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SOCIAL PERCEPTIONS ABOUT ATTENTION  
DEFICIT/HYPERACTIVITY DISORDER AND OTHER  
DISRUPTIVE BEHAVIOUR DISORDERS  
-THE EFFECT OF THE CHILD'S SEX-

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ABSTRACT

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SOCIAL PERCEPTIONS ABOUT AD/HD AND OTHER DISRUPTIVE BEHAVIOUR  
DISORDERS -THE EFFECT OF THE CHILD'S SEX-

by Katerina Maniadaki

This thesis tested the first part of a new theoretical model, aiming to contribute to the understanding of sex differences in the prevalence of Disruptive Behaviour Disorders (DBDs) in boys and girls. Specifically, gendered perceptions of DBDs, as expressed by parents and prospective educators, were examined.

An analogue methodology using written descriptions of child disruptive behaviour followed by rating scales assessing several perceptual dimensions like severity and untypicality was used, along with the SDQ (Goodman, 1997) and rating scales of adults' emotional reactions and sense of self-efficacy.

The first of four studies demonstrated that prospective educators consider DBDs as more untypical in girls rather than boys. This finding was replicated in all studies. The second study showed that prospective educators consider hyperactivity as more severe in boys, whereas the third study established that mothers rate DBDs as equally severe in both sexes. The fourth study showed that correlates of severity and untypicality are different in quality and strength for mothers and prospective educators. For mothers, ratings of severity are mostly related to the emotions evoked by the child's behaviour, whereas, for prospective educators, they are mostly related to their sense of self-efficacy to handle the child's behaviour, which is lower in the case of hyperactive boys.

To summarise, this thesis has shown that parents and prospective educators have several gendered perceptions of child disruptive behaviour, with higher untypicality conferred to girls' hyperactive behaviour. Moreover, the role of the adult toward the child and the specific DBD subtype examined seem to influence these differences. Implications of these findings for socialisation practices and referral attitudes that might relate to the reported sex difference in the prevalence of DBDs are discussed.

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## CHAPTER 1 - INTRODUCTION: THE FRAMEWORK OF THIS THESIS

### 1.1 A research project born out of and orientated towards clinical practice

*Lisa was alone in the waiting room of the Centre where she receives therapy for Attention Deficit/Hyperactivity Disorder. She was waiting for her mother who was discussing with her therapist. Not realising that she was being observed, Lisa was walking around the room, talking loud to herself: "Sit down Lisa. Good girls do not run round the room. You must be quiet. Wait patiently or mummy won't love you. Sit down Lisa. Little ladies don't behave like boys!"*

Lisa is a five-year old girl, diagnosed with Attention Deficit/Hyperactivity Disorder (AD/HD), Combined Type. I had the chance to meet her at the Psychological Centre where I work as a clinical psychologist with children who present mild to moderate developmental disabilities. Being already interested in AD/HD and aware of the limited data on several aspects of this disorder in the female population, Lisa's monologue attracted my attention. I realised that Lisa was trying to control her impatience by using a technique of self-direction that she had been taught by her therapist. However, the words she was using resembled those usually used by her mother. For me, the underlying meaning of these words was that the little girl's hyperactive-impulsive behaviour was considered by her mother as a typical male behaviour, not appropriate for a "little lady". The child was using these words in order to control her hyperactivity and regulate her problems of patience. No matter how well she managed to attain self-control, it was clear to me that Lisa was trying hard to behave in a "ladylike" way and inhibit her impulsive responses.

That observation gave birth to a series of questions centred upon the sex-stereotyped way in which symptoms of a childhood disorder were viewed by a mother. The main question that was raised for me was the following: Since parental attitudes have the power to shape children's normal behaviour, couldn't they also be considered as a potential moderating factor of their pathological behaviour as well? More specifically, I wondered what could be the possible impact of parents' gender-role stereotypic beliefs on the development of sex differences in the manifestation and prevalence of AD/HD and disruptive behaviours in general.

It should be noted that the terms "sex differences" and "gender differences" are often used interchangeably in the literature. In this thesis, the term "sex-differences" will be used when actual differences between the two sexes are reported, whereas the term "gendered perceptions or attributions" will be used when differential social expectations related to biological sex are mentioned.

From a developmental perspective, exploring socialising agents' perceptions of disruptive behaviours in boys and girls and determining the relation between sex-role orientation and encouragement or suppression of the above behaviours is of great importance. First, such findings augment the empirical literature by examining developmental patterns in this relation. Moreover, they may contribute to broadening our conceptual understanding of risk and protective factors in the development of disruptive behaviours in children.

From a clinical perspective, this issue is very important as well. Clinical psychologists working with children presenting AD/HD or other Disruptive Behaviour Disorders (DBDs) are very often advised to change parents' and teachers' maladaptive perceptions of these children's behaviour and to replace them with more realistic ones. At least, this is the basis upon which an effective cognitive-behavioural intervention can be built. Distorted parental cognitions can

obstruct the effective implementation of the intervention. Therefore, it is crucial for the clinical psychologist to understand how parents and teachers perceive the difficulties expressed by those children and be aware of the fact that these perceptions might be different for boys and girls. Consequently, understanding possible differential perceptions of disruptive behaviours in children may have implications for developing prevention and intervention strategies focused on socialisation effects that possibly influence the development, manifestation and outcome of disruptive behaviours in boys and girls.

Second, the clinical psychologist should understand that the symptoms of children with the same diagnosis might differ, not only as a function of the seriousness of underlying organic factors but also as a function of the differential treatment these children receive from the significant people in their environment. The child's sex might be an important influence on parents' expectations of and behaviour towards their children. Therefore, differential interactions between parents and boys and girls with AD/HD might contribute to differentiated outcomes.

If this is the case, then the clinical psychologist should, not only be aware of possible sex differences in the manifestations of AD/HD and other disruptive behaviours, but also of the fact that the whole social environment in which the child with the disorder develops might be different. From my point of view, a clinical child psychologist failing to combine theoretical knowledge and therapeutic techniques both from the fields of developmental psychopathology and social psychology cannot acquire an integrative view of the situation.

## **1.2. Thoughts at the intercept between Developmental Psychopathology and Social Psychology**

The widely acknowledged multifaceted nature of gender phenomena calls for the bringing together of relevant research and theory from both developmental and social psychology. I adhere to the suggestion that, in order to understand children's behaviour problems, a developmental psychopathological perspective is needed as well as the inclusion of ecological models emphasising the interactive and reciprocal influences of the child, family, culture, and community. This broader framework could be the most appropriate in order to examine how different adaptive and maladaptive developmental pathways to behaviour problems may emerge for males and females as a function of different risk and protective factors.

First, the developmental approach provides a time-course perspective that draws attention to the dynamic or temporal qualities of behaviour. Second, in a developmental analysis much weight is given to the effects of early experiences. Third, a developmental perspective highlights the pace and direction of change. Finally, developmental analyses draw attention to the course or trajectory of change processes (Eckes & Trautner, 2000).

On the other hand, social contextual and cultural factors that influence an individual's thoughts, feelings and behaviours are of critical importance to a social psychological analysis. Within contemporary social psychology "gender is considered a dynamic construct that draws on and impinges upon processes at the individual, interactional, group, institutional, and cultural levels" (Deaux & LaFrance, 1998, p. 788). At the core of this approach is the view that gender is a social category.

Within this framework, at the intercept between developmental psychopathology and Social psychology, I suggest

that sex-role stereotypes and subsequent socialisation practices can influence not only normal development, but also the expression of psychopathology. Even when childhood disorders have an organic etiology, the perceptions, attitudes, attributions and practices of parents, teachers and peers may play a crucial role in the prevalence, severity, course and outcome of the disorders.

### **1.3 Structure of the literature review**

The focus of this thesis is on adults' gendered perceptions of young children with AD/HD and other DBDs. In the following section, literature review on four different topics related to this subject will be presented:

*a. The general issue of sex differences in child psychopathology*

The differences observed in prevalence and manifestation of several disorders of childhood and the etiological models proposed constitute the general framework for developmental psychopathology in which our own research stands.

*b. The more specific issue of sex differences in the manifestation of AD/HD, a disorder of the DBDs' spectrum*

Differences consistently reported in prevalence and manifestation of hyperactive and disruptive behaviour in boys and girls constitute our primary area of interest. Several theories have been proposed to explain these differences but empirical evidence remains limited.

*c. The issue of sex differences in the development of sex-role attitudes in children and in socialisation practices adopted by socialising agents*

Developmental studies will be reviewed in order to provide evidence for a social-cognitive perspective of sex differences in AD/HD and other DBDs.

*d. The issue of adults' perceptions and attributional theories about children's behaviour and their effect on development*

The last section of the literature review will present studies on the effects of adult perceptions and attributions about child development in general and disruptive behaviour in specific on various domains of child development through the differential choice of parenting strategies.



## CHAPTER 2 - THEORETICAL PART: LITERATURE REVIEW

### 2.1 Gender and psychopathology

#### 2.1.1 The issue

Efforts to understand sex differences in AD/HD must be considered within the broader context of sex differences in other forms of psychopathology.

Sex differences in psychiatric disorders have created considerable interest. Differential vulnerabilities to specific types of psychiatric disorders exist for males and females. In the adult literature, men have been consistently found to display alcoholic, sociopathic, or criminal behaviour more often than women regardless of age, race, or socio-cultural background (Cloninger et al., 1978). On the other hand, depression, anxiety, eating disorders and attempted suicide are found to be more common in females (Robins et al., 1984).

In general, males are more likely to manifest distress as externalising behaviour, whereas females are more likely to manifest internalising behaviour. As far back as 1976, Mayo wrote that *"Many more women than men have neuroses..."* (p. 213) and that *"Within this group of children [children with antisocial behaviour or conduct disorders], it is clear that boys outnumber girls"* (p. 224).

These sex differences have been variously attributed to biased diagnostic procedures, response biases in reporting symptoms and seeking treatment, culturally defined sex-typing during development, differential susceptibility to familial discord and biological stresses, adult social roles, differential central nervous system vulnerability, neuroendocrine differences, or sex-linked recessive genes (Cloninger et al., 1978).

No matter which explanation or combination of explanations specialists choose to adopt, there is a general consensus that all descriptions of mental disorders have reference to some criteria for defining what is normal, that is to say, what is acceptable and tolerable for the individual. These definitions of normality are almost always tied to gendered notions of behaviour and ways of thinking, which might lead to different levels in tolerance for behaviour that is outside the norm (Prior, 1999).

Within this framework, sex-role stereotypes play an important role in the understanding of sex differences in psychopathology. The images of female-as-caregiver and male-as-combatant/protector reflect deeply ingrained sex-role prototypes and ideals that often transcend cultures. The male is strong, stoic, competitive, aggressive, independent, active, agentic, and exploitative. The female is delicate, emotional, dependent, passive, nurturing, relationship oriented, valuing connection and commitment and seeking self-validation from others. In the extreme, these stereotypes, may become represented in diagnostic categories differently along gender role lines as externalising problems in males and internalising problems in females (Zahn-Waxler, 1993). How and why normative role functions erode to reflect different forms of psychopathology are critical but mainly unanswered questions.

Understanding sex differences in psychopathology can help us to identify causal factors for each sex (Keenan et al., 1999). There is need to explain the overrepresentation of males or females in any particular diagnostic category in order to highlight risk and protective factors and gender bias in approaches to diagnosis and treatment (Prior, 1999).

### **2.1.2 Sex differences in childhood psychopathology**

The study of sex differences in childhood disorders is of great importance because various childhood disorders with sex differentiated prevalence rates are precursors of adult disorders with a similar sex ratio (Earls, 1987).

The overall picture of sex differences in childhood disorders resembles the picture that we have already presented for adults, that is to say, externalising disorders being more common for boys and internalising disorders being more common for girls. However, developmental trends exist, which are of particular interest and significance.

An issue that has generated much controversy in the literature of sex differences in childhood psychopathology concerns the evidence that boys behave in a more aggressive manner than girls do in a variety of situations. There are two main theoretical lines attempting to explain this evidence.

On the one hand, Maccoby & Jacklin (1974) suggest that males are biologically predisposed toward aggressive behaviour, based on the following major arguments:

- a. Males are more aggressive than females in all human societies.
- b. The sex differences in aggression are found too early in life, when potentially differential socialisation practices have not yet taken place.
- c. Similar sex differences are found in men and subhuman primates.
- d. Aggression is related to levels of sex hormones.

On the other hand, Tieger (1980) proposes a social learning theory as an alternative explanation for the observed sex differences in aggression. He suggests that infant boys and girls are stereotyped in terms of both physical size and emotional responsiveness. Although male babies are indeed born slightly heavier and taller than female babies (Tanner, 1970), parental stereotypes may influence further the perception of

this greater physical size (Rubin et al., 1974). In other words, it takes a cultural assumption to translate a physiological reality into the stereotypes expressed by parents that boys are stronger than girls. Moreover, it has been found that male infants tend to be viewed as angry and female infants as fearful in situations where ambiguity of responsiveness is displayed (Condry & Condry, 1976). Thus, parental interaction with infant boys and girls may reflect this cognitive appraisal in a fashion which may mediate the development of sex differences in aggression. Tieger (1980) concludes: *"It is considered "unladylike" in Western cultures for females to act aggressively. The training in femininity includes elements which are the virtual antithesis of "masculine" aggressiveness. A child admonished to keep her dress clean on the playground is effectively segregated from play activities involving rough-and-tumble behaviour"* (p. 958-959).

In their 1980 paper, Maccoby and Jacklin elucidate their basic views on this topic. They accept that socialisation practices might also contribute to the development of sex differences in aggression, as young children can learn to display or inhibit specific behaviours on the basis of environmental contingencies. They conclude: *" We believe that both biological and sociocultural factors contribute to the development of sex differences in aggression and that each of these factors interacts with cognitive development"* (p. 977).

In terms of specific diagnostic categories, sex differences have been found regarding the DBDs. These disorders represent a subclass of disorders characterised by behaviour that is socially distressing to others. Included are Attention Deficit/Hyperactivity Disorder (AD/HD), Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD). Since AD/HD is our disorder of primary interest in this thesis, research evidence about it will be presented in a separate chapter.

Keenan et al. (1999) summarise the two approaches toward defining CD for girls. On the one hand, Zoccolillo (1993) raises the question of whether or not there are in fact strong sex differences in the prevalence of CD. He argues that correlates of CD may be similar for males and females, once the base rates of these problems are taken into account. Zoccolillo et al. (1996) argue for revising the diagnostic criteria on the basis of impairment rather than just symptom level, leading to more comparable rates for girls and boys.

Following Maccoby's (1986) review of the literature on the differences in boys' and girls' playgroups, Zoccolillo concluded the following:

1. Fighting and rough-and-tumble play are normal in boys and a relatively higher threshold is needed to detect truly abnormal aggressive behaviour.
2. A certain amount of bullying in boys is normal and leads to the maintenance of dominance and a pecking order. In girls, however, dominance is much less of an issue and more likely to be maintained through influences other than aggression. Bullying behaviour, even verbal bullying, may be much more abnormal in girls than in boys.
3. Playing at home or under supervision by an adult is the norm in girls but not in boys. Roaming the streets may be an indicator of disorder in girls but not in boys.
4. Because girls tend to play in smaller groups, have more intense friendships, and tolerate more antisocial behaviour than boys, friendlessness in girls may be a marker for CD rather than major conflicts with peers.

On the other hand, Zahn-Waxler (1993) argues that the sex differences in CD reflect true differences in the socio-cultural experiences and biogenetic development of boys and girls. Therefore, efforts aimed at creating a variant of CD that is equal in terms of prevalence may not be constructive.

Within the range of internalising disorders, it is commonly believed that depression is more frequent in females

than in males. However, a quantitative synthesis of published research showed that the sex difference is age-specific (Jorm, 1987). There is little sex difference in either childhood or advanced old age, but a notable sex difference in middle life. The age-specific nature of these sex differences may be explainable in terms of differences in social roles at various ages, since the ages at which the sex difference is greatest are also those at which social roles are most divergent.

Gender stereotyping seems to exert a substantial influence on the development of a more fearful attitude and on depression in girls. Current evidence supports negative environmental and gender role explanations (Hankin & Abramson, 1999). Girls are more likely than boys to experience adversities within the family and within the stereotypic female role and, in turn, are more likely to become depressed.

Sex differences in fearful behaviour are also perceived by children themselves. Nine-year-old children were asked to rate their own fears, the fears of the peers of the opposite sex and the fears of the peers of the same sex (Silverman & Nelles, 1988). The results showed that boys rated themselves as less fearful than girls, and that both male and female judges rated "other boys" as less afraid than "other girls". Moreover, in a study by Ginsburg and Silverman (2000), it was found that masculinity (defined as a gender role orientation), was negatively related to overall levels of fearfulness in children with anxiety disorders.

Another domain where sex differences have been observed is school performance. Numerous studies have shown that more boys than girls experience difficulties in meeting the minimal requirements for school performance and behaviour in the early grades (Bentzen, 1963; Masland, 1981). At older ages, these sex differences are no longer apparent, and boys begin to show an advantage in some skills needed in the later school years (Richardson et al., 1986). Moreover, girls who experience

school failure are found to do so at a later age than boys (Masse & Tremblay, 1999).

Reasons for the above sex differences in school performance are categorised as biological and social. A number of genetic explanations have been advanced to account for the excess of males with learning disabilities (Lehrke, 1972; Rutter et al., 1970). However, for a given genetic inheritance, the expression of the genetic predisposition will be influenced by social environmental circumstances.

Richardson et al., (1986) summarised the kinds of behavioural characteristics that are usually expected and encouraged in boys and girls. Boys are generally expected to be self-reliant, independent, physically active and daring. They are expected to develop leadership skills, be aggressive in the face of attack, and suppressive of strong emotions ("instrumental role"). On the other hand, girls are expected to be nurturant, unselfish, affectionate, friendly, co-operative, and sociable. They are expected to cultivate attractiveness, be well mannered, rely on others, be obedient, responsible, and inhibit aggression ("expressive role"). Therefore, it seems that sex-role training is more stringent for boys than for girls, and that parents may place more emphasis, attention and pressure on boys for academic achievement.

### **2.1.3. Developmental issues**

Both large community samples and smaller observational studies have found few sex differences in the rates of behavioural and emotional problems during the first two years of life (Keenan & Shaw, 1997). In two epidemiological studies of pre-school children, the overall picture was of a minimal influence of sex (Earls, 1980; Richman et al., 1982). Even

though, the overall prevalence of disorder was quite similar to that in older children.

However, there is increasing divergence in the problem behaviour between girls and boys beginning around age 4 (Keenan & Shaw, 1997). From 5 years onward boys are more likely to have problems with adaptive behaviour and social competence and to show behaviour problems of the hyperactive and aggressive type (Prior et al., 1993).

Bates (1980) also reported that at 18 months boys were not more difficult or fussy in temperament than girls. However, by the age of 2 years, difficult girls were more likely to have moderated their behaviour and to have settled into comfortable relationships, whereas boys remained difficult.

Sex differences in levels of problem behaviour seem stable by the time boys and girls reach school age and persist until adolescence, when girls' rates of internalising problems increased and exceeded the rates displayed by boys (Angold & Rutter, 1992; Offord et al., 1987).

Differences in the prevalence of problem behaviour appear to be the result of a more consistent decline or lack of increase in problem behaviour for the majority of girls, whereas the majority of boys demonstrate a less consistent decline or, in some cases, an increase in problem behaviour levels (Prior et al., 1993; Richman et al., 1982). In other words, boys have a lower rate of recovery and a higher incidence of new problems over the pre-school to school-age interval than girls.

Prior et al. (1993) conclude that the increase in sex difference in behaviour over time, with increasing exposure to social experiences, suggest that a social learning explanation may fit the data best. Moreover, it seems that interactional factors are more salient for girls than for boys. Punishment or disciplinary techniques are significantly linked to adjustment at every stage in the girls' life but feature only



at an earlier age for boys. Girls show more sensitivity to environmental and parental influences.

These findings are also supported by a study of Mesman et al. (2001), who found that early pre-school aggression in boys represented a significant developmental precursor of later problems, whereas for girls it did not predict later externalising problems.

Keenan and Shaw (1997) propose three developmental pathways for girls with early behaviour problems:

- a) One possible outcome for girls with early behaviour problems is the attenuation of such problems as a result of their development of adaptive skills. This leads to positive responses from their caregiving environment and allows them to continue to expand their adaptive skills and pro-social repertoire.
- b) Among girls with early problem behaviour, some may be affected by socialisation efforts to take another's perspective and to consider the effect of one's behaviour on others. In some cases, these efforts may serve to shape their problem behaviour into an internalised form by leading to an over-internalisation of their own and others' problems. Therefore, whether developmental and social influences protect girls at risk for psychopathology or exacerbate their existing problems may be determined by the caregiving environment.
- c) To some extent, the combination of more rapid maturation and development of adaptive skills and the expectation for better self-regulation of female relative to male children may place those girls with slower development at a significant disadvantage. Whereas expectations for boys' behaviour may be more flexible, girls who were difficult as infants may be expected to become competent, empathic, verbal preschoolers like their female peers. Girls who demonstrate deficits in these areas may be at higher risk for externalising behavioural problems. This parent-child

context may lead to conflicts and the escalation of problem behaviour.

After all, Keenan and Shaw (1997) propose the following question to be addressed in future research: *"Are there factors in the caregiving environment that facilitate the development of self-regulatory skills in dysregulated children, and does this decrease a child's risk for the development of psychopathology?"* (p. 109).

#### **2.1.4 Etiological models**

Zahn-Waxler (1993), in her review of sex differences in Conduct Disorder, proposes that a study on this subject should follow three steps: (a) assessment of different forms of antisocial behaviour in boys and girls, (b) assessment of gender differences in other developmental domains that may indirectly contribute to patterns of variation, and (c) assessment of socialisation practices interacting with more biologically based dispositions to create different adaptive and maladaptive developmental pathways.

Having adapted Zahn-Waxler's proposed method of study in the more general subject of sex differences in psychopathology, we have already examined how several forms of psychopathology differ in their expression in boys and girls, and we have also reviewed some studies treating developmental issues. Now, we will examine the etiological models proposed for the explanation of sex differences, bearing in mind that the disorders of childhood vary considerably and cannot be explained by a single etiological model.

##### **1. Male vulnerability to biological risk factors**

There is little doubt that males are more vulnerable to almost every kind of physical hazard. The reasons commonly

cited for this greater male vulnerability are greater male immaturity (Rutter 1972), greater male susceptibility to sex-linked diseases (Garai & Scheinfeld, 1968), and possible adverse maternal immunological reactions to male fetal tissue because of the male Y chromosome (Mussen et al., 1974). Eme and Kavanaugh (1995) remark that, although the greater male vulnerability appears to be a rather robust finding, the explanations adduced to explain such vulnerability are speculative.

In general, debate over the relative weight of biological versus social learning explanations for reported sex differences has generated considerable heat and little consensus in data interpretation. During the first five years of life, it is difficult to isolate biological events involved in the maturation of the brain from social experiences that help shape the development of personality (McGuire & Earls, 1991). Nature and nurture interact inextricably to produce differences in boys and girls in the early period that in turn will influence future developmental pathways in gender-specific ways. Genetic and hormonal effects are not steady or predictable in their influences across ages, so it cannot be shown conclusively that sex differences are the product of a specific biological or environmental factor.

For several disorders, biological models seem more appropriate. For example, mental retardation and infantile autism reflect a congenital origin. In both cases it is well established that the number of affected boys exceeds that of girl by a magnitude of 2:1 to 4:1 (Birch et al., 1970; Lord et al., 1982). Although there are only vague clues as to why males are vulnerable, the suspicion must be that it is biologically based. However, for other disorders the field is less clear. The question of how male preponderance arises in the more common childhood psychiatric disorders, such as AD/HD, may or may not be related to the type of vulnerability reflected in increased rates of mental retardation and autism.

## 2. Male vulnerability to psychological stress

Several studies have shown that there appears to be a greater male vulnerability to psychological stress (Rutter, 1970; Waters, 1978). For example, in a study which examined the role of temperament and home environment characteristics in children aged 2-3 it was found that marital discord, maternal depression and the adversity index were all significantly related to behaviour problems in boys, but not girls (Earls & Jung, 1987). Therefore, boys seem particularly susceptible to developing a disorder in a context of stressful family relationships. It is conceivable that girls process a similar vulnerability but have a higher threshold to respond deviantly to stressful home environment characteristics (Earls & Jung, 1987).

