soruların daha fazla araştırılmasına ihtiyaç vardır.

Bu çalışmada, sosyo-ekonomik seviyenin, çocuklardaki acımasız-duyarsız özellikleri ile davranım problemleri arasındaki ilişkide ayırt edici olacağı beklenmiştir. Ancak, bu hipotez ne anne değerlendirmelerinde ne de öğretmen değerlendirmelerinde karşılanmıştır. Bunun nedeni, örneklemin özelliklerine bağlı olabilir. Bu çalışmada örneklem, hem düşük gelirli hem de yüksek gelirli aileleri temsil eden okullardan elde edilmiştir. Ancak, yüksek sosyo-ekonomik gruba ait verinin büyük bir kısmının, planlandığı gibi özel okullardan toplanmadığı, ancak düşük sosyo-ekonomik grupta olduğu gibi devlet ilkokullarından toplanabildiği belirtilmelidir. Bu durum, sosyo-ekonomi değişkeninde düşük varyans bulunması ile sonuçlanmış olabilir.

Üç grup çocuk (davranım problemleri bulunan ve yüksek düzeyde acımasız-duyarsız özellikleri olan, davranım problemleri bulunan ve düşük düzeyde acımasız-duyarsız özellikleri olan ve davranım problemleri bulunmayan ve düşük düzeyde acımasız-duyarsız özellikleri olan), çocukla ilişkili özellikler, ebeveyn-çocuk ilişkisi ile ilişkili ölçümler ve diğer aile ölçümleri açısından karşılaştırılmıştır. Genel olarak, çoğu değişken için davranım problemleri bulunmayan ve düşük düzeyde acımasız-duyarsız özellikleri olan çocuklarla diğer iki grup çocuk arasında anlamlı farklılıklar bulunurken, iki davranım bozukluğu grubunun birbirinden farklı olmadığı bulunmuştur. Ancak bazı sonuçların öğretmen ve annenin değerlendirmesine göre farklılık gösterdiği görülmüştür.

SONUÇ VE ÖNERİLER

Genel olarak, öğretmen ve ebeveyn tarafından değerlendirilen APSD ve SDQ ölçeklerinin içeriklerinin benzerliği göz önüne alındığında, davranım problemleri/hiperaktivite ve acımasız-duyarsız özelliklerinde benzer yordayıcılar bulunması beklenebilir. Ancak, annelerin ve öğretmenlerin değerlendirmelerine göre bulunan yordayıcılar, bazı örtüşen değişkenler dışında aynı değildir. Bu çalışmada elde edilen bulgular, öğretmenlerin davranım problemleri/hiperaktivite ile acımasız-duyarsız özelliklerini uygun bir şekilde birbirinden ayırtılamadıklarına işaret etmiştir. Ancak öğretmenlerden, davranım

problemleri bulunan ancak sergiledikleri acımasız-duyarsız özelliklerinin düzeyi açısından farklılaşan iki grup çocuğu karşılaştırmaları istendiğinde, annelere nazaran daha güvenilir karşılaştırmalar yapabilmektedirler. Bu çalışmanın bulgularından yola çıkarak, toplum örnekleme ve normal örneklem ile çalışıldığında, annelerin daha güvenilir bilgi kaynakları olduğu, ancak bunun aksine kliniklere yönlendirilmiş çocuklarla çalışıldığında öğretmenlerin daha güvenilir bilgi sağladıkları söylenebilir. Diğer taraftan bulgular, annelerin içe yönelim problemleri ile ilişkili maddelere karşı daha duyarlıyken, öğretmenlerin çocuklardaki duygusal semptomları olduğundan daha yüksek değerlendirme eğilimi gösterdiklerine işaret etmiştir.

Annelerle öğretmenlerin raporları arasındaki tutarsızlıkların nedenlerini yorumlamak güçtür. Anneler, gözlemlerinde veya değerlendirmelerinde yanlı olabilirler ya da çocuklarının problemlerini kabul etmede savunmacı olabilirler ya da çocuklarını olduğundan daha olumlu göstermek istiyor olabilirler ya da çocuklarındaki acımasız-duyarsız özelliklerine tepkisiz olabilirler. Sebep ne olursa olsun, bilgi kaynakları arasındaki tutarsızlıkların daha fazla araştırılması gerekmektedir ve bu, en iyi şekilde vaka çalışmaları ile yapılabilir. Ayrıca, anneler ve öğretmenler için acımasız-duyarsız özelliklerinin anlamı ve bu yapılarla karşı tutumları bulgular üzerine gölge düşürmüş olabilir.