However, in the case of familial stress, what is apparently the same situation may in practice be different depending on the sex of the child. Thus, it may be that boys and girls respond to different family stresses. For example, Hoffman (1974) noted that, in most developmental studies, girls show ill effects from too much supervision or control, whereas boys typically suffer from too little.

Eme and Kavanaugh (1995) concluded that there is a significant sex difference in difficult temperament and in male vulnerability to physical and psychosocial stressors. These differences make it more likely that boys would develop the neuropsychological deficits that would then begin to interact cumulatively with environmental adversity across development.

## 3. Differential socialisation practices

Huselid and Cooper (1994) have shown that "... gender role attributes substantially, though not completely, mediate sex differences in a range of externalising and internalising

*symptoms... differential socialisation of young men and women at least partially explains specific gender-linked vulnerabilities to the experience and/or expression of symptoms" (p. 602).*

Socialisation practices so far investigated include: (a) imitation and identification with same-sex models; (b) different play and learning environments provided for boys and girls (and the corresponding differential opportunities and prohibitions regarding deviance); (c) differences in discipline, educative practices, reinforcements and punishment, and (d) variations in parental/societal expectations, sanctions and preparations for the different role expectations for boys and girls (Zahn-Waxler, 1993).

The impact of gender socialisation processes during childhood on the prevalence of a disorder in boys and girls has been most often studied in the case of depression. According to Ruble et al. (1993), two main features of early gender development seem likely to be important: a) actions and beliefs of socialising agents - i.e., differences in parent and teacher expectations and norms for boys and girls, and b) construction of gender identity that incorporates gender stereotypes.

As Gore et al., (1993) suggest, socialisation practices foster greater concern and anxiety regarding social relational processes for girls than for boys. This includes an orientation to the opinions and evaluations of others. That is, as a result of socialisation practices, girls should be more concerned with pleasing others and with how good they are or how well they are doing. Second, closer control and surveillance of girls means that they are likely to experience greater pressure than boys to conform with adult standards and values (Huston, 1983). Pressure to conform should lead girls to exhibit more socially acceptable self-regulation (fewer behaviour problems) than boys. Therefore, because of the actions of socialisation agents and the impact of gender

stereotypes on a child's construction of her gender identity, girls exhibit higher levels of self-evaluative concerns that increase vulnerability to depression.

Keenan and Shaw (1997) are led to similar conclusions. These authors review research on the influence of parents, teachers and peers on girls' behaviour from infancy to pre-school as well as studies of sex differences in developmental processes. These authors suggest that, through the process of socialisation, girls' early problem behaviour is manifest in predominantly internalising problems during the school-age period. Mild expressions of anxiety and dependency by girls are likely to be accepted as normative and encouraged, especially over externalising forms of problem behaviour. It is possible then that girls who were difficult as infants and toddlers are socialised to express their early problem behaviour in a sex-stereotyped form. Because shy and withdrawn behaviours are not as problematic to caregivers as overactive and aggressive behaviours, girls may appear to have grown out of their earlier problem behaviour.

These authors also suggest that girls' early problem behaviour is moderated by an increase in adaptive functioning and a more positive response to socialisation efforts than boys. It has been noted that girls are the recipients of more effective teaching about pro-social alternatives (Maccoby & Jacklin, 1980). Females are better than males at interpreting the affective cues and states of others (Zahn-Waxler et al., 1991). The capacity to be attentive to social context and emotional cues is typically viewed as a positive quality that facilitates relationship formation and socialisation.

This point of view is strengthened by the fact that in many domains of functioning, including physical, verbal and socio-emotional, it appears that girls mature at a faster rate than boys (Eme, 1992; Taylor, 1985).

Girls seem also to be protected from the development of externalising problems through children's spontaneous

segregation into same sex-peer groups. In a study by Fabes et al. (1997), it was found that highly arousable boys who frequently engaged in play with same-sex peers showed the greatest levels of problem behaviours. It seemed that boys who are easily aroused and who may have difficulty regulating this arousal are at increased risk of becoming over-aroused and dysregulated in the context of play with other boys. On the other hand, it was found that for highly arousable girls, the more they played with same-sex peers, the lower their level of rated problem behaviours. Thus, for girls high in arousability, playing with other girls appeared to inhibit the occurrence of problem behaviours.

#### 4. Integrative models

Cloninger et al. (1978) propose a model that effectively demonstrates how genetic predisposition for a disorder may be moderated by socio-cultural environmental influences related to differential expectations from the two sexes. Furthermore this process may result in different rates in the manifestation of disorder.

They posit that the difference between male and female alcoholics is entirely accounted for by non-familial environmental causes. All the genetic and environmental factors that influence an individual's risk for transmitting a particular disorder may be considered collectively as a single variable called "liability". Everyone has some liability, however small, but only individuals whose liability is beyond a certain critical value called "threshold" may be affected. Thus, a lower threshold means a greater predisposition to the development of the disorder.

These authors explain that predisposition to alcohol dependence is largely a genetic phenomenon but before it is manifest, continued heavy drinking is required. But, frequent heavy drinking is largely a "sex-typed socio-cultural

phenomenon" which may be precipitated by pre-alcoholic psychopathology or social stress. Thus, a greater proportion of men than women are at risk of developing alcoholism because women are usually protected by not drinking heavily.

An integrative model to explain sex differences in childhood psychopathology is proposed by Earls (1987). He suggests that sex-related behavioural predispositions originating early in life may contribute to differences in prevalence rates at subsequent points in the life cycle. Biological and social mechanisms help explain the nature of these vulnerabilities. It is possible that neuro-physiological and neuro-endocrine differences are responsible for the emergence of subtle variations in infants' behaviour from birth. These sex differences may dovetail with parental expectations to create differences in the repertoire of parental behaviour towards males and females. Parents either consciously attempt to elaborate and expand on these innate differences or are drawn into a repertoire of interactions that channel the child's interests and behaviours into increasingly masculine or feminine directions. These differences are categorised mainly as more rough and tumble play with boys, and more intense social interaction with girls. The greater cognitive and social competence of girls in early development may result in better mother-daughter relationships and secondarily may help buffer the effects of family stress. Since it has also been found that parents tend to punish boys more harshly in response to their more aggressive behaviour, the onset of psychiatric disorders in boys may result from difference in the quality of mother-child relationship. By three years of age, the basis is established for what will be a long-term trend in the varieties of psychiatric disturbances experienced by males and females. As these attitudes and behaviours become routinely reinforced in development, sex differences become increasingly divergent.



Therefore, Earls (1987) concludes that in any model of sex differences it is important to consider the extent to which changes in the rearing environment can alter the pattern.

To conclude, sex differences in interpersonal orientations that may underlie pro-social and anti-social patterns are in place by the first years of life. This is an important period for the development of children's rule violations, adherence to norms, propensities for harming others, attitudes about the rights of others, and concern for their welfare (Zahn-Waxler et al., 1991). By studying characteristics of young children and variations in differential patterns of socialisation of males and females in these domains, we may begin to better understand this particular piece of the puzzle that is part of the larger, more general mystery of gender differences.

## **2.2 Sex differences in AD/HD**

### **2.2.1. The issue**

AD/HD has become one of the most widely researched areas in childhood and adolescence. However, most of the available research literature has centered exclusively on males or else have lumped the few affected girls with their more numerous male counterparts. Of the several thousand published studies on AD/HD conducted before 1992, only 13 focused on females (Gaub & Carlson, 1997). By the year 2000, an additional 23 studies had been contributed to the literature on sex differences and AD/HD (Gershon, 2002). As Patricia Quinn and Kathleen Nadeau (2002) remark, this is "a positive trend, but still only a trickle compared to the flood of research on predominantly male populations" (p. 449).

Where hyperactive girls have been studied, they were invariably included with the hyperactive boys for the data analyses, permitting no conclusions about sex differences in the nature of the disorder. Consequently, female manifestations and sex differences have been relatively neglected in AD/HD research until recent years. However, it has been shown that females with AD/HD also show dysfunction in terms of externalising and internalising behaviours and cognitive and academic performance (Hinshaw, 2002), thus meriting additional research.

The idea that dominated AD/HD research for a long period of time was that hyperactivity is to be found primarily among boys. Still (1902) was perhaps the first to describe this disproportionate occurrence in males. Since then, in epidemiological and clinical studies of children with AD/HD, more males than females have been found to evidence the disorder, with the incidence ranging from 3:1 to 9:1 in favour of males (American Psychiatric Association, 1987). Szatmari et al. (1989) found that the overall prevalence of AD/HD in the Ontario Child Health Study was 9.0% in boys and 3.3% in girls. Several theories encompassing biological, social and genetic factors provide models for the observed greater prevalence of hyperactivity in males.

One of the most common explanations given to the above sex differences in the prevalence of AD/HD in boys and girls is that the higher referral rates of boys reflect the nature of their associated difficulties. It is often argued that boys display more disruptive behaviours within structured settings, leading to higher referral rates (Biederman et al., 1999; Faraone et al., 1991; Gaub & Carlson, 1997). In other words, part of the higher male-to-female ratio in clinical samples results from boys being more likely to be referred for their comorbid conduct or oppositional disorder and aggression. However, it has been found that, even after correction for comorbidity, there remains some referral bias favouring

referral of boys (Arnold, 1996). Thus, it is not clear whether girls are preferentially treated in "non-clinical" ways by the school home or community; whether their needs are simply overlooked; whether they have less need; or whether it is some combination of these.

On the basis of the above questions, several authors wonder whether the current diagnostic criteria for AD/HD are applicable to both sexes (McGee & Feehan, 1991). If the belief that AD/HD is primarily a disorder for boys results in reluctance to consider the possibility that girls might have the disorder, then this bias may result in the referral of only the most severely affected girls. McGee and Feehan (1991) suggest that a more appropriate method for identifying such problems in girls may be to reference any behavioural problems to what is normal for other girls rather than to compare girls' behaviour with that of disordered boys. Reid et al. (2000) also provide support for the use of separate norms for behavioural ratings based on gender. In fact, several rating scales have already provided separate norm tables for males and females (BASC; Reynolds & Kamphaus, 1992; ARS; DuPaul et al., 1998).

However, other authors have been opposed to this thought, arguing that the use of separate sex norms would artificially eliminate what is a real difference in the prevalence of the disorder (Silverthorn et al., 1996). Gordon (1996) suggests that he would accept the gender referencing of AD/HD criteria only *"if there were clear evidence that (given the exact same behaviour) teachers consistently would respond more dramatically to males"*. Gaub and Carlson (1997) summarise the issue by suggesting that if boys and girls with AD/HD showing identical symptom patterns are equally impaired, then population-based norms seem appropriate. If identical symptom patterns result in different levels of functional impairment for girls and boys, then gender-based norms may be more useful.

Yet, this issue remains unresolved and a lot of questions are raised: Are these prevalence ratios real or do they reflect referral bias? Are girls with AD/HD under-diagnosed and under-treated? Are the current diagnostic criteria applicable to both boys and girls with AD/HD or is there a need for gender-specific diagnostic criteria for AD/HD? Which factors might moderate the expression of AD/HD symptomatology in boys and girls?

Moreover, we should consider that the disorder might interact with normative sex differences in other relevant parameters. Therefore, it is important to study which of the differences noted between males and females with AD/HD result from normal sex differences on which symptoms are superimposed, and which result from sex-specific pathogenesis, sex-influenced genetics, or interactions with gender-specific socialisation (Arnold, 1996).

Another interesting finding concerns the evolution of sex-related difference in prevalence over the course of time. In an epidemiological study of disorders in late childhood and adolescence (Cohen et al., 1993), the prevalence rate for AD/HD among boys appeared to decline by nearly 20% per year between the ages of 10 and 20 years, while the prevalence among girls remained relatively constant across these same ages.

A relevant finding is that of Arcia and Conners (1998), who provided evidence that the proportion of female patients with AD/HD increases in adulthood. These authors argued that this increase in female help-seeking behaviour might not support the idea that caregivers are insensitive to the needs of girls as has been previously suggested (Arnold, 1996). They propose an alternative explanation by saying that the self-perception of adult females might account for the reported increase in the proportion of female clients among adults. They explain that cultural dictates might lead to narrower definitions of acceptable behaviour for girls, so that by

adulthood, women with functional deficits have a self-perception of impairment that is more severe than that of adult men with equivalent functional deficits.

Whatever explanation one adopts, there is a generally held belief that the possible under-identification and under-treatment of females with AD/HD may have substantial mental health and educational implications. Thus, there is a common agreement that further research is needed in order to develop a better understanding of clinical indicators of AD/HD in females.

#### **2.2.2. Sex differences in the manifestations of AD/HD**

In their meta-analysis of relevant research based on 18 studies, Gaub and Carlson (1997) remarked that, among the studies reviewed, a subset found no differences between boys and girls with AD/HD on a variety of variables, while another subset reported gender-based differences in AD/HD, but not always in the same direction.

One of the earliest studies in the field (Kashani et al., 1979) has concluded that hyperactivity in boys is more often associated with aggressivity, whereas in girls it may more often be a manifestation of masked depression. However, this study received a great amount of criticism, because of its broad definition of hyperactivity (James & Taylor, 1990; Silverthorn et al., 1996), and the use of data from a review of medical records rather than from direct testing of the AD/HD sample (Horn et al., 1989).

However, since then, almost all studies of this kind suggest that girls with AD/HD present fewer conduct problems than their male counterparts (Biederman et al., 1999; de Haas, 1986; Gaub & Carlson, 1997; Gordon & Mettelman, 1994). This finding has also been replicated via direct behavioural observations in natural settings (Abikoff et al., 2002). Boys

with AD/HD have been found to demonstrate disruptive, uncontrolled behaviours more frequently (Berry et al., 1985; deHaas, 1986; Gaub & Carlson, 1997), and have higher ratings of aggression (Carlson et al., 1997). In relation to the above findings, boys with AD/HD have been found to present a higher rate of comorbid conduct disorder compared to girls with AD/HD (Biederman et al., 1999; Faraone et al., 1991).

On the other hand, it has been claimed that girls with AD/HD demonstrate more severe cognitive impairments in relation to boys with AD/HD, particularly in the area of language function (Berry et al., 1985; Gordon & Mettelman, 1994; James & Taylor, 1990). Moreover, it may be that girls with AD/HD have a lower IQ when compared to their male counterparts (Brown et al., 1991; Faraone et al., 1991; Gordon & Mettelman, 1994; James & Taylor, 1990).

It has also been suggested that girls with AD/HD demonstrate poorer self-esteem, are more likely to suffer peer rejection (Berry et al., 1985; Brown et al., 1991), and evidence poorer academic achievement (Brown et al., 1991). However, the study by Brown et al. (1991) was criticised by Castellanos et al. (2000) for not having included normal controls.

These findings have led several authors to suggest that behavioural problems may increase the likelihood of identification for boys, because of the greater disturbance behaviour problems may cause to the child's environment, whereas cognitive deficits may have a more prominent role in the identification of girls.

In a recent study by Newcorn et al. (2001), substantial differences have been found in levels of impulsivity among boys and girls with AD/HD, and particularly girls with comorbid anxiety disorders. Specifically, these authors have found that girls with AD/HD are less impulsive than boys with AD/HD, and girls with AD/HD and comorbid anxiety disorders are less impulsive than those with AD/HD-only. They conclude that,

if these findings were replicated, it would suggest that AD/HD is somewhat different in girls than boys and that comorbidity has a different impact on core AD/HD symptoms in girls and boys.

Regarding the age of referral of boys and girls with AD/HD, the findings are inconsistent. Berry et al (1985) found that hyperactive girls were younger than boys at the time referral for medical attention, whereas inattentive girls were older than inattentive boys at referral. Brown et al. (1991) found that there was a trend for girls with AD/HD to be older at the time of referral. This finding could reflect either insensitivity to early signs of the disorder in girls or an actual difference in life course of the disorder in boys and girls. In contrast, Silverthorn et al. (1996) found that girls with AD/HD were younger at the time of referral despite the fact that their parents reported the onset of symptoms no earlier in girls than in boys with AD/HD. This finding has led these authors to suggest that parents seem to have a lower tolerance for AD/HD symptoms in girls and thus refer them at an earlier age.

Boys and girls with AD/HD have also been compared on family variables. Regarding the quality of their interactions with their mothers, it has been found that hyperactive boys received more direction and praise. They also elicited greater maternal concern about their adjustment than hyperactive girls (Befera & Barkley, 1985). Moreover, mothers have been found to be more critical of daughters with AD/HD than of sons with AD/HD (Barkley, 1994). Regarding the psychiatric status of their parents, it has been found that mothers of hyperactive boys had higher levels of marital discord than mothers of hyperactive girls (Befera & Barkley, 1985). It has also been reported that girls with AD/HD tended to come from families with lower socioeconomic status (Berry et al., 1985).

However, other studies have not replicated these findings and have documented no differences between boys and girls with

AD/HD either in the expression of their primary or their secondary symptoms (Breen, 1989; Breen & Altepeter, 1990; Horn et al., 1989; Seidman et al., 1997; Sharp et al., 1999). This similarity in the pattern of psychopathology expressed by AD/HD males and females has also been documented in studies with adults (Biederman et al., 1994).

DeHaas and Young (1984) have found that hyperactive girls don't differ from hyperactive boys in attention span or concentration. They also suggested that the profile patterns of hyperactive girls and boys in the Conners Teacher Rating Scale (TRS; Conners, 1990) were similar. Moreover, deHaas (1986) found that hyperactive boys and girls displayed similar academic difficulties and difficulties in peer relationships. Greene et al. (2001) and Blachman & Hinshaw (2002) demonstrated that girls with AD/HD evidence a similar degree of social impairment and peer rejection to boys with AD/HD.

McGee et al. (1987) demonstrated that problems relating to inattention are equally prevalent in both sexes and that the associated cognitive features are the same for boys and girls. McGee and Feehan (1991) explain that the source of information may be an important determinant of the magnitude of observed sex differences. They have observed that teacher ratings of inattention and hyperactivity show more pronounced sex differences than parent ratings of the same behaviours. Therefore, these authors hypothesise that inattentive behaviours are at least partly under-recognised in girls because girls do not present with management problems in the classroom to the extent that boys do. This idea is also supported by Schachar et al. (1986), who have demonstrated that aggressive and defiant behaviour in children exerts a "halo effect" on ratings of inattentiveness. Moreover, a recent study by Biederman et al. (2002) demonstrated that girls with AD/HD were more likely than boys to have the predominantly inattentive type of AD/HD.



Mannuzza and Gittelman (1984) have compared the adolescent outcome of 12 hyperactive girls and 24 hyperactive boys and have found no significant differences in the rates of mental disorder in adolescence for those boys and girls. However, in a more recent study by Rucklidge & Tannock (2001), female adolescents with AD/HD were found to be more impaired than male adolescents with AD/HD in self-reported anxiety, distress, depression, locus of control, and vocabulary scores. These authors conclude that females with AD/HD are at higher risk for more psychological impairment than both males with AD/HD and control females.

The meta-analysis by Gaub and Carlson (1997) provided the first quantitative summary on sex differences in AD/HD. Based on 18 published studies, these authors found that non-referred girls with AD/HD displayed fewer inattentive, aggressive and internalising behaviours than non-referred boys with AD/HD, whereas clinic referred boys and girls with AD/HD did not differ on the above variables. On the contrary, referred girls with AD/HD had lower intellectual functioning relative to boys with AD/HD. These findings led the authors to suggest that clinic-referred girls are not representative of girls with AD/HD in general. They conclude that girls with AD/HD are less impaired than boys with AD/HD in the general population but equally impaired in the clinic population. The results of a second and updated meta-analysis (Gershon, 2002) indicated general agreement with Gaub and Carlson's.

Consequently, the idea that girls with AD/HD are more impaired than their male counterparts is hotly debated. It may be that the more severe impairment observed in girls with AD/HD compared to boys with AD/HD may be restricted to clinic-referred populations (Gaub & Carlson, 1997).

### 2.2.3 Sex differences in the etiology of AD/HD

Another question that is usually addressed is whether the etiology of AD/HD differs for boys and girls. Some studies promote the idea that there are biological differences in the etiology of AD/HD for the two sexes, whereas other studies strongly argue for the existence of sex differences in the etiology of AD/HD.

Some studies claim to have found specific biological differences. For instance, global CMRglu in girls with AD/HD was found to be 19.6% lower than in boys with AD/HD (Ernst et al., 1994). In addition, striatal male D2 receptor density has been found to increase  $144 \pm 26\%$  between 25 and 40 days (the onset of puberty), while female receptor density increases only  $31 \pm 7\%$  (Andersen & Teicher, 2000).

Within this framework, two theoretical models have been proposed. According to the constitutional variability model (CV), males and females differ in the prevalence of AD/HD because different causal factors are important for each sex. AD/HD in males is due to greater genetic variability and shares the same etiology with individual differences in activity level and attention in the general population. On the other hand, AD/HD in females is assumed to be caused by discrete pathological events like brain damage (James & Taylor, 1990, Taylor & Ounsted, 1972). Two inferences are made. First, hyperactive girls should be more severely affected than their male counterparts. Second, more relatives of male than female probands should be affected because causes of male affliction are hypothesised to be polygenetic and hence relatively more likely to occur than would be the rarer organic causes of female affliction. Studies that find more severe cognitive impairments in girls support this model (James & Taylor, 1990).

According to the polygenic multiple threshold model (PMT), (Faraone et al., 1995; Kashani et al., 1979, Rhee et

al., 1999; Smalley et al., 2000) there may be multiple thresholds for different groups in the population. The less frequently affected group (females) presumably has a higher threshold than the more frequently affected group (males). Consequently, females require a greater liability to manifest AD/HD than do males. The inference made is that females' relatives should also carry more familial risk factors and thus be at greater risk for AD/HD than are the relatives of boys with AD/HD.

However, empirical research has failed support either model (Eme, 1992; Gaub & Carlson, 1997; Mannuzza & Gittelman, 1984; Silverthorn et al., 1996). Goodman and Stevenson (1989) have examined data on mixed-sex and same-sex DZ twin pairs to test the predictions of the 2-threshold genetic model. They have found that siblings were not significantly more likely to be hyperactive if they had an affected twin sister than if they had an affected twin brother. Thus, they concluded that this model couldn't explain the male preponderance for AD/HD.

Most studies suggest that the sexes share a common biological substrate. Family-genetic risk factors have been found to be similar in boys and girls (Faraone et al., 1991, 2000). In addition, no differences between boys and girls with AD/HD have been found in stimulant drugs response (Pelham et al., 1989). No difference has been found between the effects of stimulant drugs on mother-child interactions of hyperactive girls and boys (Barkley, 1989a).

A preliminary study (Seidman et al., 1997) on the neuropsychological performance of boys and girls with AD/HD on tests of executive function, suggested that girls may be less vulnerable to executive function deficits than boys. However, these authors have been criticised for having used female subjects under medication, which might have ameliorated impairments (Castellanos et al., 2000). More recent studies show that boys and girls seem to have similar deficits in executive functions (Arcia & Conners, 1998; Castellanos et

al., 2000; Houghton et al., 1999; Kuntsi et al., 2001). Such findings have been shown to generalise to adolescents as well (Rucklidge & Tannock, 2002).

These findings have led several authors to suggest that differences between males and females in the prevalence of AD/HD are not due to sex differences in the biological substrates of the disorder itself (Nussbaum et al., 1990). Moreover, the similar pattern of impaired psychosocial functioning in male and female AD/HD subjects suggests that, to a substantial degree, the etiological factors for AD/HD may not differentiate the sexes (Biederman et al., 1994).

We can conclude that sex differences in AD/HD are not sufficiently explained yet. It is suggested that alternative theories need to be tested to explain the male predominance of the disorder (Silverthorn et al., 1996). Moreover, it is suggested that research should focus on testing theoretical models to explain the sex ratios in AD/HD, rather than simply comparing the phenomenology of the disorder in boys and girls (Silverthorn et al., 1996).

#### **2.2.4 Methodological limitations of previous studies**

In their meta-analysis, Gaub and Carlson (1997) summarise the methodological limitations presented by a great number of studies conducted so far (Gaub & Carlson, 1997):

The oldest studies used broad definitions of hyperactivity and didn't always rely on valid diagnostic criteria. Thus, the heterogeneity of their samples was a problem. A further difficulty was that variations in diagnostic procedures across studies made it difficult to determine whether subjects were comparable.

Another methodological limitation concerned the small size of samples used. This was particularly true for female

subjects. Moreover, in a great number of studies, no normal controls were used.

Furthermore, most of the studies didn't use a multi-informant assessment method and relied solely on mothers' or teachers' reports. However, it has been shown that parents and teachers differ greatly in their ratings of children's behaviour (McGee & Feehan, 1991). Consequently, studies based upon only teachers' or parents' reports could be biased because of differences between rater source.

In addition, a great number of studies were criticised because they didn't directly compare boys with AD/HD to girls with AD/HD and because they didn't control for comorbidity.

Finally, the majority of studies were clinic-based, thus subject to referral bias.

## **2.3 Sex differences in the development of sex-role attitudes**

### **2.3.1 Sex-role stereotypes**

A stereotype is a base rate in the sense that it involves a belief that a certain characteristic is more commonly found in one group than another (McCauley et al., 1980.) Sex-role stereotypes are defined as beliefs concerning the appropriateness of various activities for men and women which, in turn, support the different sex roles traditionally occupied by men and women (Best et al., 1977). Gender stereotypes have multiple components such as personality traits, physical characteristics, role behaviours and occupations, each of which has a masculine and a feminine version (Deaux & Lewis, 1983, 1984).

Moreover, gender stereotypes also have different dimensions (Archer, 1984). Rigidity refers to the extent to which opposite-gender activities are avoided. It has been found that there is greater rigidity in the gender role

activities of boys than girls. Complexity refers to the degree of elaboration of the content of a gender role. There is evidence that more male than female traits are known at each age level by both boys and girls. Consistency refers to the extent to which there are conflicting requirements for the male or female role. For example, there are usually two messages regarding male aggression: formal disapproval and informal approval. Finally, discontinuity refers to the differentiation in the understanding of gender role concepts at successive stages of development. During childhood, girls can show more flexibility than boys, whereas after puberty, they tend to concentrate more narrowly on traditionally "feminine" activities.

A scene from the early musical "Carousel", presented by Maccoby and Jacklin (1975), epitomises (in a somewhat caricatured form) some of the feelings that parents have about bringing up sons as opposed to daughters. A young man discovers he is to be a father. He rhapsodises about what kind of son he expects to have. This boy will be tall and tough as a tree, and no one will dare to boss him around. He'll be good at wrestling and will be able to herd cattle, run a riverboat, drive spikes, etc. Then the prospective father realises that the child may be a girl. The music changes to a gentle theme. She will have ribbons in her hair; she will be sweet and petite and suitors will flock around her. She must be protected, and he must find enough money to raise her in a setting where she'll meet the right kind of man to marry.

Socio-cultural expectations for temperamental expressions differ for boys and girls (Buss, 1989). In most societies, quiet play, fearfulness, and dependency, are behaviours considered normative for girls, whereas over-activity, aggression and defiance are not (Simpson & Stevenson-Hinde, 1985). Many male stereotypes emphasise power, confidence and competence whereas many female stereotypes involve passivity, helplessness and dependence (Bem, 1974).

In our society, girls are allowed to express fear openly, just as they are allowed to cry, but they may be punished for expressing anger, for it is not "ladylike". Boys are not allowed to express fear, but some anger is tolerated. Boys' games and toys encourage vigorous activity, whereas girls' games are more sedentary. Girls are encouraged to co-operate and to interact closely with one another; boys are encouraged to compete and to strive for individual attainment (Buss, 1989).

In general, the prevailing norm governing the emotional expressions of men and women is that men are free to express overtly their anger but should avoid displaying emotions signalling powerlessness. For women, this motive should be less salient because emotionality and powerlessness are among the core characteristics of the female stereotype (Timmers et al., 1998).

### **2.3.2 The development of sex-role attitudes in children**

Every known society surrounds the basic facts of sexual form and function with a system of social rules and customs concerning what males and females are supposed to be and do. As the society emphasises its links with behavioural, social, physical, and psychological characteristics, gender takes on functional significance for children (Martin, 1991).

The development of sex-role behaviour involves a gradual process that begins in infancy and continues throughout the life cycle (Katz & Boswell, 1986). It has been shown that children as young as two years of age possess substantial knowledge of sex-role stereotypes prevailing in adult culture (Kuhn et al., 1978). By five years of age, children in our culture hold sex-role stereotypes similar to those of adults (Weinraub et al., 1984). As children master and internalise this system, they learn to recognise attributes, attitudes and

behaviours that are typical of or considered appropriate for each sex. They also learn how to do what is seen as appropriate and to avoid what is not.

From a developmental perspective, it has been found that a 7-years-old girl's sex-role attitudes are much more similar to societal stereotypes than an 11-years-old girl's (Meyer, 1980). In other words, the sex-role attitudes and aspirations of older girls are more varied and flexible than those of younger girls. Moreover, the older girls' sex-role attitudes are significantly related to their mothers' sex-role attitudes. According to the cognitive developmental theory (Kohlberg, 1966), a girl will first identify with the female stereotype according to exaggerated societal norms and will adopt rigid thinking at this early stage of development. Later on, due to her more advanced cognitive development, her sex-role concepts are expected to be more flexible.

In contrast, older boys are found to be less flexible than younger ones. This finding is consistent with the generally held view that boys receive more pressure against engaging in sex-inappropriate behaviour (Maccoby & Jacklin, 1975, Archer, 1984) and more pressure regarding achievement and competition (Block, 1983). The social environment of grade school boys seems to become more conducive to sex-role stereotyping for them (Katz & Boswell, 1986).

For many years concern with sex-role development was centered upon the parenting process and rooted in Freud's description of the family. Sears and his colleagues (Sears et al., 1957) reworked Freud's ideas within the framework of social learning theory. The social learning approach was updated as Mischel (1966) emphasised the importance of situational variables in determining the meaning of specific activities for each sex. Fagot's (1977, 1981) early studies, conducted within the social learning theory framework, showed that reinforcement and modeling contribute importantly to gender development. According to Bem's gender schema theory



(1981), sex-role acquisition occurs as children adopt the standards of sex appropriateness they are exposed to. Bem remarks that schema formation depends on the child's own mental effort and developmental stage but the information being processed reflects the degree of sex typing in the child's environment.

Parents, teachers, peers and the media provide a plentiful supply of behavioural models for the child. Parents have traditionally been seen as particularly important to this learning process, especially during the early years of the child's life. Until they reach school age, a large proportion of interactions for many children take place within the family unit. Parents influence gender role acquisition by direct prescriptive statements, by providing the earliest and most consistent role models and by providing social reinforcement. Through observation and imitation of the parents and the differential reinforcement of the child's behaviours, the child develops gender role behaviours (Williams et al., 1985). As Bem (1983, p. 604) notices: *"Adults in the child's world rarely notice or remark upon how strong a little girl is or how nurturant a little boy is becoming, despite their readiness to note precisely there attributes to the 'appropriate' sex"*.

Thompson (1975) has shown that there are three stages in early gender development:

- a) A child's learning to recognise that there are two sexes and that consistent labels are applied to them.
- b) The child's inclusion of himself under one of these labels.
- c) The child's use of the sex label to guide his behaviour in selecting preferences.

However, children's own construction of gender cannot be understood without considering the socialisation pressures and environmental influences to which they are subjected. Children construct their own understanding of the world as they

develop, but the building blocks used in this construction include the information and consequences that socialising agents and cultural practices provide (Fagot et al., 2000). Strict socialisation pressure restricting boys or girls from associating with things culturally defined as being for the opposite sex may result in avoidance of objects or activities labelled as being appropriate for the opposite sex. Likewise many stereotypic behaviours may be quickly adopted because a child has developed the ability to attribute goodness to same-sex labelled activities and badness to opposite-sex labelled activities (Montemayor, 1974). Even if socialising agents give similar instructions (e.g. relating to sex-typed toys), they show *affective* differences in their reactions to boys' and girls' choices of sex-typed behaviours (Fagot & Leinbach, 1989). Even conversations with sons and daughters take different forms, with more emotional references in discussions with daughters, particularly when talking about interpersonal relationships (Flannagan & Perese, 1998).

### **2.3.3 Sex differences in socialisation practices**

Socialisation of male or female roles occurs in a myriad of ways. Not only do people hold stereotypes as models for what boys and girls should be like, they also sex-type tasks, skills, and other behaviours as being appropriate for one sex or the other. Through activities, opportunities, encouragements, discouragements, overt behaviours, covert suggestions, and various forms of guidance, children experience the process of gender role socialisation (Witt, 1997).

There is considerable controversy over the strength of parental influences in the socialisation of the sexes. Some studies have suggested that parents have little influence on a child's sex-role development (Lytton & Romney, 1991; Maccoby &

Jacklin, 1975). Other research, however, suggests that parents are the primary influence on gender-role development during the early years of life (Kaplan, 1991; Santrock, 1994). Moreover, parental socialisation of sex typing is very likely to be age- and behaviour- specific, that is, it will be greatest during periods of transition when the child is learning new behaviours (Fagot & Hagan, 1991).

Differential treatment by sex begins at birth (Fagot et al., 2000). Parents of newborns appear to perceive their sons and daughters differently. Rubin et al. (1974) found that new parents, especially fathers, tended to describe their infants sex-stereotypically. Moreover, they tend to interact with them in different ways. For example, male infants are usually held and aroused more and given more stimulation for gross motor activity (Block, 1983). Both parents appear to be interacting with their babies on the basis of anticipated or imputed sex differences as such differences are not readily apparent in the behaviour and appearance of young infants.

A number of studies have indicated that labelling a child a boy or a girl, independent of the child's actual sex, leads to differential interaction styles (Huston, 1983). Evidence indicates that caregivers respond differentially to the same emotions expressed by infants depending on whether the infants are male or female. Anger expressions in female infants are likely to be followed by a negative response from the mother, whereas anger in males received a more empathic response (Malatesta & Haviland, 1982).

For girls, shyness is associated with positive parental behaviours whereas for boys shyness is negatively associated with these types of parenting behaviours (Simpson & Stevenson-Hinde, 1985). Kerig et al. (1993) found that girls were ignored when they attempted to direct the interaction or make declarations but received positive attention when they were compliant. Fagot et al. (1985) found that in case of toddlers as young as 13 months, adults attended to girls' assertive

behaviours far less than to boys', whereas they attended more to girls' less intense communication attempts.

Moreover, explanation and induction is employed more often with females than males in disciplinary encounters with children as young as 2. Little girls are explicitly told more often than boys that their aggressive actions have harmful consequences for others (Smetana, 1989). The mothers of two-year old girls responded more often to their daughters' moral transgression (acts that violated the rights of others) by pointing out the consequences that the transgression would have on the peer, whereas mothers of boys responded with punishment. Girls' transgressions significantly decreased with age while the level of male transgression remained the same. By three years of age boys engaged in twice as many moral transgressions as girls (Smetana, 1989).

Keenan and Shaw (1997) believed that differences in socialisation practices may be advantageous for girls. For example, parents expend more energy on teaching and modelling skills to girls, such as perspective taking and empathic responding. This difference may be the result of parental beliefs regarding sex-typed behaviour that girls should be more caring than boys.

Maccoby et al. (1984) examined the effect of child temperamental characteristics on maternal teaching strategies during a problem-solving task. There were no sex differences in maternal reports of difficultness or activity level at ages 9, 12, or 18 months. Thus any differences between the parenting of boys and girls during infancy could not be attributable to sex differences in problem behaviour. When the girls reached twelve months of age, their mothers were more likely to intervene physically when their daughters lost interest in the task. In addition, there was a significant positive relationship between girls' difficulty and maternal use of positive teaching strategies. It seems that mothers of difficult girls tend to put more effort into their

interactions, whereas mothers of difficult boys tend to pull back and reduce their efforts (Maccoby et al., 1984).

Numerous studies indicate that parents encourage girls in dependent behaviour and in feminine, especially nurturant, play. In contrast parents encourage boys to be independent and to engage in active, physical behaviour (Frisch, 1977). Girls receive closer adult supervision and control (Block, 1983). In general, girls grow up in a more structured and directed world than boys. Boys are left to play alone more, allowed to work independently, and encouraged to become more self-reliant (Pomerantz & Ruble, 1998). In a study about mothers' responses to their son's or daughter's injury-risking behaviour in a playground, it was found that daughters received more cautions and statements communicating vulnerability for injury, whereas sons received more statements encouraging risk-taking behaviour (Morrongiello & Daweber, 2000).

As a result of socialisation processes, boys and girls may have different expectations concerning what their emotion expressions will achieve, leading to different interpersonal goals and different motives for regulating their emotions. According to Block's theory of sex-typing (1973), girls are encouraged to suppress assertiveness and aggression for the sake of communion, whereas boys are allowed to remain agentic (the tendency to be individualistic, self-assertive and expansive) but are encouraged to control and suppress tender feelings. One result of these differential social experiences is that girls may expect negative consequences for themselves when expressing negative emotions such as anger and rage (Timmers et al., 1998). Therefore, gender may moderate the relation between social information processing and behaviour through cognitions that are more interpersonally related for girls and more instrumentally related for boys.

Teachers may also encourage sex-stereotyped behaviour and, in some cases, this may extend to sex-stereotyped problem behaviour as well. In a study by Fagot (1984), it was found

that girls who scored high on activity level were more likely to receive negative responses from teachers than the "average" girl. In contrast, activity level was not significantly related to a higher probability of negative teacher responses for boys.

Peers also constitute an important source of sex-role socialisation. Lamb and Roopnarine (1979) found that peers provide a mechanism that encourages gender-appropriate behaviour in children as young as 3 years old. Girls' aggression is more likely to be ignored by peers than boys' aggression (Fagot & Hagan 1985).

Superimposed over these influences by parents, teachers and peers, is a pervasive cultural model of gender roles (Bussey & Bandura, 1999). Children are continually exposed to models of gender-linked behaviours in books, videogames and in representations of society on television.

Thus, boys and girls appear to grow up in psychological learning contexts that are importantly different. These differing contexts have implications for the subsequent psychological functioning of males and females (Block, 1983).

## **2.4 The effect of adults' perceptions and attributions about children's behaviour on children's development**

### **2.4.1 The issue**

Theoretical and empirical work on parenting, in both developmental and clinical areas, has expanded on behavioural descriptions of parent-child interactions to include parental cognitions (Goodnow, 1988; Johnston & Mash, 1989). Interest in parental perceptions and attributions emerged in response to increasing concern with the role of cognitions within caregiving relationships.

This interest in the study of parents' ideas about child development stemmed from the cognitive and social-cognitive theory. From a social cognition perspective, interpretations of and reactions to another's behaviour are closely linked to the attributions or causal explanations made regarding the behaviour (Johnston et al., 1992).

Of related significance is the assumption made by information processing theorists that cognitions mediate behaviours. Within the developmental literature, studies have considered parental attributions for child behaviours and linked these to parental affective and behavioural responses (Johnston et al., 1992). Parental beliefs are assumed to play an important role as determinants of parental actions. In other words, the ideas that parents have about the capabilities and limitations of children at various stages of development, and what they see as the major causes or influences on behaviour, are likely to influence their choice of parenting strategies and, in turn, their children's development (Rubin et al., 1989; Rubin & Mills, 1990). The ways in which parents explain caregiving events not only influence their immediate emotional and behavioural responses, but they have an important impact on the long-term quality of family relationships as well (Bugental et al., 1998). Parental attributions came to be seen as interpretive filters through which meaning is assigned to the behaviours and characteristics of children and to the nature of the parent-child relationship (Bugental et al., 1998).

The impact of adults' beliefs on children's development is not limited to parents but it concerns teachers as well. The "Pygmalion effect" (Rosenthal & Jacobson, 1968), a well-known phenomenon in the field of educational psychology, is the most characteristic example of the influence that teachers' beliefs (even erroneous) about their pupils' competence might exert on the actual academic achievement of those pupils. Teachers form expectations about children's

performance and behaviour. Expectations are communicated to children through differences in teacher behaviour, opportunities given, teacher-pupil interaction patterns and classroom emotional climate (Kuklinski & Weinstein, 2001). The literature on teacher expectancy effects indicates that positive expectancies on the part of the teachers may contribute to children's academic success (Miller, 1995).

Beliefs about the cause of a particular behaviour, problematic or not, are likely to differ from person to person as a function of socio-cultural and experiential factors (Weisz, 1989). People's beliefs and values derive from their general background characteristics, their experiences and their personalities (Antill, 1987).

All the above have been found to apply to deviant child behaviours as well. It is proposed that the causal attributions parents make regarding deviant child behaviours mediate the impact of these behaviours on the parent and direct responses to the child (Johnston & Patenaude, 1994). Moreover, parents' views about the origins of a particular problem might influence both the parents' day-to-day management of the problem and their decisions to refer to specialist services (Sonuga-Barke & Balding, 1993). However, our knowledge about this subject is still limited. Johnston et al., (1992) propose that "further research is needed . . . in order to understand how cognitions such as attributions and expectancies influence parent and teacher assessments of child behaviour problems" (p. 268). Moreover, Johnston & Freeman (1997) argue that "*study of the role of parent attributions in predicting perceptions of child behaviour, difficulties in parent-child interactions, and the acceptability of treatments are necessary next steps of inquiry*" (p. 644).

Consequently, a factor to consider when examining sex differences in child psychopathology is the perceptions of significant others, including parents, teachers and, in some cases, peers. The expectations of these people may account for



some of the differences noted between the sexes (Kann & Hanna, 2000).

#### **2.4.2 Parental attributions of child disruptive behaviour and their effects on parenting**

According to Miller (1995), "attribution theory" is a number of overlapping theories, and the term "attribution" is used to mean different things by different researchers. In general, attribution has to do with the ways in which we explain and evaluate behaviour and are just one of a variety of parental cognitions that have been studied.

Weiner's (1979) particular contribution to attributional theory has been to state explicitly the underlying dimensional structure of causal attributions. Weiner's model proposes that an attribution's effect on behaviour is determined by its position along various dimensions: locus (location of the cause), stability (constancy of the cause over time), and controllability (personal ability to change the cause).. According to this model, behaviours are perceived as lying on a continuum between the two poles of each dimension: internal-external, stable-unstable, uncontrollable-controllable. Weiner (1986) has argued that it is this underlying structure, rather than specific attributions, that determines both emotions and behavioural consequences (Meyer & Mulherin, 1980).

Regarding the dimension of controllability, Weiner (1980) argued that if a negative outcome is regarded as being under the deliberate control of the author of the act, resulting behaviours are likely to be negative and lead to rejection. However, if we judge that the individual was not acting deliberately, and in fact lacked any control over the eventual outcome, we will demonstrate positive reactions, such as support. Empirical evidence for this theory has been found in the adult literature, where it has been demonstrated that

behaviours interpreted as illness were attributed to internal, uncontrollable causes and elicited sympathetic, helpful responses. In contrast, behaviours attributed to internal, controllable causes (e.g. not making an effort) elicited negative reactions and little help.

In the area of developmental psychopathology, a whole line of research has been developed regarding the investigation of parental attributions regarding disruptive child behaviour and subsequent parental responses. Dix and his colleagues (Dix & Grusec, 1985; Dix et al., 1989), have proposed and tested a model in which attributions mediate the association between child behaviour and the parent's response. In this way attributions of intentionality and responsibility predict stronger response to misbehaviour.

Research with non-problem children has revealed that, in general, parents perceive positive child behaviours as more dispositional and attribute negative behaviours to external, situational factors (Dix et al., 1986; Freeman et al., 1997). In contrast, in families of difficult children, parents often attribute child misbehaviour to negative personality dispositions and hold the children responsible for misbehaviour (Baden & Howe, 1992).

Research with families of conduct-disordered children has demonstrated that mothers are more likely to perceive their children's misbehaviour as intentional, to see the causes of their children's misbehaviour as due to stable, global factors that are outside the mother's control, and to expect that attempts to influence their children's misbehaviour will be ineffective (Baden & Howe, 1992).

In a study designed to investigate parents' attributions for achieving compliance from children with AD/HD, it was found that although these parents used the same causal categories to explain their children's behaviour as did parents of control children, they differed in their ratings on the causes of compliance in relation to the stability and

controllability dimensions. Parents of children with AD/HD presented a picture reflective of their encounters with their children- that is, compliance was less frequently expected, more unpredictable and thus somewhat more unstable and uncontrollable (Sobol et al., 1989).

In a study on adult causal attributions for hyperactive and aggressive child behaviours, it was found that trainee teachers consistently rated aggressive behaviours as more controllable by the child than hyperactive behaviours. In addition, aggressive behaviours were rated as more upsetting, more problematic, and as eliciting more negative evaluative reactions than hyperactive behaviours (Johnston et al., 1992). Other studies have also demonstrated that parents usually perceive children as having greater control over oppositional-defiant behaviours in comparison to inattentive-overactive behaviours (Johnston & Patenaude, 1994). Moreover, it has been found that hyperactive behaviours elicited the strongest reaction when displayed by younger children (Johnston et al., 1992). The authors suggest that this finding may reflect that adults feel pressure to correct hyperactive behaviours in younger children as they feel that the child is in the process of learning to control this behaviour.

Johnston & Freeman (1997) designed a study in order to test the attributions and reactions of parents of children with AD/HD and children without behaviour disorders across three types of child behaviours: inattentive-overactive symptoms of AD/HD, oppositional-defiant behaviours and pro-social behaviours. Compared to parents of children without behaviour disorders, parents of children with AD/HD generally saw behaviours characteristic of AD/HD as being more internally caused, more uncontrollable by the child, and more stable over time. They also saw themselves as less responsible for these child behaviours. Furthermore they rated oppositional-defiant behaviours of children with AD/HD as more internally caused and less controllable by the child than did

parents of children without behaviour disorders. In this regard, the parents of children with AD/HD appear to conceptualise oppositional-defiant behaviours in their children as being similar to the symptoms of AD/HD.

The differences reported so far between parental attributions of oppositional behaviours in children without behaviour problems, oppositional behaviours in children with behaviour problems and hyperactive behaviours in children with AD/HD have several implications for the differential parenting strategies adopted by parents to manage difficult child behaviours. Research about relations between maternal beliefs and actual maternal behaviours has shown that maternal beliefs had predictive value for maternal control interactions with their children (Kochanska, 1990). It has also been found that mothers' and sons' negative attributions about one another's intent were associated with the aggressiveness of the behaviour that each of them directed toward the other (MacKinnon-Lewis et al., 2001).

In families of "difficult children" these differential interaction patterns between parents and their children exert substantial influence on the course of the development of children's problems. In such families, it is possible that pre-existing parental beliefs interact with emerging behaviour patterns in a complex fashion to shape both cognition and parental behaviour in a slowly developing set of coercive interactions that evolve and rigidify over time (Baden & Howe, 1992). According Baden & Howe (1992), parental perceptions and attributions about disruptive child behaviour may turn to "coercive" patterns of interactions. Parents' perceptions of the causes and intentionality of their children's behaviour will be related to their propensity to initiate and engage in aversive conflict with their child. In particular, parents who frequently initiate negative interactions with their children are likely to believe that their children's negative actions are due to internal characteristics of the child, are

volitional or intentional, and are not affected by external factors. Additionally, Doherty (1981) postulated that parental attributions regarding the stability, globality and controllability of child misbehaviours and parents' own expectancies regarding their ability to manage their children may be of particular importance in determining the parent's motivation to initiate and persist in carrying out disciplinary activities.

The important thing is that parental perceptions and attributions regarding child disruptive behaviour influence the adoption of discipline methods and parenting strategies. Several studies, which will be presented next, suggest that punitive and harsh discipline methods along with authoritarian parenting strategies facilitate the development and persistence of disruptive behaviours, especially in children already at risk. On the contrary, parenting strategies that include child support, teaching of coping-skills and emotional regulation, and provide the child with a structured environment may attenuate the intensity of the problems and constitute protective factors that may lead to better outcomes.

#### **2.4.3 The effect of differential parenting strategies on the course of child disruptive behaviour**

Developmental researchers have postulated that high levels of parental warmth, involvement, and communication foster development of child negotiation and conflict-resolution skills, affording children skills to manage interpersonal relations and reduce their reliance on noncompliant or oppositional behaviour (Kochanska, 1993; Pettit et al., 1988).

In contrast, parent-child relationships characterised by low levels of warmth and supportiveness have been linked with

child insecurity and emotion regulation difficulties, including frequent child temper tantrums, whining, stubbornness and non-compliance, behaviours that are part of the oppositional-defiant behaviour spectrum (Keenan & Shaw, 1994; Pettit et al., 1997).