Annelerde görülen farklı psikopatolojiler ile çocuklardaki davranım problemleri ve acımasız-duyarsız özellikler arasındaki ilişkiyi araştıran daha fazla çalışmaya ihtiyaç vardır. Benzer şekilde, babaların psikopatolojisi ile davranım problemleri ve acımasız-duyarsız özellikler arasındaki ilişkiye destek elde edilememiş olunmasının nedenlerinin de daha fazla araştırılması gerekmektedir. Ayrıca, ebeveynlerin ve çocukların psikopatolojileri arasındaki ilişkiyi inceleyen araştırmalara da ihtiyaç vardır. Bunlara ek olarak, yüksek düzeyde acımasız-duyarsız özellikleri bulunan ancak herhangi bir davranım problemi olmayan çocukların da araştırılması önemli bir gerekliliktir. Her ne kadar bu çocukların belirlenmesi oldukça güç olsa da, bu çocukların araştırılması çocuklarda yüksek düzeyde acımasız-duyarsız özellikleri ile birlikte şiddetli düzeyde davranım problemleri geliştirilmesini engelleyebilecek koruyucu faktörlerin belirlenmesine yardımcı olacaktır. Son olarak, bu araştırma tarafından yöneltilen araştırma

sorularından bir tanesi, acımasız-duyarsız özelliklerinin ifade ediliş açısından kültürel farklılıkların olup olmadığıdır. Yüksek ve düşük düzeyli acımasız-duyarsız özellikleri olan gruplar arasında anlamlı bir ilişki bulunamamış olmasının nedeni, özellikle Akdeniz kültürlerinde duygusal ifadeye verilen kültürel öneme bağlı olarak, araştırmanın yapıldığı kültürde acımasız-duyarsız özelliklerin düşük düzeyli gözükmesi olabilir. Diğer bir deyişle, bu kültürde, acımasız-duyarsız özellikleri baskılanıyor ya da gösterilmiyor veya farklı şekillerde, daha davranışsal yollarla ifade ediliyor olabilir. Her ne kadar bu, daha fazla araştırmayı gerektiren bir öneri olsa da, eğer önerildiği gibi acımasız-duyarsız özelliklerin ifade edilişinde kültürel farklılıklar varsa, yüksek düzeyde acımasız-duyarsız özellikleri bulunan çocuklarda antisosyal davranışların ortaya çıkmasını önlemek için bu kültüre özgü erken müdahale programlarının geliştirilmesine ihtiyaç vardır.

ÇALIŞMANIN BAŞLICA KATKILARI

Bu bulguların daha fazla araştırılması, davranım problemlerinin ve acımasız-duyarsız özelliklerinin olası risk ve koruyucu faktörlerinin netleştirilmesine katkıda bulunacaktır ve davranım problemleri ve acımasız-duyarsız özellikleri bulunan çocuklar için uygun müdahalelerin ve farklı önlem programlarının geliştirilmesine yönelik faydalı bilgiler sağlayacaktır. Halihazırda, davranım problemleri olan çocuklar için, duygu ve davranışlarının düzenlenmesindeki problemlere ve ebeveynlerinin etkili ebeveynlik stratejileri kullanmalarındaki eksikliklere odaklanan pek çok müdahale bulunmaktadır (Frick, 1998b). Benzer şekilde, bu çalışmanın sonuçları, hem annelerin hem de öğretmenlerin değerlendirmelerine göre, annenin çocuğu duygusal olarak reddinin ve uygulanan cezanın birbirinden bağımsız olarak davranım problemleri/hiperaktivitenin şiddeti ile ilişkili olduğuna işaret etmiştir. Bu bulgu, davranım problemleri olan çocuklara yönelik geliştirilen tedavi yaklaşımlarına etkili ebeveynlik stratejilerinin dahil edilmesinin önemini desteklemiştir. Ancak, bu müdahalelerin birçoğu acımasız-duyarsız özellikleri bulunan çocuklarda görüldüğü düşünülen duygusal süreçlere odaklanmamaktadır. Frick'in (2001) belirttiğine göre, yüksek düzeyde acımasız-duyarsız özellikleri bulunan çocuklar,

cezadan ziyade ödül-yönelimli stratejilerin kullanımına ve empati gelişimine odaklanan tedavilerden daha fazla yarar sağlamaktadırlar.