An extensive body of research has also linked punitive and inconsistent parenting practices with the emergence and / or maintenance of child oppositional behaviours (Danforth et al., 1991; Hart et al., 1990). Stormshak et al. (2000) demonstrated that hyperactivity and oppositional behaviour are related to elevated levels of punitive discipline. Although child hyperactive behaviour alone may not necessarily be associated with inconsistent and physically aggressive discipline (Campbell et al., 1991), investigators have suggested that frequent co-occurrence of hyperactive and oppositional behaviours may reflect transactional processes in which punitive, inconsistent, and physically aggressive parental strategies to control child disruptive behaviour lead to the aggravation of such behaviour (Campbell, 1990; Loeber et al., 1990).

Some investigators (Jacobvitz & Sroufe, 1987; Silverman & Ragusa, 1992) conducting prospective longitudinal studies, even propose that, for some children, specific early caregiving practices may play an important role in the initial development of hyperactive behaviours.

Jacobvitz & Sroufe (1987), in their study with families from lower socio-economic background, demonstrated that maternal intrusive care and over-stimulation at infancy significantly predicted hyperactivity in kindergarten at age 5. In contrast, only one (motor maturity factor) of the 38 early child variables, was predictive of hyperactivity. The authors argued that intrusive care prevents the child from learning to regulate his or her own arousal to meet situational demands. Consequently, when tension mounts the child may have difficulty modulating arousal, manifesting

restlessness, impulsivity and distractibility. These authors conclude that, for some children, experiential factors alone or in combination with organic factors may play a predominant role in the development of AD/HD. Of course this does not preclude a strictly organic causation of AD/HD in still other children.

In another study by Carlson et al. (1995), designed to investigate the development of inattentiveness and hyperactivity in middle childhood, it was demonstrated that in early childhood, quality of caregiving more powerfully predicted distractibility, an early precursor of hyperactivity, than did early biological or temperamental factors. Caregiving and contextual factors together with early distractibility significantly predicted hyperactivity in middle childhood.

Moreover, differential parenting strategies have been found to influence the development of self-regulation in children (Kopp, 1982; Silverman & Ragusa, 1990). Self-regulation is a complex, super-ordinate construct, under which are subsumed behaviours that include "compliance, control of impulses and affect, modulation of motor and verbal activities and the ability to act in accordance with social norms in the absence of external monitors" (Kopp, 1991, p. 38). Deficits in self-regulation have been identified as a core symptom in the cases of AD/HD (Barkley, 1989b).

Studies of normal development have demonstrated that emotion regulation strategies develop, at least in part, within the parent-child relationship (Fuchs & Thelen, 1988; Zeman & Shipman, 1996). Emotionally dysregulated children seem to have an inability to approach situations in an appropriately controlled manner. They need their parents to add structure and regulation to their social experiences. This also gives them the opportunity to practice their own regulation. Thus, parents must assist these children in developing their self-directed, competent involvement in tasks

and social interactions, as they cannot manage such behaviour independently. (Rubin et al., 1995)

It has been shown that both the mother's interactive behaviour and the mother's child-rearing attitudes proved to be predictive of the children's self-regulation at 4 years. Maternal negativity as well as maternal child-rearing attitudes reflecting warmth and aggravation predicted self-regulation at four years. This was the case even when the child's behaviour as a possible elicitor of the response was controlled (Silverman & Ragusa, 1992).

#### **2.4.4 The effect of sex-of-child on parental perceptions and parenting strategies**

In the literature reviewed so far regarding perceptions, attributions and parenting strategies, it was clearly demonstrated that parents' perceptions and attributions about their children's disruptive behaviour influence their choice of response toward this behaviour, which, in turn, mediates the course of the child's problem (aggravation or attenuation) over time. Thus, extensive knowledge of the quality and extent of such attributions and perceptions appears to be particularly important both for the researcher aiming to understand the development and evolution of hyperactive and disruptive behaviour in children and for the clinical psychologist aiming to implement effective interventions, centred not only on the child but in his/her family as well.

Developmental research reviewed in previous sections has shown that parents of boys and girls usually hold different expectations from their sons and daughters, which are translated into the adoption of differential socialisation practices and interactional styles within the caregiving relationship. Normative studies have also shown that parents' perceptions of their children's abilities and vulnerabilities



differ as a function of the child's sex even when children's real abilities and vulnerabilities do not support such differentiation. Two illustrative examples concern the domain of competence in maths and vulnerability for injury.

Eccles (1984) has documented that, in general, girls rate their maths abilities lower than boys. Similarly, parents of girls express less confidence in their child's math competence than parents of boys. What is interesting is that these differences exist despite the performance of girls and boys on tests of math competence being typically quite similar (Hyde et al., 1990). Jacobs and Eccles (1992) suggest that mothers' gender stereotypic beliefs interact with the sex of their child to influence their perceptions of the child's abilities. These beliefs may lead them to overestimate their child's ability in a domain if the child's sex is favoured by the stereotype or to underestimate it if the child's sex is not so favoured. For example, mothers might overestimate their son's abilities in maths and their daughter's social skills. Children of the sex not favoured may receive less favourable messages about their abilities than the other sex and less opportunity to develop these skills.

According to these authors, mothers' perceptions, in turn, mediate the influence of past performance on children's self-perceptions in each domain. Such stereotyped expectations may become self-fulfilling prophecies over time (Rosenthal, 1974). It has been found that mothers' perceptions of their children's abilities have a greater influence on children's perceptions of their own abilities than the effect of their teachers' ratings of their abilities in each domain (Jacobs & Eccles, 1992).

Other research reveals sex differences in school-age boys' and girls' beliefs about vulnerability for injury and attributions for injuries and these differential beliefs have been shown to predict differential risk taking by boys and girls (Hillier & Morrongiello, 1998). These differential

beliefs have been formed by parents' differential responding to injury-risk behaviours by sons and daughters, generally encouraging and tolerating these behaviours by sons and tutoring daughters to recognise their vulnerability for injury and proceed cautiously or not at all in risk-taking activities (Morrongiello & Dawber, 2000).

It is evident so far that there is substantial research regarding:

- a. Gendered parental perceptions about domains of normal development, and
- b. Parental perceptions and attributions about child disruptive behaviour (regardless of the child's sex).

However, only rudimentary research exists regarding *gendered parental perceptions of child disruptive behaviour*. This is the framework in which this study aims to make its own contribution.

## **2.5 Summary and hypotheses**

### **2.5.1 Summary of the literature**

The literature reviewed so far has followed the rationale to proceed from the broader to the more specific areas of research regarding our own questions of interest. The issues covered integrate findings from the branches of developmental psychopathology, developmental psychology and social psychology.

By doing so, we have aimed to capture a global picture of the subject in question, as we believe that such integrative approaches can give more insight to any clinical scientific question. Isolated approaches that fail to take into account

different perspectives may give answers to specific research questions but may not have clinical value. Our interest is in psychology as an applied science; answers to questions raised are oriented toward their clinical applicability.

The issues covered are presented below:

1. Sex differences in child psychopathology and, specifically, AD/HD

Sex differences in the prevalence rates of psychiatric disorders have been consistently reported both in adult and child psychopathology. In general, males have been found to present at a greater extent disorders of the externalising spectrum (antisocial behaviour, alcoholism for men; oppositional, aggressive and hyperactive behaviour for boys), whereas females more often display disorders of the internalising spectrum (anxiety and depression, which are age-specific for children).

From a developmental perspective, it has been demonstrated that, during the first two years of life, very few sex differences are observed in the expression of behavioural problems, whereas the divergent pattern that we mentioned above seems to settle around 4-5 years of age.

Regarding AD/HD, the prevalence of the disorder in children is characterised by significant sex differences, with ratios ranging from 3:1 to 9:1 in favour of males.

Some studies have also reported sex differences in the manifestation of AD/HD. The most consistent finding across studies is that boys with AD/HD present more frequently comorbid oppositional and disruptive behaviour than girls with AD/HD. Based on this findings, several authors propose that a referral bias exists for boys that could explain the sex difference in the prevalence of the disorder. Others even

propose different cut-off norms for the diagnosis of the disorder for boys and girls.

Additional sex differences reported include more severe impairment, poorer academic achievement and poorer self-esteem for girls. However, other studies have not replicated these findings nor documented such differences. It has been proposed that these differences may be restricted to clinic-referred population.

Both biological and socio-cultural models have been proposed to explain sex differences in child psychopathology. Increased male vulnerability to several biological risk factors constitutes the framework of the main biological explanations. In the case of AD/HD, biological models like the constitutional variability and the polygenic multiple threshold models have found either partial support or no support at all. Most studies suggest no differences in the biological substrate of AD/HD for boys and girls.

Socio-cultural models usually focus on differential socialisation practices used for boys and girls, including different play and teaching environments, differences in discipline and educative methods and variations in adults' expectations from boys and girls. The most promising models appear to be those that manage to combine biological and socio-cultural mechanisms, to capture the transactional nature of child behaviour and to describe deviant behaviour in terms of protective and risk factors. However, sex differences in AD/HD remains an unresolved issue as these differences are not sufficiently explained yet.

## 2. Sex-role attitudes, adult attributions and differential socialisation and parenting practices.

Socio-cultural expectations for boys and girls have been found to differ considerably. In general, passivity, fearfulness and dependency are considered normative for girls,

whereas power, confidence and competence are mostly encouraged in boys.

The development of sex-role behaviour in children begins in infancy and continues throughout the life cycle. Children are taught, directly and indirectly, the behaviours that are appropriate for their own sex by parents, teachers, and peers. This teaching may take the form of activities' offered, direct statements, encouragement or punishment, model imitation, differential affective responses, etc.

Different interactional styles have been found to exist between parents and their sons or daughters. For girls, shyness is associated with positive parental reactions. Explanations and inductions are used more often with girls, who are taught social skills more thoroughly. In general, girls seem to live in more structured, nurturant environments and to receive closer adult supervision and control.

In contrast, boys receive more harsh discipline practices, are more encouraged to engage in physical activity and risk-taking and to show independence and self-reliance. Anger expression is more tolerated when expressed by boys. Moreover, mothers of difficult boys tend to pull back from their interactions with their children more often than do mothers of difficult girls.

To conclude, it seems that several socialisation practices adopted with girls lead them toward being more compliant, acquiring more social skills, suppressing aggression and being more interpersonally oriented.

Societal norms about appropriate child behaviour, along with the parents' personal history, temperament and experiences influence the way that parents perceive and interpret children's behaviour. Gendered parental attributions and perceptions have been found in several developmental domains, like achievement in certain academic domains and social behaviours. For example, parents have been found to rate their sons as more competent in maths than their

daughters, and their daughters more vulnerable to injury than their sons, even though real academic performance or vulnerability to injury don't support such differentiation.

Parental attributions and perceptions about child behaviour disorders have also been studied. It has been found that parents of "difficult" children perceive disruptive behaviour as more controllable by the child, compared to parents of "normal" children and tend to attribute such behaviour to internal dispositional factors. These attributions influence parental responses to the child, which, in turn, influence the course of the child's problems. For example, attributions of intentionality regarding the disruptive behaviour often elicit negative and punitive responses from parents. These responses may initiate "coercive" patterns of interaction between the parent and the child that settle and rigidify over time, resulting to the maintenance or even aggravation of the disruptive behaviour. However, no literature is available regarding adults' gendered attributions about disruptive behaviour.

#### **2.5.2 Aims and hypotheses of the present study: proposal of a potential theoretical model**

The literature reviewed so far has given birth to a number of questions:

1. Since there is no significant evidence of different biological substrate in the case of boys and girls with AD/HD, how can we explain sex differences in prevalence ratios and in the clinical correlates of the disorder?
2. Could these differences be moderated by experiential factors?
3. What is the potential impact of parental perceptions about the appropriateness of male and female behaviour?

4. Do parental attributions of child disruptive behaviour differ as a function of the child's sex?
5. Since attributions are linked to parental emotional and behavioural responses, if such sex differences exist, shouldn't they be reflected in differential parenting practices according to the child's sex?
6. Since the choice of parenting strategies influences children in various domains of their development, could differential parenting strategies, guided by differential perceptions of child disruptive behaviour in boys and girls, influence differentially the development and course of child disruptive behaviour in boys and girls over time?

In order to better conceptualise this last question, we propose the following theoretical model, part of which is empirically tested in the present study (Figure I).

## FACTORS RELATING TO PERCEPTIONS

## PERCEPTION PROCESS

## EFFECTS ON BEHAVIOUR

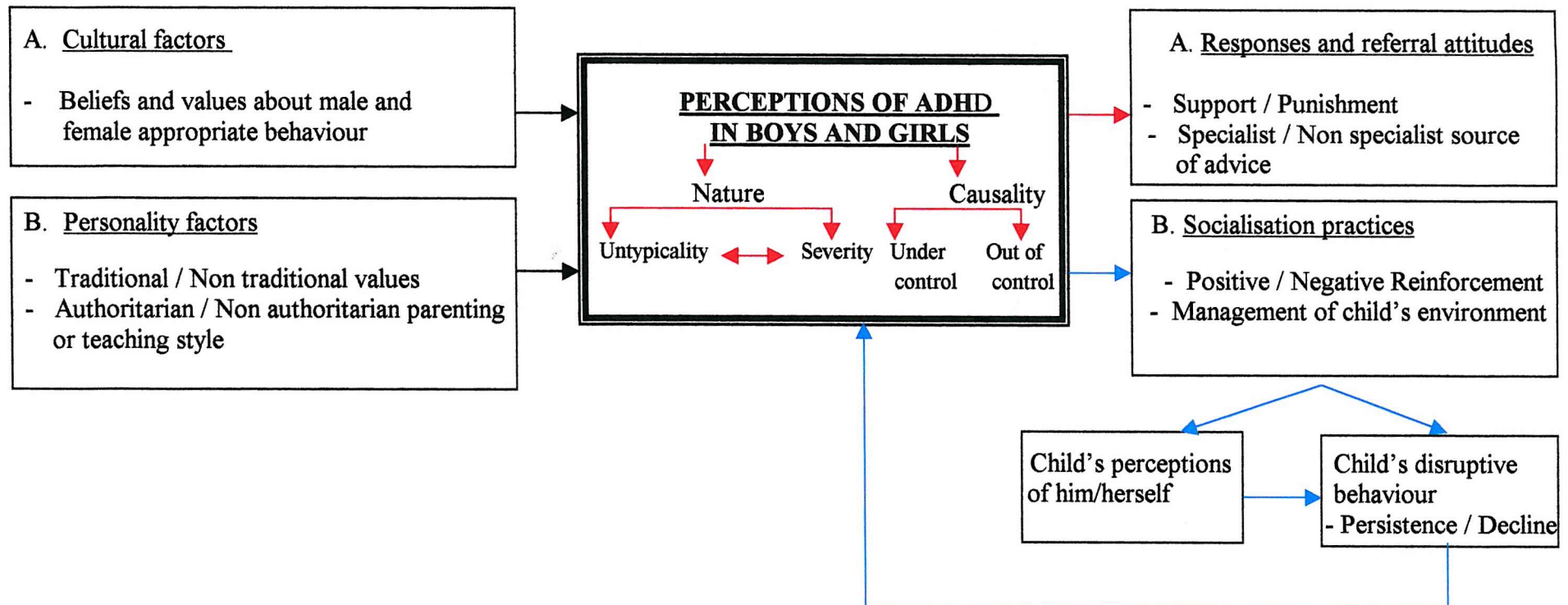


Figure 2.1. A potential model of adults' perceptions of ADHD in boys and girls and their effects on referral attitudes, socialisation practices and differentiation of children's symptom expression

Note: —> Literature  
—> Present research  
—> Future research



The first step of the model consists of the factors that are known to relate to adult perceptions of disruptive behaviour in children. According to the literature, adult perceptions about a child's disruptive behaviour are influenced by two main factors. The first one stems from the cultural beliefs, values and ideologies about appropriate behaviour and the second one stems from personality factors, like the adoption of traditional or non traditional values and authoritarian or non authoritarian parenting or teaching style (Dix, 1993). For example, Dix et al. (1989) have argued that authoritarian child-rearing values may affect the way that information about children is processed and interpreted. Authoritarian ideology usually promotes a preference for power-assertive discipline by affecting attributions about children's competence and responsibility for misconduct.

Subsequently, the main construct of the model is adult perceptions of AD/HD symptoms when present in boys and girls. Although there is a growing body of evidence regarding adult perceptions of male and female behaviour in general and adult perceptions regarding disruptive behaviour in children regardless of sex, there is lack of empirical evidence regarding adult perceptions of disruptive male and female behaviour separately. This area constitutes the departing point of our own study.

We suggest that the same factors that relate to adult perceptions of disruptive behaviour in children, regardless of their sex, do relate to the emergence of sex differences in these perceptions as well. The present study aims to address the possibility that DBDs and, especially, AD/HD, are perceived by main socialising agents in different ways when present in boys and girls regarding their nature and causality. We suggest that perceptions of the nature of DBDs include two dimensions: untypicality and severity. By "untypicality" we refer to the degree that disruptive behaviour is considered as inappropriate for the child's age

and sex, in relation to his / her peers. By "severity" we refer to the degree that disruptive behaviour is perceived as a problematic condition. The category of "causality" refers to the specific factors that may be perceived as responsible for the emergence of the disruptive behaviour, which can be either under or out of the child's control.

We assume that perceptions along the two dimensions of untypicality and severity are distinct but inter-related and interdependent. We suggest that these perceptions are different for boys and girls. This is the main hypothesis of this study and the part of the model that we intend to test here. It should be noted that the possible effect of the specific role of the socialising agent (e.g. parent versus educator) and of the agent's sex (e.g. mother versus father) are to be examined as well.

Sex-differentiated perceptions can have both direct and indirect influences on AD/HD symptoms. A **direct** perceptual bias may exist in that AD/HD behaviour may be perceived as more untypical and/or severe in girls rather than boys. Moreover, sex-differentiated perceptions may have an **indirect** impact on child behaviour via adult responses. This is the second step of the model, which is to be examined in future research. Patterson (1997) has argued strongly that the influence of parent cognitions on child and family outcomes are mediated via the effects that these cognitions have on parenting behaviours. From our point of view, these effects are apparent in two domains. First, sex differences in perceptions might affect adult responses to the child's behaviour and their referral attitudes as well. This is a second point mentioned in the model that we intend to explore in the present study. We assume that adult responses, along the dimension of support-punishment, and, referral attitudes, along the dimension of specialist or non-specialist source of advice, might differ as a function of the child's sex and will be related to the perceptions that we discussed above.

These differences are likely to have an impact on the socialisation processes for boys and girls that might ultimately influence the persistence or decline of AD/HD symptomatology. The literature reviewed so far has provided us with plenty of examples of differential parenting for boys and girls that may promote the decline of the girls' disruptive symptoms over time.

All AD/HD specialists agree that being punitive towards a toddler with AD/HD leads to the escalation of conflict and to the aggravation of symptoms. Consequently, since parents are found to be less punitive towards girls, this attitude could be a protective factor against the development of oppositional behaviour. Furthermore, it seems that girls benefit more from positive interactions with their mothers than boys, which can lead to a better outcome of AD/HD symptoms in girls.

Greater control and supervision could be another protective factor for girls with AD/HD, who may learn early how to inhibit inappropriate responses. On the other hand, since girls experience greater pressure than boys to conform with adult standards and values, they may be likely to try harder in order to control their AD/HD symptoms and, thus, to express fewer of them.

Compliance and shyness seem to be encouraged when manifested by girls. Since every child seeks parental attention, girls with AD/HD may receive the message that these behaviours are means of obtaining it, which could lead to the inhibition of externalising symptoms.

Another protective factor for girls with AD/HD could be same-sex peer play. Keenan and Shaw (1997) have shown that for girls high in arousability, playing with other girls appears to inhibit the occurrence of problem behaviours. Consequently, girls' peer groups might be effective at moderating the likelihood that arousable girls display problem behaviours.

These thoughts are summarised in the following table.

**Table 2.1**

**The indirect route: Possible interactions between sex - differentiated socialisation practices and the expression of AD/HD symptoms in girls**

Sex-differentiated socialisation practices	Impact on the expression of AD/HD symptoms in girls
⇒ Parents encourage girls in dependent behaviour and boys to be independent and engage in active physical behaviour.	The model of a "good girl" presented to girls exclude behaviours resembling AD/HD symptoms.
⇒ Girls receive more positive attention than boys when they are compliant.	Girls with AD/HD might develop more compliant behaviour as they get the message that this behaviour attracts attention.
⇒ Girls receive closer adult supervision and control than boys.	Girls with AD/HD are likely to express greater pressure to conform to adult expectations. Thus, girls with AD/HD may learn early to inhibit inappropriate responses and exhibit more self-regulation.
⇒ Mothers of difficult girls tend to put more effort into their interactions whereas mothers of difficult boys tend to pull back.	Girls with AD/HD benefit more from positive interactions.
⇒ Parents are less punitive towards girls than boys	Being punitive towards a toddler with AD/HD might lead to the aggravation of symptoms. Thus, this practice might be a protective factor against the development of oppositional behaviour for girls with AD/HD.

Another variable of the socialisation process proposed by the model is the "differential management of children's environments". This term refers to the choice of play, activities, sports, interest groups, -that serve to socialise particular types of prescriptive cognitions (Bugental & Johnston, 2000).

Of course the empirical investigation of the effect of perceptions on socialisation practices and the final outcome of the child's behaviour is beyond the scope of the present study. However, we presented it in order to further elucidate the conceptual framework within which this study has taken place. Our hope is to provide: a) a theoretical model that can partially explain sex differences in the prevalence of AD/HD and, b) empirical evidence for a part of the model that can serve as a basis for longitudinal prospective designs that can test the rest of it.

To summarise, our predictions for this study are the following:

1. DBDs will be perceived as more untypical in the case of girls.
2. DBDs will be perceived as more severe in the case of girls.
3. DBDs will be perceived more often as out of the child's control in the case of girls.
4. Perceptions of untypicality for DBDs will be positively correlated with perceptions of severity.
5. Perceptions of untypicality and / or severity will be positively correlated with causal attributions out of the child's control, either environmental or biological.
6. Perceptions of untypicality and / or severity will predict professional advice seeking and more supportive parental responses.
7. Perceptions of causal attributions out of the child's control will predict professional advice seeking.

## **CHAPTER 3 - METHOD**

### **3.1 Methods used for the study of attributions**

Early research on attributions was based on variations of self-report measures (Joiner & Wagner 1976). Parents' attributions for child behaviour have typically been assessed using analogue methods, in which parents are presented with descriptions of child behaviour and then asked to rate the causes of the child's behaviour on dimensions such as locus, control, and stability (Freeman et al., 1997).

Methods of eliciting attributions fall into two general categories: open-ended and closed-choice. In the first case, target behaviour is presented and the parent offers his/her explanation for it. These explanations are later coded for the attributional categories of interest. In the second case, several potential causal factors are proposed and each one is rated for importance. In a few studies, parents are not allowed to rate several contributors as important but are required to choose the single most important causal factor. Closed-choice techniques have been by far the method of choice in research on parents' attributions (Miller, 1995).

For reasons of increased control, as well as convenience, the hypothetical stimuli have typically been presented in written format. Some investigators present descriptions of behaviour in hypothetical or unknown children (Dix et al., 1989; Strassberg, 1995), whereas others ask parents to imagine their own child showing the stimulus behaviour (Johnston & Freeman, 1997).

Analogue methodology, using written descriptions of child behaviour followed by rating scales assessing dimensions of causality and parent reactions, has been proven sensitive to attributional differences (e.g. Dix et al., 1989; Johnston et al., 1992; Weiner, 1980). Stimuli are created to convey specific behavioural or situational information, so there has

been a reliance on hypothetical and more easily controlled stimuli rather than on the presentation of more realistic but relatively uncontrolled target events. Written analogues offer considerable control over the child behaviours used as stimuli in that the same child behaviours are presented to all parents.

Despite these advantages, written analogues are often criticised for their lack of realism and unproven external validity. An issue for consideration revolves around whether attributions for hypothetical, albeit familiar, situations are the same as those experienced in vivo (Sobol et al., 1989). Attributional measures are more typically given under circumstances during which participants may reflect on and control their responses. Although extended reflection may also occur in daily life, most attributional activity in daily life happens concurrently with other ongoing events (Bugental et al., 1998).

Another issue concerns the susceptibility of various stimulus-dependent measures to the influence of social desirability. It is possible that these measures are susceptible to participants' attempts at impression management. To the extent that participants can easily determine the socially appropriate response, measures of stimulus-dependent attributions are likely to reflect attempts to provide this kind of responses. This fact may reflect problems with the reactivity of measures (Bugental et al., 1998).

In an attempt to expand the study of parent attributions beyond a reliance on written analogue measures, Gretaarsson and Gelfand (1988) and Freeman et al. (1997) used a recalled-incident interview technique to elicit parental recollection of specific, recent behaviours exhibited by their own children. These recalled behaviours served as stimuli for attribution and reaction ratings. Other researchers have used video-mediated recall of attributions (e.g. Johnston &

Freeman, 1997). This method enhances the realism of the stimuli, but it has an associated cost of loss of experimental control in that each parent responds to different child behaviour stimuli.

Johnston and Freeman's (1997) study used all three types of stimuli (written vignettes of hypothetical child behaviours, recalled behaviours, and videotaped behaviours) in assessing attributions for different types of child behaviour. Results indicated that the three forms of assessment produced similar patterns of behaviour and parent differences. In addition, responses to the three methods of stimulus presentation were significantly correlated with each other.

Miller (1995; p. 1560) suggests that *"any attempt to elicit attributions for naturally occurring, ongoing behaviour would be extremely difficult and would be subject to its own set of methodological criticisms ... The general congruence of findings across studies suggests that variations in the ways that targets are presented do not have much effect on parents' attributions"*. Johnston & Freeman (1997; p. 637) also conclude that *"despite their different strengths and weaknesses, the methods produce similar results"*

After careful examinations of all methods proposed in the literature for the study of attributions, analogue methodology with written vignettes presenting different types of a hypothetical child's behaviour has been chosen as the basic method for the current study. This choice has been based on a number of thoughts:

- a. The aim of this study is not to assess parents' attributions about their own children's disruptive behaviour but to assess parents' attributions about this kind of behaviour in general. Thus, the use of stimuli based on own children's disruptive behaviour would not serve the purpose of the study.
- b. In order to assess differences in these attributions related to the child's sex, enhanced control over the



stimulus is absolutely needed, in order to be sure that parental attributions about the same behaviour in boys and girls are assessed.

- c. The participation of prospective educators of pre-schoolers in this study also prevented us from the use of own child's recalled or videotaped incidents of disruptive behaviour.
- d. The sample of this study is very large and the use of the techniques mentioned before would be very time-consuming.
- e. Given that the present study aims at the investigation of attributions about different subtypes of DBDs, written scenarios can offer a degree of distinction between these behaviour types that would be difficult to achieve with more ecologically valid, live presentations of child behaviour. (Johnston & Patenaude, 1994).
- f. Finally, the choice of analogue methodology using written vignettes can be justified by the fact that all three methods proposed in the literature have not been proven to differentiate results regarding parent attributions.

### **3.2 General approach to statistical analysis**

The measures that are used in the current study are composed mainly by variables that take the form of numerical scores (scale and ordinal). Thus, parametric tests are going to be used.

Factor analysis will be first conducted in each study in order to reduce the amount of data and allow for meaningful comparisons. The principal component method with varimax rotation will be used. Factor analysis will be performed on the variables of each part of the questionnaire.

T-tests will be used in order to examine the statistical significance of differences in the mean ratings of several variables regarding the stimulus-behaviour in boys and girls.

T-tests will be performed on the factor scores revealed by the factor analyses.

Two way ANOVAs, also based on the factor scores, will be conducted as well in order to investigate the effect of the independent variables in each study (e.g child's sex, DBD subtype, parent's sex) and the effect of their interactions on the dependent variables (e.g the factors revealed in each factor analysis).

Correlation coefficients (pearson's  $r$ ) will be calculated in order to examine the inter-relationships among attributions about different aspects of the stimulus-behaviour. These analyses will be conducted separately for boys and girls in order to investigate possible sex differences in interactions. Specifically, correlation analyses will be performed among ratings of the nature of the behaviour presented in the vignette, causal attributions, recommended parental reactions and sources of advice seeking.

Regression analyses will finally be conducted based on the associations that will be revealed in univariate analyses. Specifically, the possibility that several perceptions about the nature of the stimulus-behaviour and certain causal attributions predict professional advice seeking and specific parental reactions will be examined.

## **CHAPTER 4 - STUDY ONE: PILOT STUDY**

### **4.1 Rationale**

Study one constitutes a pilot study, which was designed in order to test the properties of the instruments to be used in the main study of the thesis. Furthermore, it aimed to explore the relationships between the central constructs of the proposed model and the direction of potential sex differences regarding these constructs.

As we postulated earlier, a set of factors thought to play a role in the reporting of higher levels of disruptive behaviour symptoms in boys than girls are related to sex-differentiated perceptions of and expectations in relation to conduct. Socio-cultural expectations for temperamental expressions differ for boys and girls (Buss, 1989). In most societies, quiet play, fearfulness, and dependency are considered normative for girls, whereas over-activity, aggression and defiance are not (Simpson & Stevenson-Hinde, 1985).

These differences in parents' and teachers' perceptions of the two sexes might also influence their perceptions of disruptive behaviour symptoms in boys and girls in a number of ways. First, socialising agents may perceive disruptive behaviour as more normative for boys and less typical for girls. Untypical behaviour may be perceived as a problematic condition, needing correction. Consequently, such differential perceptions might lead to greater efforts to intervene and control such behaviour when manifested by girls and to greater tolerance when displayed by boys.

Second, female and male disruptive behaviour might be attributed to different causes, more or less under the child's control. The more severe and untypical is considered the behaviour, the less responsibility may be attributed to the child. This will lead to more supportive responses towards

him/her. Professional advice might be more likely to be sought under these circumstances.

The aim of this study was to use standard vignettes describing disruptive behaviour symptoms to explore whether adults' perceptions and attributions regarding childhood behaviour disorders differ as a function of the child's sex. A number of specific questions were addressed:

1. Are there sex differences in how typical, problematic, and concerning disruptive behaviour symptoms are considered?
2. Do judgements of severity and untypicality predict concern and advice seeking in the same way for boys and girls?
3. Are there differences between the attributions of the causes of disruptive behaviour problems displayed by boys and girls?
4. How are these associated with concern and advice seeking?

## **4.2 Method**

### **4.2.1. Participants**

The sample consisted of 160 Greek students (158 females and 2 males) of the Department of Early Childhood Education at the Technological Educational Institution (T.E.I.) of Athens. The mean age of the sample was 20 years.

The participants in the study were trainee nursery teachers who, upon graduating, would be expected to enter a career as educators at nursery schools and kindergartens.

The choice of trainee pre-school educators as main participants in this thesis was based on a number of reasons. First, educators are important socialising agents, who often transmit gendered messages regarding appropriate male and female behaviour, especially during the pre-school period. Their own perceptions usually influence the socialisation

practices they adopt with children. It has been shown that educators' misbehaviour-related attributions are significantly associated with their preferred practices (Bibou-Nakou et al., 1999). Second, educators play a key role in the referral of children's problems. Their expressions of concern about behaviour are therefore likely to be reflected in referral practice. Third, the developmental phase during which children internalise their main gender-related roles and adopt gender-related behaviours is pre-school period (Weinraub et al., 1984). It is therefore important, for the scope of the present study, to investigate which gendered messages may be transmitted to children during this period by their educators, who are guided, in a certain degree, by their gendered perceptions of children's normal and abnormal behaviour. Finally, we chose pre-school educators who were not exercising their profession yet in order to avoid the reporting of perceptions that might be influenced by actual differences between the sexes that could emerge through their daily interaction with children.

#### **4.2.2 Measures**

An analogue methodology using written descriptions of child behaviour followed by rating scales assessing dimensions of severity, untypicality, causality and advice seeking was employed.

The questionnaire used in this study was adapted from "The Parental Account of the Causes of Childhood Problems Questionnaire" (PACCP; Sonuga-Barke & Balding, 1993). The PACCP was designed to examine the structure and associations of adult perceptions and attributions of common childhood problems ascribed to a child described in a written vignette.

The questionnaire was translated into Greek by bilingual Greek/English speaker and checked for consistency of meaning by an expert translator. Following this, the questionnaire was

back-translated into English and the equivalence of the items on the original questionnaire and the Greek version were rated by five English psychology postgraduate students. There was a very high level of consistency between versions with the mean rating of equivalence being 4.48 on a 5 point scale where 1 represented "no similar at all" and 5 represented "identical" (cf. Appendix 1).

Two versions of the PPACP were used in the present study (cf. Appendices 2,3). In the first, behaviours described in the vignette were ascribed to a boy (John) and in the second to a girl (Jane). The vignette presented a mixture of symptoms of Attention Deficit/Hyperactivity Disorder, Oppositional Defiant Disorder and Conduct Disorder, displayed by a nine-year old child (APA, 1994). Although the participants were trainee nursery teachers, a child of school age was presented in the vignettes. This choice was guided by the fact that we sought to explore perceptions and attributions about a child presenting a typical clinical picture of the above disorders but the diagnosis of AD/HD and CD is not usually given until the child reaches primary school. Moreover, as vignettes provide limited information about a given situation, it was thought that if the symptoms in question were presented as displayed by a younger child, they could be confounded with extreme normal behaviours of this developmental stage.

The three disorders represented in the vignettes are included in the category of Disruptive Behaviour Disorders in DSM-IV. It should be noted that this comorbid condition is considered as a severe type of psychopathology, associated with increased levels of symptomatology within each of the disorders, increased levels of impairment in functioning and worse outcomes than each of the disorders separately (Angold et al., 1999). The intention was to look at attributions in relation to DBDs in general in this study while focusing on more specific disorders in the latter studies.

The questionnaire that accompanied the vignette contained 39 questions grouped into five sections. These covered:

- (i) a rating (on a ten point scale) of how problematic or severe the behaviour problem was judged to be;
- (ii) five ratings (on a five point scale) of how typical (for sex and age) the behaviour was, the extent to which the behaviours were concerning, and the impact that the behaviour would have on the child's life (friends/family);
- (iii) twenty-five ratings (on a five point scales) of likely causes of the behaviour described in the vignette. These ranged from biological factors (genetic, brain damage etc.) through environmental factors (early loss, parental style etc);
- (iv) eight ratings of the most appropriate source from which to seek advice.

#### **4.2.3 Procedure**

The questionnaires were administered to the total sample the same day. The participants were told that the aim of the study was to investigate adults' attitudes towards children's behaviour. They were informed that the questionnaires were anonymous and that results of the study would not include any identifying characteristics. They were also told that their participation was voluntary and that if they chose not to participate, there would be no consequences to their grade or to their treatment as students of the Department. Finally, they were informed that a debriefing statement in the form of a short lecture should be made after data had been collected and analysed.

A between-subjects design was used: 83 participants filled in the questionnaire about John and 77 filled in the questionnaire about Jane. These two groups were in different

classrooms at the time of the completion of the questionnaires. Consequently, they were not aware of the existence of two identical questionnaires in which only the child's sex was different. In addition, there was no chance for them to exchange information that could bias their answers.

### 4.3 Results

Table 4.1 presents the data from sections (i) and (ii) of the PACCP on severity, untypicality and concern. The behaviour presented was generally regarded as severe, untypical for both sex and age, and a cause for concern. In order to investigate whether the child's sex influenced the above judgements, a series of independent sample t-tests were conducted. No differences were found between the participants' judgements for the boy and the girl for three of the four variables (including severity and concern). Girl's disruptive behaviour was however considered to be significantly less typical for her sex than was the same behaviour displayed by the boy.

TABLE 4.1

Ratings of severity, untypicality and degree of concern for the behaviour described in the vignette for boys and girls

	Whole sample (N=160)		Males (N=83)		Females (N=77)		t
	Mean	SD	Mean	SD	Mean	SD	
Severity	7.70	2.09	7.57	2.40	7.84	1.70	-.84
Untypicality	3.80	.79	3.77	.83	3.83	.75	-.47
(age)							
Untypicality	3.79	1.01	3.22	.95	4.42	.64	-9.43*
(sex)							
Concern	4.02	.92	4.05	.92	3.99	.92	-.41

Note: Alpha corrected for multiple tests; \* = significant ( $p < .01$ ); d.f. for t-tests =158; higher ratings indicate the behaviour is rated as more severe, untypical and concerning.



Table 4.2 displays the ratings for the need to seek advice. In general, there was a view that advice should be sought from professional rather than non-professional sources. Child psychiatrist was the most often nominated as an appropriate source of advice. There was no overall sex difference in the perceived need to seek advice from either professional or non-professional sources. Once alpha levels were corrected for multiple tests, there were no sex differences on individual items.

TABLE 4.2

Ratings of advice seeking from professional  
and non-professional sources

	Whole sample (N=160)		Males (N=83)		Females (N=77)		
	Mean	SD	Mean	SD	Mean	SD	t
<u>Professional</u>							
Family Doctor	3.82	.97	3.84	.97	3.80	.97	.24
Psychiatrist	4.69	.60	4.78	.63	4.60	.57	1.96
Teacher	4.14	.72	4.14	.68	4.14	.76	.01
Books	4.07	.86	4.04	.90	4.10	.82	-.49
Health visitor	3.22	1.06	3.12	1.10	3.34	1.02	-1.29
Mean Profess.	3.99	.50	3.99	.50	4.00	.49	-.15
<u>Non-professional</u>							
Religious leader	2.24	1.13	2.17	1.10	2.32	1.16	-.87
Friends	2.32	.97	2.49	1.00	2.14	.90	2.33
Grandparents	2.15	.90	2.18	.91	2.12	.89	.44
Mean Non-profess.	2.24	.70	2.28	.69	2.19	.69	.78

Note: Alpha adjusted for multiple tests; d.f. for t-tests =158;  
higher ratings = should seek advice.

The correlations between the measures reported in Tables 1 and 2 are presented in Table 4.3. For both boys and girls there was a correlation between severity and concern (i.e. the greater the severity the higher the concern). No other

correlations reached significance once multiple tests had been taken into account.

TABLE 4.3

Inter-correlations between ratings of severity, untypicality, concern and advice seeking for boys and girls.

	Severity		Untypicality		Concern	
	M	F	M	F	M	F
Severity	1.00	1.00				
Untypicality	-.27	-.24	1.00	1.00		
Concern	.54*	.44*	-.19	-.27	1.00	1.00
Prof. advice	.17	.20	-.11	-.14	.15	.13
Non-Prof. advice	.05	.07	-.12	-.01	.02	.00

Note: M = Male, F = Female; alpha corrected for multiple tests. \* =  $p < .01$ .

Ratings of the 25 items relating to the possible causes of the behaviour were entered into a Principal Component Analysis. Six factors were extracted, with eigen values greater than 1.00. These accounted for 54.2 percent of the variance. Orthogonal rotation of the factors yielded the factor structure given in Table 4.4. The first factor related to parental absence because of death or divorce. The second factor seems to refer to a strict or indifferent adult environment. The third factor relates to biological cause, the fourth to difficult life circumstances, the fifth to personal responsibility of the child and the sixth to parental responsibility.

TABLE 4.4

Principal Component Analysis of attributions  
about possible causes

Factor	1	2	3	4	5	6
Percent variance	12.17	9.77	8.73	8.69	7.76	7.04
Item						
Mother's death	.87					
Father's death	.84					
Divorced parents	.74					
Single-parent	.72					
Unloving parents		.74				
Strict parents		.72				
Indifferent		.69				
parents						
Strict school		.57				
Mental			.78			
sub-normality						
Mild brain damage			.71			
Learning problem			.67			
Deafness			.47			
Working mother				.76		
Inner city area				.72		
Premature birth				.61		
Post-natal				.60		
depression						
Child's enjoyment					.68	
Child's nature					.66	
Purposeful					.62	
behaviour						
Spoilt child						.63
Lack of discipline						.74
Heredity						.46

Note Factor loadings with absolute values less than .40 are not reported.

Factor scores were calculated using the weights from the principal components analysis and a series of independent sample t-test were conducted in order to investigate possible sex-differences in attributions. Boys and girls differed on only one (biological factor). Boys' disruptive behaviour was more likely to be attributed to biological causes than was girls' (Table 4.5).

TABLE 4.5

Attributions about possible causes of disruptive  
behaviour ascribed to boys and girls

	Males (N=83)		Females (N=77)		t
	Mean	(SD)	Mean	(SD)	
Parental absence	-.02	.99	.01	1.01	-.10
Strict adult environment	.11	.94	-.12	1.04	1.53
Biological cause	.23	.96	-.25	0.97	3.19*
Difficult life Circumstances	.06	.92	-.06	1.07	0.79
Child's fault	.17	.94	-.18	1.03	2.33
Parental fault	-.08	.88	.09	1.10	-1.12

Note: Alpha level adjusted to take account of multiple tests; \* =  $p < .01$ .  
d.f. for t-tests = 158; higher scores mean factors are judged more likely to be causal.

The correlation between severity, untypicality, concern, advice seeking and causal attributions for boys and girls are reported in Table 4.6. Non-professional advice was more likely to be sought for girls if their problems were judged to be linked to difficult life circumstances and less likely if they were judged to be the child's own fault. There was a trend towards professional advice being sought when disruptive behaviour was perceived to be biological in nature for both boys and girls. There was also a trend towards an association between severity and biological attributions for boys.

TABLE 4.6

Correlations between severity, untypicality,  
concern, advice seeking and causal attributions

	Severity		Untypicality		Concern		Professional advice		Non-Professional advice	
	M	F	M	F	M	F	M	F	M	F
Parental absence	.09	-.12	.00	.23	.06	-.08	.11	-.01	-.13	.08
Strict adult environment	-.19	-.17	.15	.13	-.15	-.15	-.20	-.24	-.06	.05
Biological cause	.32*	.21	-.10	.07	.13	.10	.23	.26	-.00	.13
Difficult life circumstances	.03	.16	-.06	.09	.04	-.07	-.10	.13	.20	.31*
Child's fault	-.19	.01	.12	.01	-.02	-.00	.12	.20	-.05	-.29*
Parental fault	-.04	-.02	-.00	-.00	.11	-.07	.15	.11	.17	.01

Note: M = Male, F = Female; alpha adjusted to take account of multiple tests;

\* =  $p < .01$

In order to establish their independent contribution to predicting concern, severity, untypicality and biological attributions were entered as independent variables into two multiple regressions with concern as the dependent measure (Table 4.7). Only severity accounted for a significant proportion of the variance in concern for both boys and girls when other variables were controlled. There was a trend linking untypicality with concern for girls - although the association fell short of significance.

TABLE 4.7

Stepwise multiple regression of predictors  
of parental concern

Variable	$\beta$		$t$		$p$	
	M	F	M	F	M	F
Severity	.54	.44	5.83	4.27	.00	.001
Untypicality	.05	.18	.54	1.72	.59	.090
Biological cause	.04	-.01	.42	-.13	.68	.890

Note: M=Male, F=Female

A second set of multiple regressions were performed with all of the above variables as independent variables and professional advice seeking as the dependent variable (Table 4.8). In this case only attributions of biological cause were significant predictors of advice seeking from professionals for both boys and girls.

TABLE 4.8

Stepwise multiple regression of predictors  
of professional advice seeking

Variable	$\beta$		$t$		$p$	
	M	F	M	F	M	F
Severity	-.11	-.15	-.96	-1.38	.33	.17
Untypicality	-.09	-.16	-.82	-1.50	.41	.13
Concern	-.12	-.10	-1.12	-.93	.26	.35
Biological cause	.23	.26	2.19	2.41	.03	.02

Note: M=Male, F=Female

The final analysis used multiple regression in a similar way to explore the impact of attributions about difficult life circumstances and the child's own responsibility on non-professional advice seeking in girls. Both factors made an

independent contribution to judgements of need for non-professional advice when other factors were controlled (Table 4.9).

TABLE 4.9

Stepwise multiple regression of predictors  
of Non-Professional advice seeking for girls

Variable	$\beta$	$t$	$p$
Severity	-.03	-.32	.745
Untypicality	-.03	-.35	.720
Concern	-.02	-.23	.816
Difficult life circumstances	.29	2.83	.006
Child's fault	-.28	-2.66	.009

#### 4.4 Discussion

The symptoms of Disruptive Behaviour Disorders ascribed to the child presented in the vignette were clearly regarded as being severe, untypical and a cause for concern. They were also seen as warranting advice from professional sources especially child psychiatrists. In general, as one would expect, severity predicted concern. Against expectation, severity and untypicality were not associated with each other. This suggests that people's views of the severity of disorders and their judgements about the untypicality of the associated behaviours are, to a considerable degree, independent of each other. In short, odd or untypical behaviour is not considered to be the same thing as problematic behaviour and by and large it is these judgements' relating to how problematic a behaviour is that determines the level of concern over the behaviour. This is very much in keeping with the thinking that underpins current diagnostic systems where impairment and not just symptom expression is considered a pre-requisite for diagnosis.

Perhaps surprisingly neither severity nor the concern it generated were associated with advice seeking. There are a number of possible reasons for this. This may of course be a statistical artefact due to the truncated range of the variables in the current study. Most respondents saw the behaviour described in the vignette as severe and there was a high degree of advice seeking recommended. The predicted relationship between severity and advice seeking may emerge in studies where a number of vignettes ranging in severity are presented to respondents. There was some evidence that advice seeking was associated with causal attributional factors (rather than severity or concern). There was an especially interesting link between biological cause and professional advice seeking for both boys and girls, which is consistent with our prediction that causal attributions out of the child's control will be related to professional advice seeking.

There were surprisingly few sex differences in perceptions of and attributions for DBDs. DBDs were considered no more severe, concerning or in need of advice when ascribed to girls rather than boys. Furthermore boys and girls were not rated differently on most of the attributional factors. The predictive significance of severity, untypicality and concern as well as the attributional factors was similar for DBD ascribed to boys and girls. The significance of this pattern of results, assuming they generalise, for discussions about sex-differences in the prevalence of DBDs is clear in suggesting that the trainee nursery teachers in the study adopted similar criteria for judging the significance and severity of DBD as expressed by males and females. Furthermore such judgements of severity were translated into concern to the same degree in boys and girls.

While these associations are similar in quantity, they may differ in quality. Two areas of sex-related differentiation of attitudes suggest that this may be the



case. First, as predicted, girls' disruptive behaviour was considered less sex-typical than boys' despite the fact that the boy's and the girl's behaviour described in the vignette was seen as equally severe. Second, while in general severity was far and away the best predictor of concern for both boys and girls, there was a trend toward sex-related untypicality judgements contributing to concern in girls but not boys. This might suggest that severity judgements are moderated to some extent by untypicality judgements in the case of girls but not boys. In other words, the ability of girls to fulfil social expectations may play some role in determining expressions of concern (Maniadaki, Sonuga-Barke & Kakouros, submitted for publication). The fact that girls who display disruptive behaviour disorders are not behaving in a typically feminine way is related to concern for their behaviour over and above that associated with its perceived severity. This finding is consistent with Zahn-Waxler (1993), who remarked that externalising behaviours are expected to be more congruent with social expectations generally held of boys. While worthy of further study this finding should not be over-stated given the weakness of the association reported.

The link between DBD ascribed to boys and biological cause may also be of some significance for how educators respond to DBD. Biological attributions for DBD were related to severity for boys and not girls. It is interesting that the obverse did not seem to be the case; i.e. that girls' disruptive behaviour is more likely to be attributed to environmental factors. In this case this might suggest that severity judgements and advice seeking are mediated by adults' attributions about biological cause in the case of boys. Given the role that severity plays in determining concern and the role that biological cause plays in determining the need for professional advice seeking, it is possible that there is a tendency to over-estimate the severity of boys' behaviour and

the need for advice because it is ascribed to biological causes.

Only one vignette, describing a relatively serious condition, was used. As a result of this, future teachers' ratings of severity and concern were rather limited in their range, which may have led to a lack of power to detect associations between the various factors. It has been shown that social inferences for inattentive/overactive and aggressive child behaviours are quite different with aggressive behaviours eliciting more negative affect and responses (Lovejoy, 1996). It is also possible that associations between severity, untypicality and concern are non-linear in nature or that they follow a different function for boys and girls. It is therefore possible that in only sampling extreme cases one may miss important sex differences in the less severe range. In other words, it is possible that sex-related perceptual factors play an important role in determining an adult's response to moderate DBD.

The final issue that requires some discussion is the impact that the cultural setting of the study might have had on the results. Cultures differ in the nature of their sex-related stereotypes and expectations. It is possible that Greek cultural sex-related attitudes might act to minimise the perceived differences between boys and girls and that more obvious sex-differences might exist in other cultural settings. Although this is unlikely given that Greek society still holds generally traditional attitudes to gender-roles.

## **CHAPTER 5 - STUDY TWO: INVESTIGATION OF PROSPECTIVE EDUCATORS' PERCEPTIONS**

### **5.1 Rationale**

The primary aim of study one was to explore whether and how trainee nursery teachers' perceptions of and attributions about DBD differed as a function of the child's sex. Specifically, sex differences were investigated regarding dimensions of perceived severity, untypicality and causality of DBD. Moreover, the relationship between these dimensions and their relationship with parental concern and source of advice were also examined.