Hem yüksek sosyo-ekonomik düzeyin hem de ebeveynlerin düşük eğitim düzeylerinin davranım problemleri/hiperaktivitenin ve acımasız-duyarsız özelliklerinin yordayıcıları olduğunu gösteren bulgu, aynı zamanda müdahaleler için de önemli bilgiler sağlamaktadır. Genel olarak, davranım problemlerinin önlenmesi için düzenlenen çalışmaların birçoğu yüksek risk grupları ile ve sıklıkla da düşük sosyo-ekonomik düzeyden gelen örneklerle yapılmaktadır. Ancak, bu çalışmanın sonuçları yüksek risk grubunda bulunan çocukların çoğunun yüksek sosyo-ekonomik düzeyden geldiğine işaret etmiştir. Buna ek olarak bulgular, aile içindeki rollere ilişkin problemlerin, acımasız-duyarsız özelliklerinin önemli bir yordayıcısı olduğunu ve davranım problemleri bulunan ve yüksek düzeyde acımasız-duyarsız özellikler gösteren çocukların ailelerinde, düşük düzeyde acımasız-duyarsız özellikler gösterenlere nazaran daha fazla rollere ilişkin problemler olduğunu göstermiştir. Bu bulgu, davranım problemleri ve yüksek düzeyde acımasız-duyarsız özellikleri bulunan çocuklara yönelik geliştirilecek olan tedavi yaklaşımlarının, ebeveynlerin ve çocukların rollerine yönelik problemleri ve ailelerinde bunlarla ilişkili diğer konuları içermesi gerektiğine işaret etmektedir.

Ayrıca, bu çalışmadan elde edilen bulgular, toplum örnekleme ve normal örnekleme çalışırken, çocuklarının davranım problemleri konusunda annelerin daha güvenilir bilgi kaynakları olduğuna, ancak buna karşın, kliniklere yönlendirilen çocuklarla çalışırken öğretmenlerin daha güvenilir bilgi sağladıklarına işaret etmiştir. Özellikle öğretmenlerin, alt gruplar arasında karşılaştırmalar yapılırken davranım problemleri konusunda daha güvenilir bilgi kaynakları oldukları bulunmuştur. Bundan dolayı, çocukların dışa yönelim davranışları hakkında bilgi gerektiğinde, öğretmenlerin değerlendirmeleri tercih edilmelidir; bunun temel nedeni, çocuklar arasında karşılaştırma yapma olanaklarına bağlı olarak öğretmenlerin daha güvenilir bilgi sağlamalarıdır. Ancak, annelerden ve öğretmenlerden elde edilen bilgiler arasındaki tutarlı bilgilerin olmayışının nedeni ne olursa olsun, acımasız-duyarsız özellikleri bulunan çocukların özel ilgiye ihtiyaçları vardır ve özel vakalar olarak ele

alınmalıdır. Bundan dolayı, diğler yöntemlerle karşılaştırıldığında bilgi sağlama açısından daha sınırlı güce sahip olan anketleri kullanmak yerine, bu çocuklarla çalışırken, çocukları erken yaşlarından ergenliklerine kadar takip eden boylamsal çalışmalarla birlikte, derinlemesine vaka çalışmalarının tercih edilmesi gerekmektedir.

APPENDIX N

CURRICULUM VITAE

PERSONAL INFORMATION

Surname, Name : Eremsoy, Cemile Ekin
Nationality : Turkish (TC)
Date and Place of Birth : 28 January 1977 , İstanbul-Turkey
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EDUCATION

2002 - present Middle East Technical University-Ankara, Turkey
Ph.D. Candidate in Clinical Psychology,
Department of Psychology
(cGPA 3.89/4.00)
Master of Science Degree
Passed the Ph.D. Qualification Exam in May, 2005

1996 - 2002 Boğaziçi University-İstanbul, Turkey
B.S. Degree in Department of Psychology
(cGPA 3.64/4.00), High Honor

Boğaziçi University-İstanbul, Turkey
B.S. Degree in Department of Sociology
(cGPA 3.64/4.00), High Honor

1999 - 2000 University of Texas at Austin-Austin, TX, USA
Exchange student, Department of Psychology
(cGPA= 3.85 / 4.00), High Honor

1988 - 1996 German School İstanbul-İstanbul, Turkey
High School Degree with ABITUR diploma, High School
Honor List

WORK EXPERIENCE

2006 – 2007 The Scientific and Technological Research Council of Turkey
Social Sciences and Humanities Research Group

2005 – 2006 Bilkent University
Student Development and Counseling Center

2003 - 2004 Koç Diyaliz

INTERNSHIPS

- 2006 Ankara Social Security Hospital
Clinic of Psychiatry, Adolescent Department
Internship by Professor Yaşar Özbay; 02/2006 – 06/2006
- 2005 – 2006 Hacettepe University Medical School
Child Psychiatry Department
Internship by Professor Ferhunde Öktem; 09/2005 – 01/2006
- 2004 – 2005 Middle East Technical University
Department of Psychology
Clinical Psychology Unit, UYAREM
Applications in Clinical Psychology; 09/2004 – 06/2005
- 2004 Middle East Technical University
Psychiatry Clinic
Internship by Dr. Senar Batur; 09/2005 – 01/2006
- 2003 – 2004 Ankara University Medical School
Psychiatry Department
Internship; 09/2003 – 01/2004
- 2003 Hacettepe University Medical School
Child Psychiatry Department
Internship by Professor Ferhunde Öktem; 02/2003 – 06/2003
- 2002 Marmara University Medical School
Psychiatry Department
Internship by Professor Mehmet Sungur; 01/2002 – 06/2002
- 2002 Baltalimanı Kemik Hospital,
Psychology Department
Internship by Psychologist Emel Çiftçi ; 01/2002 – 06/2002
- 2001 – 2002 Kodak Near East Company
Department of Human Resources; 09/2001 – 02/2002
- 2000 Marmara University Medical School
Psychiatry Department
Internship by Dr. Kemal Kuşçu; 07/2000 – 09/2000
- 1999 Baltalimanı Kemik Hospital,
Psychology Department
Internship by Psychologist Emel Çiftçi ; 01/1999 – 08/1999

CERTIFICATES AND TRAININGS

Psychology of Trauma (09/2006 – 12/2006)

Family and Couple Therapy, Level 2 (02/2006 – 06/2006)

Family and Couple Therapy, Level 1 (10/2004 – 02/2005)

Forensic Psychology (09/2004)

Psychodrama by Abdülkadir Özbek Institute (11/2003 – present)

Communication Skills and Group Leadership (01/2002 – 05/2002)

Psychotherapy with Sexually Abused People (11/2001 – 12/2001)

Counselling and Psychotherapy Techniques (02/2001 – 12/2001)

Gestalt Therapy (02/2001)

XXXV Annual Congress of the EABCT

Thessaloniki, Greece (21-24/09/2005)

- Certificates received for the attendance of the following workshops:
 - “Cognitive Behavior Therapy with Difficult Patients” by Freeman, A., Ph.D. & Freeman, S. M., Ph.D.
 - “Cognitive Therapy with Challenging Problems” by Beck, J. S., Ph.D.
 - “Transference and Counter-transference in Cognitive Therapy” by Leahy, R. L., Ph.D.
 - “Cognitive Behavioral Treatment of Generalized Anxiety Disorder with Integrations of Interpersonal and Experiential Therapies” by Borkovec, T., Ph.D.
 - “Separation Anxiety in Adults: Diagnostic Considerations, Assessment Techniques and Treatment Approaches” by Manicavasagar, V., Ph.D. & Wagner, R., Ph.D.
 - “Therapeutic Factors in CBT with Personality Disorders and Complex Trauma” by Herbert, C., Ph.D.

SCHOLARSHIPS AND AWARDS

2006 – 2007 Research Fellow of the American Research Institute in Turkey

2002 1st place in Graduating Class of 2002
Boğaziçi University, Psychology Department

1999 – 2000 Scholarship for exchange program between Boğaziçi University and University of Texas at Austin

RESEARCH/CONFERENCE

Collaborator of International Sexuality Description Project driven by Professor David P. Schmitt (2001 – present)

XIV. Turkish National Psychology Congress, Ankara, 2006

XXV. Annual Congress of the European Association of Cognitive and Behavioral Psychotherapies, Thessaloniki, Greece, 2006

XIII. Turkish National Psychology Congress, İstanbul, 2004

Congress of Group Psychotherapies, Bergama, 2002

Research assistant in dog phobia laboratory in UT at Austin (01/2000 – 05/2000)

LANGUAGES

Turkish (native)

English (fluent)

German (fluent)

PUBLICATIONS AND PRESENTATIONS

Eğeci, S.İ. & **Eremsoy, E.** (2007). Tarihi Buluşma: Dr. Caligari'nin Odası. F. Gençöz (Ed). *Sinemada Psikolojik Bozukluklar ve Sinematerapi*. Hekimler Birliği Yayınları.

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