Study two was designed in order to replicate and extend the findings of study one. Some important limitations of the previous study were taken into account when designing study two.

First, the sample size in study one was relatively small. Study two was based on a much larger sample of trainee nursery teachers. Second, only one vignette was used in study one, ascribed to a child presenting symptoms of a comorbid AD/HD and Conduct Disorder condition. This pattern of symptoms might have minimised the magnitude of sex differences in perceptions and attributions, as it constitutes an extremely severe condition that is considered impairing and abnormal for both sexes. In study two, a bigger number of vignettes, describing different subtypes of DBDs were used. Specifically, vignettes were based on pure conditions: two AD/HD subtypes (hyperactive and inattentive) and a separate condition of Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD). Third, the central constructs of "severity" and "untypicality" were considered as multidimensional ones and derived from a series of questions, and not from just one question. Finally, the rating scales were slightly modified and extended, in order to be more complete and allow more subtle differences in attributions to be revealed.

While study one revealed few sex differences, those that were identified were potentially very significant. As predicted, it was found that girls' disruptive and hyperactive behaviour was considered significantly less typical for their sex than was the same behaviour displayed by boys. Moreover, although perceived severity of the behaviour predicted concern for both sexes, there was a trend for perceived untypicality to predict concern for girls but not for boys. Finally, there was a link between DBD in boys and biological cause.

Study two aims to address several issues concerned with the findings of study one that need further clarification:

1. As expected, the behaviour presented in the vignette was perceived as less typical for the girl than for the boy. Study two aims to replicate this finding.
2. Against expectation, the behaviour presented in the vignette was regarded as equally severe for boys and girls. The impact of different subtypes of DBDs on this finding is to be tested. We predict that ratings of severity will be higher in the case of girls when vignettes presenting symptoms of pure DBD subtypes are presented. This prediction is based on the assumption that pure DBD subtypes are considered less severe than comorbid conditions and that their symptoms may be considered within the normal range of behaviours usually expected by boys.
3. In study one, a significant association was found between DBD and attributions to a biological cause for boys but not girls. Again, the impact of different types of DBDs on this finding is to be tested. We predict that, when pure DBD subtypes are presented, the behaviour in the vignettes will be perceived as more often out of the child's control (either due to biological conditions or environmental circumstances) in the case of girls. We expect this prediction to apply on both AD/HD and CD behaviour. Girls

tend to display all forms of externalising behaviour (both hyperactive and disruptive) less often than boys. Thus, it is possible that, when these behaviours appear in girls, they may be perceived as less responsible for this behaviour than boys.

4. Perceived severity and untypicality of the behaviour described were not associated in study one. If this finding is replicated, it will lead to questions about how and why sex atypical and problematic behaviours differ by gender and suggest modifications to central elements of the model presented in the introduction.
5. Perceived severity was positively correlated with biological causes only for boys. With the new methodology, we expect perceived severity to be positively correlated with biological causes for both sexes.
6. Counter to our expectations, perceived severity was not associated with professional advice seeking. Nevertheless, this might be an artefact of the vignette presenting symptoms of a severe form of disruptive behaviour, which led to the recommendation of a high degree of advice seeking generally (i.e., a ceiling effect). The use of vignettes presenting different subtypes of DBDs and no comorbid conditions, may allow for more subtle analysis of this matter. We predict that, with this methodology, severity will be positively correlated with professional advice seeking for both sexes, whereas untypicality will tend to predict professional advice seeking mostly for girls.
7. As predicted, causal attributions about biological factors were found to predict professional advice seeking for both boys and girls. Study two aims to replicate this finding.

## **5.2. Method**

### **5.2.1 Participants**

The sample consisted of 492 female Greek students of the Department of Early Childhood Education at the Technological Educational Institution (T.E.I.) of Athens. Their mean age was 20.3 years, with a SD of 2.09 years. More than 90% of the participants were between the ages of 18 and 23. Half of the sample had completed primary school in Athens and the other half were almost equally divided in three groups, having finished primary school in another big city, a small province city or a village. Approximately forty-five percent of the students participating in the study were finishing the first year of their studies, thirty-one percent and twenty percent were finishing their second and third year respectively and the remaining four percent were beyond their fourth year of studies.

### **5.2.2 Measures**

A written analogue method was used in study two, similar to that used in study one. Again this was based on "The Parental Account of the Causes of Childhood Problems Questionnaire" (PACCP; Sonuga-Barke & Balding, 1993).

Six versions of this questionnaire were used in the present study (c.f. Appendices 4,5). Three versions used a vignette ascribed to a boy (John) and three used a vignette ascribed to a girl (Jane). Vignettes outlined some of the major symptoms of three types of childhood disorder. The first version included a vignette presenting symptoms of AD/HD, Predominantly Hyperactive-Impulsive Type displayed by a nine-year old child. The second version included a vignette presenting symptoms of AD/HD, Predominantly Inattentive Type.

The third version included a vignette presenting symptoms of ODD and CD. Symptom lists were derived from the DSM-IV diagnostic scheme (APA, 1994; c.f. Appendix 6). We included two AD/HD subtypes because the current diagnostic system does not view AD/HD as a unidimensional construct. Furthermore sex differences have been reported in the subtypes of AD/HD (Gershon, 2002) with girls displaying a higher proportion of the inattentive subtype.

Fifty-six statements, rated on a Likert type 5-point scale and grouped into six sections followed each vignette. These covered:

- I. Five ratings of how problematic, specific to the child, uncontrollable, stable and global the behaviour problem was judged to be.
- II. Four ratings of how untypical for the child's age and sex, unique to the child and rare to most children of that age the behaviour problem was judged to be.
- III. Three ratings of how concerning the behaviour problem was judged to be and the extent to which the child was judged to be unpopular among his / her peers and unhappy.
- IV. Twenty-five ratings of likely causes of the behaviour described in the vignette. These evolved in part from a review of the literature and in part from clinical observation and ranged from biological through environmental factors.
- V. Eleven ratings of actions that the child's parents should undertake in order to help him/her. Sample questions are:  
" To try and control John's behaviour, his parents should help him with his schoolwork / leave him alone / change his diet, etc.
- VI. Eight ratings regarding the most appropriate source of advice the child's parents should seek advice from (e.g. child psychiatrist, friends, books, teachers, etc).

In addition, participants were asked to provide demographic information about the following factors: age, origin, year of studies, experience with children.

Scales in the first three parts were scored in the same direction, with higher scores equating to more negative ratings (e.g. more severe, more untypical, more uncontrollable, etc). Scales in parts IV, V, and VI were also scored in the same direction ranging from very unlikely to very likely and from strongly disagree to strongly agree. There were also some more questions referring to demographic data.

Thirty students completed the same questionnaire two times, with an interval of two weeks, in order to allow for test-retest reliability to be examined. These data were excluded from analysis. Overall test-retest reliability was satisfactory ( $r=.70$ ,  $p<.01$ ; c.f. Appendix 7).

### **5.2.3 Procedure**

The trainee nursery teachers (henceforth: students) were given the questionnaires in their classroom by their psychology professor. As in study one, participants were told that the aim of the study was to investigate adults' attitudes towards children's behaviour. They were informed that the questionnaires were anonymous and that results of the study would not include any identifying characteristics. They were also told that their participation was voluntary and that if they chose not to participate, there would be no consequences to their grade or to their treatment as students of the department. Finally, they were informed that a debriefing statement in the form of a short lecture should be made after data had been collected and analysed.

A between-subjects design was used. The students were assigned randomly to one of three groups (AD/HD inattentive, AD/HD impulsive/hyperactive and CD). Half of the students in



each group received a vignette about a girl and half received a vignette about a boy. Particular attention was paid so that in every classroom the questionnaires administered would be only of one version.

### 5.3 Results

#### 5.3.1 The profile of the data

492 questionnaires were administered to the students. Due to the procedure, 100% of the questionnaires were completed. The profile of the questionnaires is given in Table 5.1.

TABLE 5.1

Frequencies of the questionnaires returned by DBD  
Subtype and sex of the child presented in the vignette

DBD subtype	Sex		Total
	M	F	
Hyperactive Type	82	83	165
Inattentive Type	77	77	154
Conduct Disorder	83	90	173
Total	242	250	492

Note: M=Male, F=Female

#### 5.3.2 Perceptions about the nature of the three DBD subtypes presented in the vignette

Before conducting the main statistical analyses, continuous variables were tested for their suitability for parametric statistical analysis. The study variables approximated normal distribution.

A Principal Component Analysis with minimum eigenvalues set at 1.00 and using varimax rotation was performed on the ratings of the 12 items relating to the nature of the DBD

subtype presented in the vignette. The factor analysis yielded four factors that accounted for 59.36% of the variance (Table 5.2). No ratings showed multiple loadings across factors except in one case. Given the factor to item correlations, the factors were named as follows: Factor 1- perceived untypicality; factor 2- perceived severity; factor 3- perceived social impact; factor 4- perceived endogeneity. Cronbach's alpha coefficients were also calculated for each factor with the following results: 1- alpha=.74 for untypicality, 2- alpha=.70 for severity, 3- alpha=.62 for social impact and 4- alpha=.53 for endogeneity.

TABLE 5.2

Principal Component Analysis of perceptions about the nature of the three DBD subtypes presented in the vignette

Factor	1	2	3	4
Percent variance	20.22	19.32	10.31	9.50
Item				
Untypicality for age	.68			
Untypicality for sex	.72			
Uniqueness	.71			
Rarity	.78			
Severity		.67		
Uncontrollability		.55		.45
Stability		.71		
Globality		.68		
Parental concern		.64		
Unpopularity			.90	
Unhappiness			.57	
Specificity				.84

Note: Factor loadings with absolute values less than .40 are not reported.

Factor analysis of the above ratings was also conducted after having split the file using as grouping variable the sex of the child described in the vignette and the DBD subtype. Differences in the factor structure were found only when the

DBD subtype was used as grouping variable. Specifically, in the case of hyperactivity, ratings of parental concern loaded both on untypicality and severity, whereas uncontrollability loaded only on severity. In the case of inattentiveness, parental concern loaded more on untypicality than severity, whereas typicality for sex loaded both on untypicality and endogeneity. Finally, in the case of CD, popularity and unhappiness loaded on untypicality and globality and parental concern formed a separate factor. Thus, it seems that perceptions of the nature of CD are the ones that differentiate more across the three DBD subtypes presented. However one must be cautious in interpreting these sub-analyses given the high item to variable ratio.

In order to examine the possible influence of the independent variables (child's sex and DBD subtype) and their interactions on perceptions regarding the nature of DBDs presented in the vignette, four two-way ANOVAs were performed. The independent variables have been entered as between subject variables and each one of the four factors revealed by the factor analysis (untypicality, severity, social impact and endogeneity) as the dependent variable, separately, in each one of the four analyses. Where  $p$  values reached statistical significance, post-hoc analyses were performed. Means are shown in Table 5.3

TABLE 5.3

Ratings of the nature of the three DBD subtypes  
presented in the vignette for boys and girls

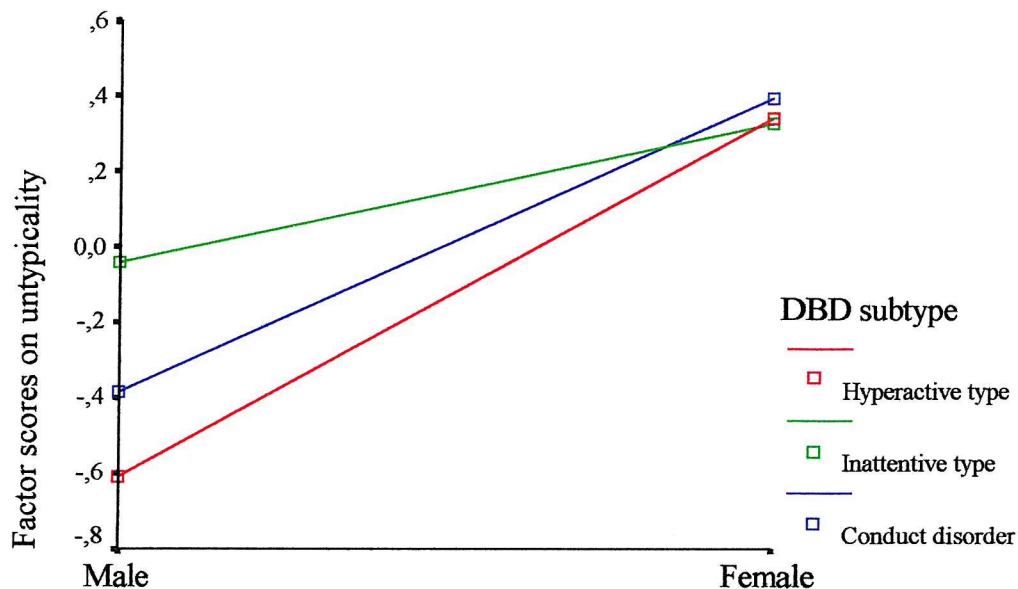
Factor	DBD subtype	Males (N=242)		Females (N=250)		Total (N=492)	
		Mean	SD	Mean	SD	Mean	SD
Untypicality	Hyperactivity	-.61	1.11	.34	.92	-.14	1.13
	Inattentiveness	-.04	.83	.33	.91	.14	.89
	Conduct Disorder	-.38	.91	.39	.82	.02	.94
	Total	-.35	.99	.36	.88	.00	1.00
Severity	Hyperactivity	.24	1.07	-.24	1.06	.00	1.09
	Inattentiveness	-.11	1.00	-.01	.98	-.06	.99
	Conduct Disorder	.20	.85	-.04	.94	.07	.90
	Total	.11	.99	-.09	.99	.00	.99
Endogeneity	Hyperactivity	-.37	1.05	-.35	.99	-.36	1.02
	Inattentiveness	.23	.87	.30	.91	.26	.89
	Conduct Disorder	.22	.98	-.00	1.00	.10	.99
	Total	.01	1.00	-.02	1.00	-.00	1.00
Social impact	Hyperactivity	.28	1.11	.35	.89	.31	1.00
	Inattentiveness	.11	.81	.22	.94	.17	.88
	Conduct Disorder	-.63	.99	-.24	.86	-.42	.94
	Total	-.07	1.05	.09	.93	.00	1.00

Note: Higher ratings indicate the behaviour is rated as more untotypical, severe, endogenous and with more negative impact.

Regarding perceived untotypicality of DBDs, significant effects were obtained for child's sex [ $F(1,468)=67.95$ ,  $p<.001$ ], DBD subtype [ $F(2,468)=3.42$ ,  $p<.05$ ] and their interaction [ $F(2,468)=4.06$ ,  $p<.05$ ]. Inspection of the means presented in Table 5.3 shows that all three DBD subtypes were perceived as significantly more untotypical for girls.

Regarding the effect of the DBD subtype on perceived untotypicality, post-hoc tests (Scheffe) indicated that ratings of untotypicality for inattentiveness were significantly higher than for hyperactivity. However, separate Analyses of Variance for each of the three conditions, with the child's sex as the independent variable and perceived untotypicality as the dependent variable, revealed that the above differences

concerned mainly the males. Specifically, inattentiveness was rated as the most untypical DBD subtype, CD as the second more untypical DBD subtype and hyperactivity as the least untypical DBD subtype, whereas for females ratings of untypicality didn't differ among the three DBD subtypes (Figure 5.1).



Child's sex

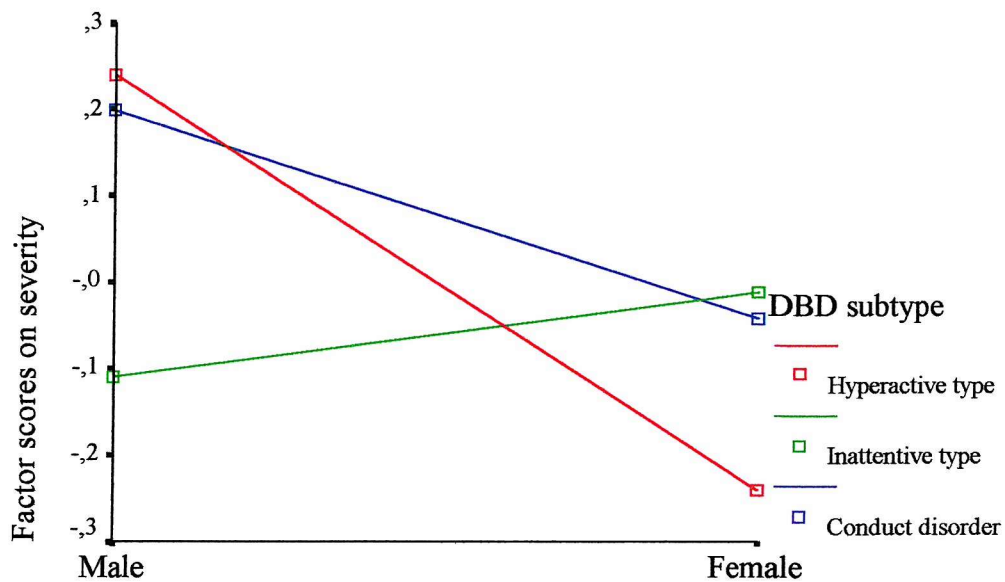
Figure 5.1

Ratings of untypicality for the three DBD subtypes in boys and girls

Regarding perceived severity of dysfunction for the three DBD subtypes for boys and girls, a significant sex effect was found [ $F(1,468)=5.27$ ,  $p<.05$ ], with DBDs in general rated as more severe when present in boys than girls (Table 5.3).

However, separate analyses by DBD subtype indicated that the above was true mainly in the case of hyperactivity, as a significant sex X DBD subtype interaction was found [ $F(2,468)=3.32$ ,  $p<.05$ ], with hyperactivity rated as significantly more severe for males than females (Figure 5.2).





Child's sex

Figure 5.2

Ratings of severity for the three DBD subtypes in boys and girls

Results have also shown a significant effect of the DBD subtype on ratings of social impact [ $F(2,468)=17.65$ ,  $p<.001$ ], with hyperactivity rated as the DBD subtype with the least negative impact for both boys and girls, whereas inattentiveness and CD didn't differ significantly between each other (Table 5.3).

Finally, significant sex and DBD subtype effects were revealed for ratings of endogeneity [ $F(1,468)=4.82$ ,  $p<.05$  and  $F(2,468)=28.77$ ,  $p<.001$  respectively], with all three DBD subtypes rated overall as significantly more endogenous for girls compared to boys and CD rated as the least endogenous of the three DBD subtypes for both sexes (Table 5.3).

### **5.3.3 Attributions about the causes of the three DBD subtypes presented in the vignette**

The associations between the twenty-five ratings of likely causes of the DBD subtype presented in the vignette were examined using a principal component analysis, with an orthogonal rotation to varimax solution. Results were similar for fathers and mothers. Initial factor analysis provided eight factors with eigenvalues greater than 1.0. The analysis was then repeated specifying six factors to be rotated, so that the factor structure could be comparable to the one revealed in the previous study. This factor structure accounted for 52.08% of the variance (Table 5.4). The first factor related to parental absence, the second one to parental fault, the third one to biological cause, the fourth factor to difficult life circumstances, the fifth one to strict environment and the last factor related to child's fault.

TABLE 5.4

Principal Component Analysis of causal attributions about  
the three DBD subtypes presented in the vignette

Factor	1	2	3	4	5	6
Percent variance	11.46	8.83	8.29	8.27	7.67	7.57
Item						
Mother's death	.77					
Father's death	.83					
Divorced parents	.80					
Single-parent family	.71					
Lack of discipline		.68				
Spoilt child		.64				
Indifferent parents		.67				
Unloving parents		.54				
Learning problem			.62			
Mental sub-normality			.73			
Deafness			.60			
Mild brain damage			.74			
Inner city area				.65		
Working mother				.67		
Premature birth				.64		
Post-natal depression				.52		
Strict school					.67	
Strict parents					.58	
Child's enjoyment						.78
Attention seeking						.45
By nature						.56
Purposeful behaviour						.59

Note: Factor loadings with absolute values less than .45 are not reported.

The effect of the independent variables (child's sex and DBD subtype) and their interactions on perceptions regarding causal attributions was examined. Six two-way ANOVAs were carried out, using each one of the six causal factors as the dependent variable, separately, in each one of the six analyses (Table 5.5). Where *p* values reached statistical significance, post-hoc analyses were performed.



TABLE 5.5

Causal attributions about the three DBD subtypes  
presented in the vignette for boys and girls

Factor	DBD subtype	Males (N=242)		Females (N=250)		Total (N=492)	
		Mean	SD	Mean	SD	Mean	SD
Parental absence	Hyperactivity	-.32	.90	.07	.95	-.13	.94
	Inattentiveness	.50	.75	.33	.80	.42	.78
	Conduct Disorder	-.58	1.11	.05	1.03	-.26	1.11
	Total	-.14	1.04	.15	.93	.00	1.00
Parental fault	Hyperactivity	.13	1.12	-.08	.85	.02	1.00
	Inattentiveness	-.25	.91	-.38	.94	-.32	.93
	Conduct Disorder	.55	.88	-.00	1.02	.27	.99
	Total	.15	1.02	-.15	.95	-.00	1.00
Biological cause	Hyperactivity	-.32	1.14	-.06	1.10	-.20	1.12
	Inattentiveness	.28	.88	.25	.92	.27	.90
	Conduct Disorder	-.27	.85	.15	.94	-.05	.92
	Total	-.11	1.00	.11	1.00	-.00	1.00
Difficult circumstances	Hyperactivity	-.23	1.10	-.24	.95	-.23	1.03
	Inattentiveness	.16	1.05	.11	.97	.14	1.00
	Conduct Disorder	.05	.91	.14	.96	.09	.93
	Total	-.00	1.03	.00	.97	-.00	1.00
Strict environment	Hyperactivity	-.35	1.11	-.18	.88	-.27	1.00
	Inattentiveness	-.09	.99	.06	.95	-.01	.97
	Conduct Disorder	.26	.89	.28	1.02	.27	.95
	Total	-.05	1.03	.06	.97	.00	1.00
Child's fault	Hyperactivity	.46	.93	.38	.73	.42	.84
	Inattentiveness	-.43	.99	-.45	1.06	-.44	1.02
	Conduct Disorder	-.15	.89	.16	.99	.00	.95
	Total	-.03	1.00	.03	1.00	-.00	1.00

Note: Higher ratings indicate factors are judged more likely to be causal.

A significant sex effect was found for the causal factor related to parental absence [ $F(1,417)=9.73$ ,  $p<.01$ ], with girls receiving higher ratings on this factor compared to boys (Table 5.5). Moreover, the DBD subtype seemed to have a significant effect too [ $F(2,417)=20.42$ ,  $p<.001$ ], with post-hoc

tests showing inattentiveness as the DBD subtype with the higher ratings on this factor, whereas the other two DBD subtypes didn't differ significantly between them.

Significant sex [ $F(1,417)=10.43$ ,  $p=.001$ ], and DBD subtype [ $F(2,417)=13.30$ ,  $p<.001$ ], effects were also obtained for the causal factor related to parental fault. As shown in Table 5.5, boys received higher ratings on this factor compared to girls. Furthermore, the Scheffe test indicated that lower ratings were given to the DBD subtype of inattentiveness, whereas the other two DBD subtypes didn't differ significantly from each other.

Significant sex [ $F(1,417)=5.00$ ,  $p<.05$ ], and DBD subtype [ $F(2,417)=8.03$ ,  $p<.001$ ], effects were demonstrated for the causal factor related to biological cause. As shown in Table 5.5, girls received higher ratings on this factor compared to boys. In addition, the Scheffe test indicated that higher ratings were given to the DBD subtype of inattentiveness, whereas the other two DBD subtypes didn't differ significantly between them.

Regarding the causal factor of difficult life circumstances, only DBD subtype was found to hold a significant effect [ $F(2,417)=5.90$ ,  $p<.01$ ], with hyperactivity getting significantly lower ratings on this factor than inattentiveness and CD that didn't differ significantly from each other (Table 5.5).

Regarding the causal factor of strict environment, a significant effect of the DBD subtype was found [ $F(2,417)=10.81$ ,  $p<.001$ ], with CD getting significantly higher ratings on this factor than inattentiveness and hyperactivity (Table 5.5).

Finally, a main DBD subtype effect was found regarding the causal factor referring to the child's fault [ $F(2,417)=29.16$ ,  $p<.001$ ], with hyperactivity getting significantly higher ratings on this factor than CD and CD

getting significantly higher ratings than inattentiveness (Table 5.5).

#### 5.3.4 Perceptions about recommended parental reactions to the three DBD subtypes presented in the vignette

A factor analysis using varimax rotation was performed on the ten items relating to recommended parental reactions to the DBD subtype presented in the vignette. The factor analysis provided three factors accounting for the 33.25% of the variance. However, the third factor accounted only for 2.49% of the variance so the analysis was repeated forcing a two-factor solution. These two factors accounted for 30.76% of the variance (Table 5.6). The items loaded on the first factor reflected a tendency to approach the child whereas the items loaded on the second factor reflected a tendency to change the child's environment.

TABLE 5.6

#### Principal Component Analysis of perceptions about recommended parental reactions

Factor	1	2
Percent variance	17.05	13.70
Item		
Help with schoolwork	.47	
Show more love	.70	
Less strict at home	.52	
Try and work it out	.62	
Ask why he/she is unhappy	.58	
Move school		.39
Stop watching TV		.61
Stop spoiling him/her		.42
New friends		.55
Change diet		.36

Note: Factor loadings with absolute values less than .40 are not reported.

Two two-way ANOVAs were carried out, using each one of the two factors revealed by the above factor analysis as the dependent variable, separately, in each one of the two analyses (Table 5.7).

TABLE 5.7

Ratings of recommended parental reactions for boys and girls

Factor	DBD subtype	Males (N=242)		Females (N=250)		Total (N=492)	
		Mean	SD	Mean	SD	Mean	SD
Approach the child	Hyperactivity	-.17	1.09	-.38	1.06	-.27	1.07
	Inattentiveness	.19	.89	.13	1.13	.16	1.02
	Conduct Disorder	.07	.85	.16	.85	.12	.85
	Total	.02	.96	-.02	1.04	.00	1.00
Change environment	Hyperactivity	-.02	1.05	-.19	.95	-.09	1.00
	Inattentiveness	-.30	1.02	-.15	1.05	-.22	1.04
	Conduct Disorder	.29	.88	.30	.92	.30	.90
	Total	-.00	1.00	.00	.99	-.00	1.00

Note: Higher ratings indicate the parental reaction is more likely to be recommended.

Analysis revealed a significant DBD subtype effect for both factors [ $F(2,455)=9.20$ ,  $p<.001$  for the factor related to "approach the child" and  $F(2,455)=11.99$ ,  $p<.001$  for the factor related to "change the child's environment"]. "Approach" was found to get lower ratings in the case of hyperactivity, compared to the other two conditions, whereas "change" was found to get higher ratings in the case of CD (Table 5.7).

### **5.3.5 Perceptions about recommended sources of advice seeking for the three DBD subtypes presented in the vignette**

The last part of the questionnaire concerned perceptions regarding the most appropriate sources of advice seeking for the DBD subtype presented in the vignette. Principal component

analysis performed on the eight proposed ratings produced two factors, accounting for 44.76% of the variance (Table 5.8). These two factors referred to non-professional and professional sources of advice respectively.

TABLE 5.8

Principal Component Analysis of perceptions  
about recommended sources of advice seeking

Factor	1	2
Percent variance	22.51	22.25
Item		
Friends	.80	
Grandparents	.82	
Religious leader	.53	
Doctor		.56
Child psychiatrist		.61
Teacher		.55
Books		.65
Health visitor		.57

Note: Factor loadings with absolute values less than .40 are not reported.

Two two-way ANOVAs were carried out, using each one of the two factors revealed by the above factor analysis as the dependent variable, separately, in each one of the two analyses (Table 5.9).

TABLE 5.9

Ratings of recommended sources of advice  
seeking for boys and girls

Factor	DBD subtype	Males (N=242)		Females (N=250)		Total (N=492)	
		Mean	SD	Mean	SD	Mean	SD
Non- professional	Hyperactivity	-.15	1.03	-.20	.94	-.18	.98
	Inattentiveness	.15	1.06	-.01	.99	.06	1.03
	Conduct Disorder	.13	.89	.09	1.05	.11	.98
	Total	.03	1.00	-.03	1.00	-.00	1.00
Professional	Hyperactivity	-.18	1.15	.11	1.05	-.03	1.11
	Inattentiveness	.03	.96	.09	1.00	.06	.98
	Conduct Disorder	.03	.89	-.06	.91	-.01	.90
	Total	-.04	1.01	.04	.99	.00	1.00

Note: Higher ratings indicate professional or non-professional advice seeking is more likely to be recommended.

A significant DBD subtype effect was found for non-professional sources of advice [ $F(2,464)=3.89$ ,  $p<.05$ ] with higher ratings in the case of CD (Table 5.8). No significant effects were obtained for professional sources of advice.

### **5.3.6 Inter-relationships among attributions about the nature, the causes, recommended parental reactions and sources of advice seeking**

In order to investigate how different types of attributions about the DBD subtypes presented in the vignette were related to each other, a series of correlational analyses were performed.

Table 5.10 shows the correlation between perceived untypicality and severity and causal factors. A significant positive association was found between ratings of untypicality and biological cause for both boys and girls. This association was stronger for boys. A negative association was found between untypicality and child's fault only for boys. The more

untypical was considered the condition for a boy, the less likely it was considered to be the result of his own fault. Significant positive interactions were also found between ratings of severity and biological cause for both boys and girls. Moreover, significant negative correlations were revealed between severity, parental absence and child's fault, only for girls. The more severe was rated the condition for a girl, the less likely it was considered to be the result of parental absence or her own fault.

TABLE 5.10

Correlation between perceived untypicality, severity and causal factors for boys and girls

	Untypicality		Severity	
	M	F	M	F
Parental absence	.03	.12	-.13	-.19**
Parental fault	-.03	.01	.09	.05
Biological cause	.32**	.14*	.17*	.24**
Difficult circumstances	-.11	-.10	.08	.05
Strict environment	.09	.03	-.03	.03
Child's fault	-.35**	-.13	-.06	-.19**

Note: M = Male, F = Female; \*= $p < .05$ , \*\*= $p < .01$ .

Table 5.11 displays the correlation between perceived untypicality and severity, recommended parental reactions and advice seeking for boys and girls. A significant positive correlation was found between ratings of severity and professional advice for both boys and girls. Moreover, ratings of severity were positively correlated with the change of the environment only for girls.

TABLE 5.11

Correlation between perceived untypicality and severity,  
parental reactions and advice seeking for boys and girls

	Untypicality		Severity	
	M	F	M	F
Approach the child	.01	.07	-.03	.12
Change the environment	.01	.05	.09	.13*
Non-Professional advice	-.03	-.05	.04	-.13
Professional advice	.05	.12	.21**	.18**

Note: M = Male, F = Female; \*= $p < .05$ , \*\*= $p < .01$ .

The last correlational analysis was performed between causal attributions and advice seeking (Table 5.12). Results showed that non-professional advice seeking was positively correlated with difficult life circumstances for both boys and girls, whereas professional advice seeking was positively correlated with biological cause for both boys and girls.

TABLE 5.12

Correlation between perceptions about advice  
seeking and causal factors for boys and girls

	Non- professional advice seeking		Professional advice seeking	
	M	F	M	F
Parental absence	.08	.07	-.07	-.02
Parental fault	.11	.09	-.07	.12
Biological cause	.10	.09	.27**	.27**
Difficult circumstances	.19**	.20**	.07	.15*
Strict environment	.09	-.06	.11	-.03
Child's fault	-.09	.07	.11	.04

Note: M = Male, F = Female; \*= $p < .05$ , \*\*= $p < .01$ .



In order to predict their independent contribution to predicting professional advice seeking, untypicality, severity and biological cause were entered as independent variables into a set of multiple regression analyses with professional advice seeking as the dependent measure (Table 5.13). Attributions of biological cause were significant predictors of advice seeking for both boys and girls. Moreover, severity accounted for a significant proportion of the variance in professional advice seeking only for boys.

TABLE 5.13

Multiple regression of predictors  
of professional advice seeking

Variable	$\beta$		$t$		$p$	
	M	F	M	F	M	F
Untypicality	-.06	.11	-.78	1.57	.44	.12
Severity	.14	.10	2.02	1.45	.04	.15
Biological cause	.27	.23	3.73	3.18	.00	.00

Note: M=Male, F=Female

Based on the belief that the specific type of DBDs presented might influence the above findings, we conducted another regression analysis, with professional advice seeking as the dependent variable and perceived severity and untypicality as the independent variables, using only the data based on the vignette of hyperactivity - impulsivity. It was found that, in this case, severity predicts professional advice seeking for both boys and girls, whereas there was a tendency that untypicality predicts professional advice seeking for girls, although this association fell short of significance (Table 5.14).

TABLE 5.14

Multiple regression of predictors of professional advice seeking for hyperactivity-impulsivity

Variable	$\beta$		$t$		$p$	
	M	F	M	F	M	F
Untypicality	-.02	.20	-.23	1.84	.82	.07
Severity	.43	.30	4.15	2.72	.00	.00

Note: M=Male, F=Female

A second set of multiple regression analyses were performed with perceived untypicality and severity as independent variables and approach of the child as the dependent measure (Table 5.15). In this case, severity was a significant predictor of supportive parental responses only for girls. Moreover, there was a trend that untypicality also predicted the approach of the child only for girls.

TABLE 5.15

Multiple regression of predictors of "approach the child"

Variable	$\beta$		$t$		$p$	
	M	F	M	F	M	F
Untypicality	-.05	.12	-.69	1.73	.49	.03
Severity	-.06	.16	-.77	2.24	.44	.08

Note: M=Male, F=Female

## 5.4 Discussion

As factors extracted from an orthogonal rotation of factor analysis are considered a priori uncorrelated, it seems that perceived severity and untypicality of DBDs are indeed unrelated constructs, as revealed in study one. Moreover,

perceptions of the nature of DBDs seem to include two additional dimensions, other than untypicality and severity that are proposed in the model: social impact and endogeneity. Social impact refers to perceived unpopularity and unhappiness of the child and endogeneity refers to the degree that the behaviour presented is perceived as specific to the child and uncontrollable.

Although a range of three different types and subtypes of DBDs were used in study two, all three of them were perceived by trainee nursery teachers as significantly more untypical when present in girls than boys. This finding, also revealed in study one, is replicated here in a sample of 492 participants and does not seem to differentiate across the different types and subtypes of DBDs examined. Thus, it appears as a robust finding that confirms the first prediction of this thesis. Moreover, when perceived untypicality of DBDs is examined in boys, it seems that perceptions differentiate across the three DBD subtypes with hyperactivity being considered as the least untypical for boys. It appears therefore that symptoms of the hyperactive-impulsive type of AD/HD are considered as almost normative for 9-year-old boys but very untypical for 9-year-old girls.

A study by Ohan & Johnston (1999) gave a similar finding. They asked mothers of children with AD/HD whether they felt items on typical AD/HD questionnaires more accurately described boys or girls. The findings suggest that mothers felt most behaviours were more appropriate for boys than girls.

Thus, it seems that different degrees of untypicality are conferred to the same disruptive behaviour when displayed by boys and girls. The higher degree of untypicality conferred on girls' behaviour can be explained by several studies in the domain of sex-role stereotypes, according to which, behaviours associated with externalising behaviour problems are more

congruent with social expectations generally held of boys (Carlson et al., 1997).

Although rated as more untypical for girls, DBDs were not rated as more severe for them as well. In a study conducted by Rucklidge & Tannock (2001), in order to investigate the psychosocial and cognitive functioning of AD/HD females, a similar finding was revealed. Despite endorsing more items of psychopathology in the females, teachers did not view the girls as being more impaired than the boys.

In the present study just the opposite was found: the hyperactive-impulsive type of AD/HD was perceived as significantly more severe when present in boys. It seems that the second hypothesis of the thesis was refuted in this study. Moreover, it appears that the specific DBD subtype does influence perceptions of severity and this might explain the absence of sex differences in perceived severity in the previous study where only one vignette was presented.

So far, there are two aspects of the results that suggest further evidence is required before definitive conclusions are drawn. First, perceptions of untypicality and severity were found to be unrelated constructs. Second, ratings of severity of the hyperactive-impulsive AD/HD subtype were higher for boys. In other words, not only were these constructs unrelated, but also the same subtype is considered as more untypical for girls but more severe for boys. This finding raises the issue concerning why a child can be seen as untypical without being regarded as having a problem. Possible reasons will now be examined.

One possible explanation is that girls' behaviour is regarded as simply less important than boys' behaviour. In other words, this finding might reflect a tendency to not bother about how typical or how well-functioning girls are, whereas greater importance may be given to the functioning of boys. Eme (1979) supports such an idea by claiming that the annoyance threshold for male deviance is less than for female

deviance. Another variable proposed by Eme (1979) as influencing sex differences in ratings of child psychopathology is the sex of the rater. According to this author, female raters are more likely to view the same disturbances as more pathological in males than in the females.

A more compelling argument is that perceptions of untypicality and severity are mediated by a third variable, different in each case. It is possible that cultural beliefs and personal ideologies and values affect more the perceptions of untypicality, whereas variables related to the sense of self-efficacy to control the child's behaviour mediate perceptions of severity. Prior research has shown that dealing with children with behaviour problems can generate feelings of helplessness and incompetence in teachers (Gray et al., 1996; Lennox, 1991). If this is the case, then the boys' behaviour may be rated as more severe by the trainee nursery teachers because they possibly feel less competent to deal with it in comparison to identical behaviour displayed by girls.

Another finding seems to support this idea of a third mediating variable. It was shown that perceived social impact, referring to the child's unpopularity and unhappiness, was also unrelated to perceived severity of DBDs. Moreover, hyperactivity, that was rated as more severe in boys, was rated as the condition with the least negative social impact for both boys and girls. Thus, it appears that perceptions of severity of DBDs are not formed exclusively on the basis of the child's welfare. So, we can speculate that it is also formed on the basis of the welfare of the raters. Further exploration of these possible mediating variables will resolve this question.

Regarding causal attributions for DBDs, analysis revealed a similar structure as in study one, with the same six causal factors. Four of them referred to environmental influences (parental absence, parental fault, difficult life

circumstances and strict environment), one to biological causes and one to the child's own fault.

Important sex differences were found regarding three of the above causal attributions: parental absence and biological cause were significantly more likely to be attributed to female DBD whereas parental fault was significantly more likely to be attributed to male DBD. Parental absence and biological cause are absolutely out of the child's control, which is consistent with the third hypothesis of the thesis that DBDs would be perceived more often as out of the child's control in the case of girls. At this point, therefore, it is prudent to acknowledge that parental fault, mostly attributed to boys, also seems out of the child's control. However, it should be reminded that parental fault includes lack of discipline as well as child spoiling, which, in many cases, may result from the interaction between parenting style and specific child behaviours (Dix et al., 1989).

Weiner (1980) suggested that, if a behaviour is regarded as being under the deliberate control of another, our resulting behaviours toward the agent are likely to be negative. In keeping with this argument we can postulate that, attributing the girls' behaviour to causes out of their control could result in more positive interactions between them and their educators.

It is noteworthy that in the previous study, biological cause was more likely to be attributed to boys. The failure to replicate this finding is difficult to explain. However, the substantially larger sample size encourages heavier reliance on the current finding. Moreover, the use of different vignettes, emphasising different aspects of DBDs might have played a role in the discrepancy between these findings.

Trainee nursery teachers seem to differentiate the three subtypes of DBDs presented in terms of causality. The impact of the specific DBD subtype on causal attributions is confirmed by other research on educator perceptions as well,

where it has been demonstrated that beliefs vary with the type of problem behaviour that is exhibited. Specifically, teachers are generally more upset by defiant or aggressive behaviour than other types of behaviour and they also believe that children have more control over defiant and aggressive acts (Lovejoy, 1996).

In the present study, parental absence and biological cause were more often related to inattentiveness. Thus, inattentiveness seems to be considered as the result either of organic problems or circumstances that might cause psychological instability, like the death of a parent or a divorce. Second, strict environment was more often related to CD that was also considered as the least endogenous of the three DBD subtypes presented. Finally, child's fault was more often related to hyperactivity-impulsivity. In other words, hyperactivity was mostly viewed as a condition reflecting the child's tendency to seek attention and upset his / her parents and teachers. These causal attributions probably explain why hyperactivity is considered as a condition that doesn't significantly affect a child's popularity and happiness.

Regarding parental responses to DBDs, trainee nursery teachers didn't differentiate their answers according to the child's sex. Only the subtype of DBDs had a significant effect, with the approach of the child being recommended less often in the case of hyperactivity-impulsivity and the change of the environment being recommended more often in the case of CD. These findings are consistent with the earlier findings about causal attributions. This consistency is supported in extant research that links reactions to another's behaviour to causal attributions made regarding this behaviour (Johnston et al., 1992).

In this study, it was reported that hyperactivity-impulsivity was more likely to be attributed to the child's own fault. Thus, the approach of the child, meaning more help and less strictness, doesn't seem to be regarded as an

appropriate parental response. Dix et al. (1989) provide further evidence for this, having found that attributions of intentionality and responsibility predict stronger response to misbehaviour. Following the same logic, since CD is considered as the least endogenous of the three DBD subtypes and more likely to be attributed to environmental contingencies, especially strict environment, efforts to change the environment seem the most appropriate response.

This latter finding also relates to the choice of non-professional advice seeking in the case of CD. No other sex or DBD subtype effects were found regarding recommended source of advice seeking.

As predicted, both perceived severity and untypicality are positively correlated with causal attributions out of the child's control (biological cause). It seems that the more severe and / or untypical a behaviour is considered, the less the child is considered as being responsible for this behaviour. This idea is also supported by the negative correlation found between perceived untypicality and severity and causal attributions of child's fault.

Moreover, consistent with our predictions, both perceived severity and attributions of biological causes were positively correlated with professional advice seeking for both sexes. It was found that severity predicted professional advice seeking only for boys when all three DBD subtypes were examined together, but it predicted professional advice seeking for both sexes when analysis was limited to hyperactivity - impulsivity. It seems logical that the more severe a condition is considered, the most likely is the parent to seek professional rather than non-professional advice. Alternatively, if a condition is attributed to biological causes, the most likely is for the parent to visit a specialist.

In contrast, ratings of untypicality didn't predict professional advice seeking. However, there was a trend for



professional advice seeking to be linked to ratings of untypicality for girls. A similar finding appeared in study one, where there was a trend for untypicality to be linked to parental concern. In both studies, statistical significance wasn't reached, but these findings constitute at least an indication that a girl's behaviour that doesn't fulfil social expectations regarding traditional female role stereotypes might generate dynamic remedial efforts.

To summarise, this study confirmed our predictions regarding the following: higher degree of untypicality conferred to the girls' behaviour; causal attributions out of the child's control for girls; positive interactions between perceived severity and causal attributions out of the child's control; positive interactions between severity and professional advice seeking; positive interactions between severity and untypicality on the one hand and more supportive parental responses on the other.

The main predictions that were not confirmed concerned the lack of association between perceptions of severity and untypicality and the higher ratings of severity conferred to the boys' behaviour. Possible explanatory mechanisms that have been proposed for these findings are to be investigated in study four, after having tested all our predictions in a sample of parents in study three.

## CHAPTER 6 - STUDY THREE: INVESTIGATION OF PARENTS' PERCEPTIONS

### 6.1. Rationale

Attribution research provides evidence that the target for attribution is not the only determinant of the explanation offered, as different raters may reason in different ways about the same behaviour (Miller, 1995). It is suggested that "comparisons among judges who vary in experience or in emotional investment with the target are a primary source of evidence with respect to the question of where attributions come from" (Miller, 1995; pp. 1567). Moreover, it is important to examine the consistency of the attributional messages that children receive from various sources in order to determine the extent of their effects.

Having investigated trainee nursery teachers' perceptions and attributions about DBDs in boys and girls, a comparison of these results with the results of a sample of parents would help in the validation of several findings and the revelation of differences in perceptions, dependent on rater.

Parents are widely recognised to be the main socialising agents for children. Interactions with parents provide the context within which toddlers develop and practice their social competencies. Empirical work has confirmed that variations in parenting behaviour are associated with variations in children's pro-social behaviour (Rubin et al., 1998). Moreover, research into normative development has demonstrated that emotion regulation strategies develop, at least in part, through parent-child interaction (Zeman & Shipman, 1998).

Within the context of socialisation, the attribution of dispositions to children is important because *"inferring that children are intelligent, stubborn, or aggressive influences how adults react to them and which dispositions and behaviours children ultimately acquire"* (Dix, 1993; pp. 633).

Mothers are the primary caregivers and usually spend more time with children. Moreover, maternal reports are probably the most viable means of obtaining judgement of a general nature of pre-school children (Achenbach, 1978; Carey, 1982). However, fathers also play a dominant role in shaping children's behaviour but research on them is rather limited. Their inclusion in studies about parental attributions regarding child's problem behaviour seems important.

In general, studies examining possible differences between mothers' and fathers' attributions about child behaviour give the impression of similarity rather than difference (Miller, 1995). The studies reporting no mother-father differences cover both the social (Dix et al., 1986; Mills & Rubin, 1990) and cognitive (Cashmore & Goodnow, 1986; Yee & Eccles, 1988) domains.

Regarding perceptions of behaviour problems, some studies have found that, relative to mothers, fathers underestimate these problems (Earls, 1980). Fathers rate AD/HD as less problematic than mothers (Mash & Johnston, 1983). Four explanations are proposed by Lancaster et al. (1989): a) that fathers have less information about their child; b) that children behave differently with each parent; c) that characteristics of mothers and fathers differentially influence their perceptions of their children; or d) that all the preceding factors are influential.

The comparison of the findings of the two previous studies with findings from a sample of parents seems imperative in order to draw valid conclusions about sex differences in social perceptions about AD/HD and other DBDs. The same predictions as in study two are to be investigated.

Additionally, study three aims:

- I. to examine whether potential sex differences in parental perceptions and attributions interact with the sex of the rater (mother, father).

II. to examine the impact of parents' own experiences with their daughter or son on their perceptions. It is predicted that parents whose child displays problematic behaviour will rate the DBD subtypes presented in the vignette as less problematic and untypical, due to their familiarisation with such behaviour. On the other hand, it is possible that just the opposite is true, that is, the condition being rated as more problematic as these parents might have realised that such behaviour deviates from "normality".

## **6.2 Method**

### **6.2.1 Participants**

The sample consisted of 634 parents (317 mothers and 317 fathers) of boys and girls aged 4-6, enrolled in kindergartens and nursery schools in Athens. Only data from cases where both a child's parents filled in the questionnaires were considered for analysis. Parents' mean age was 34.8 years, with a SD of 4.88 years. Half of the sample had completed primary school in Athens and the other half were almost equally divided into three groups. One third had finished primary school in another big city, on third in a small province city and one third in a village. The educational level of the parents participating in the study was relatively high, as 48.7% had finished college or university and 34.9% had finished high school.

### **6.2.2 Measures**

- I. Parents completed the same parenting attributions questionnaires as used in study two (cf. Appendices 8,9).
- II. The parents questionnaires also included an extended version of the Strengths and Difficulties Questionnaire

(SDQ; Goodman, 1997; cf. Appendix 10). The SDQ is a brief behavioural screening questionnaire that asks about children's symptoms and positive attributes. It can be completed by the parents or teachers of children aged 4 to 16. The SDQ presents 25 attributes, some positive and others negative and asks the respondent whether he / she thinks that these attributes are "not true", "somewhat true" or "certainly true" for the child in question. These 25 items cover the following areas:

- a. emotional symptoms (5 items)
- b. conduct problems (5 items)
- c. hyperactivity / inattention (5 items)
- d. peer relationship problems (5 items)
- e. pro-social behaviour (5 items)

Twenty of these items (excluding the items from the pro-social behaviour scale) are added together to generate a total difficulties score. According to the norms provided, a child can be assigned to one of the following categories in each scale: normal, borderline, and abnormal.

The extended version of the SDQ also includes an impact supplement that asks if the respondent thinks the child has a problem, and if so, enquires further about chronicity, distress, social impairment and burden to others.

The SDQ has been found to have good psychometric properties, with satisfactory reliability and validity that make it a useful brief measure of the adjustment and psychopathology of children and youth (Goodman, 2001).

This instrument was included in the measures used in order to assess whether own children's disruptive behaviour influences perceptions of disruptive behaviour in hypothetical children.

### **6.2.3 Procedure**

The parents were given the questionnaires by the nursery teacher of their child and they were asked to fill them in at home. In each classroom only questionnaires of one version were administered. Two identical questionnaires were administered per family (to mothers and fathers) and the nursery teacher explained that if possible both parents should complete the questionnaires. A letter accompanied the questionnaire, explaining the purposes of the research, assuring the participants that personal information would not be released and results of this study would not include any identifying characteristics (c.f. Appendix 11). The questionnaires were then collected by the nursery teacher and handed in to the researcher. Twenty-five nursery schools in Athens participated in this study.

## **6.3 Results**

### **6.3.1 The profile of the data**

Two thousand questionnaires were administered to parents and six hundred and thirty-four were collected (approximately 25% response rate). The greatest difficulty encountered was the unwillingness of the fathers to participate. The length of the questionnaires was another reason for the low participation of parents. Only data from families where both parents completed the questionnaires were considered for analysis. The profile of the completed questionnaires is given in Table 6.1.

TABLE 6.1

Frequencies of the questionnaires returned by participant's sex, DBD subtype and sex of the child presented in the vignette

Participants' sex	DBD subtype	Sex		Total
		M	F	
Fathers	Hyperactive Type	50	114	164
	Inattentive Type	30	49	79
	Conduct Disorder	35	39	74
	Total	115	202	317
Mothers	Hyperactive Type	50	114	164
	Inattentive Type	30	48	78
	Conduct Disorder	35	40	75
	Total	115	202	317
Total		230	404	634

Note: M=Male, F=Female

### **6.3.2 Perceptions about the nature of the three DBD subtypes presented in the vignette**

A Principal Component Analysis with minimum eigenvalues set at 1.00 and using varimax rotation was performed on the ratings of the 12 items relating to the nature of the DBD subtype presented in the vignette. The factor analysis yielded four factors that accounted for 61.93% of the variance (Table 6.2). No ratings showed multiple loadings across factors. The items loading on the first factor reflected perceived untypicality of the behaviour. The second factor referred to perceived severity. The third factor related to perceived social impact of the behaviour and the fourth factor referred to perceived endogeneity of the behaviour.

TABLE 6.2

Principal Component Analysis of perceptions about the  
nature of the three DBD subtypes presented in the vignette

Factor	1	2	3	4
Percent variance	20.50	18.30	12.23	10.89
Item				
Untypicality for age	.69			
Untypicality for sex	.83			
Uniqueness	.68			
Rarity	.75			
Severity		.52		
Stability		.79		
Globality		.66		
Parental concern		.67		
Unpopularity			.83	
Unhappiness			.63	
Specificity				.85
Uncontrollability				.58

Note: Factor loadings with absolute values less than .40 are not reported.

In order to examine the possible influence of the independent variables (child's sex, parent's sex and DBD subtype) and their interactions on perceptions regarding the nature of the DBD subtype presented in the vignette, four multifactorial ANOVAs were performed. The independent variables have been entered as between subject variables and each one of the four factors revealed by the factor analysis (untypicality, severity, social impact and endogeneity) as the dependent variable, separately, in each one of the four analyses. Where *p* values reached statistical significance, post-hoc analyses were performed.



TABLE 6.3

Fathers' and mothers' ratings of the nature of the three  
DBD subtypes presented in the vignette for boys and girls

Factor	Parents' sex	Type of condition	Males (N=230)		Females (N=404)		Total (N=634)	
			Mean	SD	Mean	SD	Mean	SD
Untypicality	Fathers	Hyperactivity	-.26	1.14	.30	.91	.13	1.02
		Inattentiveness	-.41	.95	.03	.92	-.13	.95
		Conduct Disorder	-.52	.99	.04	.99	-.23	1.02
		Total	-.38	1.04	.19	.94	-.01	1.01
	Mothers	Hyperactivity	-.43	1.05	.34	.83	.11	.97
		Inattentiveness	-.32	1.06	.17	.89	-.02	.98
		Conduct Disorder	-.45	.99	.14	1.03	-.15	1.04
		Total	-.41	1.02	.26	.88	.01	.99
	Total	Hyperactivity	-.34	1.09	.32	.87	.12	.99
		Inattentiveness	-.36	1.00	.09	.90	-.07	.96
		Conduct Disorder	-.49	.98	.09	1.00	-.19	1.03
		Total	-.39	1.03	.22	.91	.00	1.00
Severity	Fathers	Hyperactivity	-.53	1.15	-.13	.94	-.25	1.02
		Inattentiveness	-.15	1.00	-.13	.81	-.14	.88
		Conduct Disorder	.57	1.16	.30	1.03	.43	1.10
		Total	-.09	1.21	-.05	.94	-.06	1.04
	Mothers	Hyperactivity	-.13	1.00	-.01	.89	-.05	.92
		Inattentiveness	-.08	1.00	-.05	.78	-.06	.87
		Conduct Disorder	.62	.95	.35	1.05	.48	1.00
		Total	.11	1.03	.04	.90	.06	.95
	Total	Hyperactivity	-.33	1.09	-.07	.91	-.15	.98
		Inattentiveness	-.11	1.00	-.09	.79	-.11	.87
		Conduct Disorder	.59	1.05	.33	1.03	.45	1.05
		Total	.00	1.12	-.00	.92	-.00	1.00
Endogeneity	Fathers	Hyperactivity	-.40	.98	-.33	.97	-.35	.97
		Inattentiveness	-.09	.79	.14	.85	.05	.83
		Conduct Disorder	.53	1.08	.43	1.02	.47	1.04
		Total	-.04	1.04	-.07	.99	-.06	1.01
	Mothers	Hyperactivity	-.18	.92	-.35	.97	-.30	.95
		Inattentiveness	.18	.75	.50	.68	.38	.72
		Conduct Disorder	.40	1.15	.66	.83	.54	1.00
		Total	.09	.98	.04	.99	.05	.99
	Total	Hyperactivity	-.29	.95	-.34	.97	-.32	.96
		Inattentiveness	.04	.77	.32	.77	.22	.79
		Conduct Disorder	.46	1.11	.54	.93	.51	1.02
		Total	.02	1.01	-.01	.99	.00	1.00
Social impact	Fathers	Hyperactivity	-.07	1.09	.13	.85	.06	.93
		Inattentiveness	-.03	.89	-.03	.92	-.03	.89
		Conduct Disorder	.12	.96	-.19	1.36	-.04	1.19
		Total	-.00	1.00	.02	.98	1.53	.99
	Mothers	Hyperactivity	.11	1.14	.15	.87	.14	.95
		Inattentiveness	.13	.89	-.00	.92	.04	.91
		Conduct Disorder	-.29	1.12	-.54	1.19	-.42	1.16
		Total	-.00	1.08	-.01	.98	-.01	1.02
	Total	Hyperactivity	.01	1.11	.14	.86	.10	.94
		Inattentiveness	.05	.89	-.02	.91	.00	.90
		Conduct Disorder	-.09	1.06	-.37	1.28	-.23	1.18
		Total	-.00	1.04	.00	.98	-.00	1.00

Note: Higher ratings indicate the behaviour is rated as more untypical, severe, endogenous and with more negative impact.

Regarding perceived untypicality of the DBD subtype, significant effects were obtained for child's sex [ $F(1,604)=44.99, p<.001$ ]. Inspection of the means presented in Table 6.3 shows that all three DBD subtypes were perceived as significantly more untypical for girls.

Regarding ratings of perceived severity of dysfunction, a significant DBD subtype effect was found [ $F(2,604)=23.00, p<.001$ ] (Table 6.4.) as well as a child's sex X DBD subtype effect [ $F(2,604)=3.45, p<.05$ ].

Specifically, CD received the highest ratings on perceived severity, differing significantly from both hyperactivity and inattentiveness. Moreover, it was found that hyperactivity was rated as significantly more severe for girls than for boys (Figure 6.1).

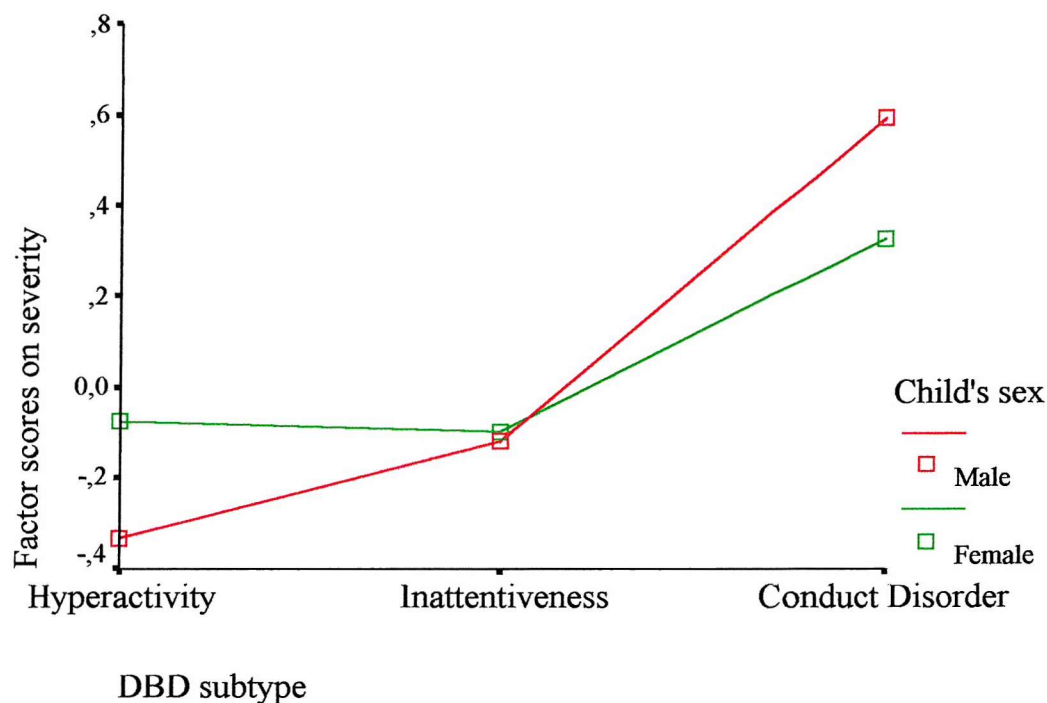


Figure 6.1

Ratings of severity for the three DBD subtypes in boys and girls

However, further analysis revealed a 3-way interaction between child's sex X DBD subtype X parent's sex [ $F(2,604)=24.25$ ,  $p<.001$ ], showing that the girls' hyperactive behaviour was considered as significantly more severe than boys' hyperactive behaviour mostly by fathers, as shown in Figure 6.2

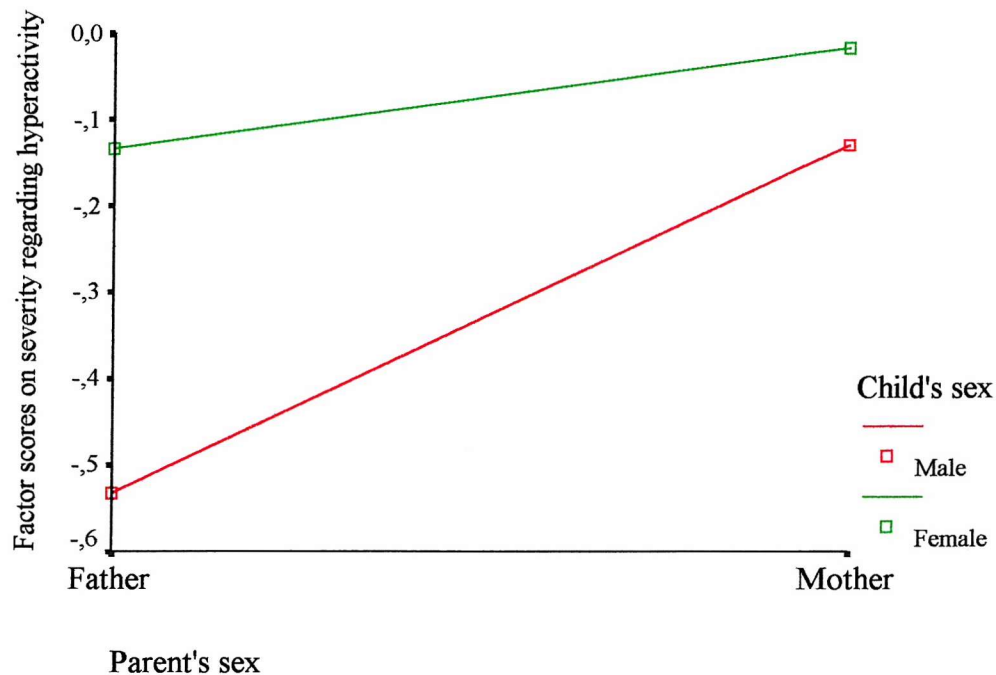


Figure 6.2

Ratings of severity for hyperactivity in boys and girls by parents

There was a significant effect of DBD subtype on ratings of social impact [ $F(2,604)=38.86$ ,  $p<.001$ ], with CD rated as the DBD subtype with the most negative impact for both boys and girls, inattentiveness rated as the DBD subtype with the second negative impact and hyperactivity, rated as the DBD subtype with the least negative impact (Table 6.3).

A significant effect of the DBD subtype was also found on ratings of endogeneity [ $F(2,604)=4.52$ ,  $p=.01$ ], with CD receiving significantly lower ratings of endogeneity, compared to the other two DBD subtypes, which didn't differ significantly from each other (Table 6.3).

### **6.3.3 Attributions about the causes of the three DBD subtypes presented in the vignette**

The associations between the twenty-five ratings of likely causes of the DBD subtype presented in the vignette were examined using a principal component analysis, with an orthogonal rotation to varimax solution. The initial factor analysis provided six factors. However, the two items of the last factor also loaded on other factors so a five-factor solution was forced, accounting for 48.06% of the variance (Table 6.8). The first factor related to parental absence, the second one to child's fault, the third one to biological cause, the fourth factor referred to parental fault, and the last factor related to difficult life circumstances.

TABLE 6.4

Principal Component Analysis of causal attributions about  
the three DBD subtypes presented in the vignette

Factor	1	2	3	4	5
Percent variance	12.68	9.60	9.46	8.79	7.52
Item					
Mother's death	.81				
Father's death	.79				
Divorced parents	.76				
Single-parent family	.74				
Recent bereavement	.67				
Child's enjoyment		.67			
Lack of discipline		.67			
Attention seeking		.72			
Spoilt child		.74			
Purposeful behaviour		.50			
Mental sub-normality			.79		
Premature birth			.72		
Mild brain damage			.83		
Indifferent parents				.71	
Strict parents				.57	
Unloving parents				.76	
Can't help it				-.45	
By nature				-.52	
Strict school					.71
Deafness					.55
Inner city area					.60
Working mother					.45

Note: Factor loadings with absolute values less than .45 are not reported.

The effect of the independent variables (child's sex, parent's sex and DBD subtype) and their interactions on causal attributions was examined. Five multifactorial ANOVAs were carried out, using each one of the five causal factors as the dependent variable, separately, in each one of the five analyses (Table 6.5). Where *p* values reached statistical significance, post-hoc analyses were performed.

TABLE 6.5

Fathers' and mothers' causal attributions about the three DBD subtypes presented in the vignette for boys and girls

Factor	Parents' sex	Type of condition	Males (N=230)		Females (N=404)		Total (N=634)	
			Mean	SD	Mean	SD	Mean	SD
Parent. absence	Fathers	Hyperactivity	-.24	1.00	-.07	.90	-.13	.94
		Inattentiveness	.06	1.02	.02	1.11	.03	1.07
		Conduct Disorder	-.11	1.34	-.16	1.07	-.14	1.18
		Total	-.13	1.09	-.06	.99	-.08	1.02
	Mothers	Hyperactivity	-.13	.90	.02	.96	-.02	.94
		Inattentiveness	.27	1.08	.27	.93	.27	.99
		Conduct Disorder	.18	1.07	.19	.95	.19	1.00
		Total	.06	1.00	.10	.95	.09	.97
	Total	Hyperactivity	-.19	.95	-.02	.93	-.07	.94
		Inattentiveness	.17	1.05	.14	1.03	.15	1.03
		Conduct Disorder	.04	1.19	.00	1.02	.02	1.09
		Total	-.03	1.05	.01	.97	.00	1.00
Child's fault	Fathers	Hyperactivity	.33	.75	.21	.82	.25	.79
		Inattentiveness	-.51	.99	-1.00	.91	-.81	.97
		Conduct Disorder	.43	.73	-.04	.75	.15	.77
		Total	.13	.90	-.11	.96	-.02	.94
	Mothers	Hyperactivity	.16	.81	.30	.96	.26	.92
		Inattentiveness	-.71	1.38	-.88	1.05	-.81	1.20
		Conduct Disorder	.38	.76	.31	.71	.35	.73
		Total	-.01	1.07	.05	1.05	.02	1.06
	Total	Hyperactivity	.25	.78	.25	.89	.25	.86
		Inattentiveness	-.61	1.20	-.94	.98	-.81	1.08
		Conduct Disorder	.40	.74	.12	.75	.25	.75
		Total	.05	.99	-.03	1.00	.00	1.00
Biolog. cause	Fathers	Hyperactivity	-.23	.89	.24	1.07	.09	1.04
		Inattentiveness	-.15	1.05	.23	1.06	.08	1.06
		Conduct Disorder	-.08	.83	-.48	.68	-.32	.76
		Total	-.17	.91	.10	1.04	.00	1.00
	Mothers	Hyperactivity	-.03	1.12	.18	.98	.12	1.02
		Inattentiveness	-.22	1.08	.17	.98	.00	1.03
		Conduct Disorder	-.29	.82	-.39	.81	-.34	.81
		Total	-.16	1.02	.07	.98	-.00	1.00
	Total	Hyperactivity	-.14	1.00	.21	1.03	.11	1.03
		Inattentiveness	-.19	1.05	.20	1.02	.04	1.04
		Conduct Disorder	-.19	.82	-.44	.74	-.33	.78
		Total	-.17	.97	.09	1.00	-.00	1.00
Parental fault	Fathers	Hyperactivity	-.09	.93	.00	1.06	-.00	1.02
		Inattentiveness	.05	1.05	-.01	.91	.01	.96
		Conduct Disorder	-.01	1.05	.00	1.07	-.00	1.05
		Total	-.03	.98	.00	1.02	-.00	1.00
	Mothers	Hyperactivity	-.18	.93	-.13	.99	-.14	.97
		Inattentiveness	-.00	1.03	.19	.94	.09	.97
		Conduct Disorder	.56	.95	.09	1.04	.31	1.02
		Total	.07	1.00	-.02	.99	.02	.99
	Total	Hyperactivity	-.14	.92	-.00	1.02	-.08	.99
		Inattentiveness	.01	1.03	.08	.92	.05	.96
		Conduct Disorder	.30	1.03	.04	1.05	.16	1.04
		Total	.01	.99	-.01	1.00	.00	1.00
Diff. circumst.	Fathers	Hyperactivity	-.08	1.00	-.28	1.01	-.22	1.00
		Inattentiveness	.65	1.02	.20	.95	.37	1.00
		Conduct Disorder	.32	.90	-.03	.81	.11	.85
		Total	.20	1.02	-.12	.98	-.00	1.00
	Mothers	Hyperactivity	-.01	.80	-.22	.99	-.16	.94
		Inattentiveness	-.04	1.21	.04	.84	.00	1.00
		Conduct Disorder	.71	.95	.23	1.01	.46	1.00
		Total	.18	1.02	-.08	.98	.00	1.00
	Total	Hyperactivity	-.05	.91	-.25	1.00	-.19	.98
		Inattentiveness	.29	1.16	.13	.90	.19	1.01
		Conduct Disorder	.53	.94	.08	.91	.28	.94
		Total	.19	1.02	-.11	.98	-.00	1.00

Note: Higher ratings indicate factors are judged more likely to be causal.

A significant parent's sex effect was found for the causal factor related to parental absence [ $F(1,525)=5.02$ ,  $p<.05$ ], with mothers being more likely than fathers to attribute the DBD subtype presented in the vignette to this factor. (Table 6.5).

Regarding the causal factor related to the child's fault, a significant child's sex effect was found [ $F(1,525)=5.12$ ,  $p<.05$ ], with boys getting significantly higher ratings on this factor than girls (Table 6.5). Moreover, a main DBD subtype effect was found  $F(2,525)=60.86$ ,  $p<.001$ ], with inattentiveness getting significantly lower ratings than the other two DBD subtypes, which didn't differ significantly from each other (Table 6.5).

A significant DBD subtype effect [ $F(2,525)=5.24$ ,  $p<.01$ ] was demonstrated for the biological cause factor. The Scheffe test indicated that lower ratings were given to the DBD subtype of CD, whereas the other two DBD subtypes didn't differ significantly from each other (Table 6.5).

No significant effects of any of the independent variables were demonstrated on the causal factor related to parental fault.

A significant child's sex effect was obtained for the difficult life circumstances factor [ $F(1,525)=7.88$ ,  $p<.01$ ], with boys getting significantly higher ratings on this factor than girls (Table 6.5). Finally, a significant DBD subtype effect was found [ $F(2, 525)=10.99$ ,  $p<.001$ ], with hyperactivity getting significantly lower ratings on this factor compared to the other two DBD subtypes which didn't differ significantly between them (Table 6.5).

### 6.3.4 Perceptions about recommended parental reactions to the three DBD subtypes presented in the vignette

A factor analysis using varimax rotation was performed on the ten items regarding recommended parental reactions to the DBD subtype presented in the vignette. Four factors were extracted, accounting for 52.51% of the variance (Table 6.6). The items loaded on the first factor reflected a tendency to approach the child, the items loaded on the second factor reflected a tendency to change the child's environment, the third factor referred to more strictness and the fourth factor referred to reduced control.

TABLE 6.6

Principal Component Analysis of perceptions  
about recommended parental reactions

Factor	1	2	3	4
Percent variance	15.60	13.70	12.00	11.22
Item				
Show more love	.65			
Try and work it out	.65			
Ask why he/she is unhappy	.77			
Help with schoolwork		.58		
Move school		.50		
Change diet		.65		
New friends		.55		
Stop watching			.62	
Stop spoiling him/her			.76	
Leave alone				.75
Less strict at home				.68

Note: Factor loadings with absolute values less than .40 are not reported.

Four multifactorial ANOVAs were carried out, using each one of the four factors revealed by the above factor analysis as the dependent variable, separately, in each one of the four analyses (Table 6.7).



TABLE 6.7

Fathers' and mothers' ratings of recommended  
parental reactions for boys and girls

Factor	Parents ' sex	Type of condition	Males (N=230)		Females (N=404)		Total (N=634)	
			Mean	SD	Mean	SD	Mean	SD
Approach	Fathers	Hyperactivity	-.51	1.15	-.13	1.00	-.24	1.06
		Inattentiveness	.02	.90	.00	.99	.01	.95
		Conduct Disorder	.15	.72	.08	1.00	.11	.88
		Total	-.19	1.02	-.05	1.00	-.10	1.00
	Mothers	Hyperactivity	-.18	.95	-.15	1.02	-.16	1.00
		Inattentiveness	.36	.87	.40	1.02	.38	.96
		Conduct Disorder	.61	.67	.31	.85	.45	.78
		Total	.19	.91	.05	1.02	.11	.99
	Total	Hyperactivity	-.35	1.06	-.14	1.01	-.20	1.03
		Inattentiveness	.19	.89	.19	1.02	.19	.97
		Conduct Disorder	.39	.73	.19	.93	.28	.85
		Total	.00	.98	-.00	1.01	.00	1.00
Change envir.	Fathers	Hyperactivity	-.20	1.10	-.33	1.08	-.29	1.08
		Inattentiveness	.01	.98	.36	.94	.23	.96
		Conduct Disorder	.29	.81	-.00	.71	.12	.76
		Total	-.00	1.00	-.11	1.02	-.07	1.02
	Mothers	Hyperactivity	.29	.89	-.29	.97	-.11	.98
		Inattentiveness	.17	.95	.23	1.00	.20	.97
		Conduct Disorder	.50	.83	.31	.94	.40	.89
		Total	.32	.89	-.06	1.00	.07	.98
	Total	Hyperactivity	.04	1.03	-.31	1.02	-.20	1.04
		Inattentiveness	.09	.96	.30	.96	.22	.96
		Conduct Disorder	.40	.82	.14	.84	.26	.84
		Total	.16	.96	-.08	1.01	-.00	1.00
Strictness	Fathers	Hyperactivity	-.05	.95	-.13	.94	-.11	.94
		Inattentiveness	.22	.88	-.09	1.02	.02	.98
		Conduct Disorder	.74	.91	-.02	.98	.31	1.02
		Total	.24	.97	-.10	.96	.01	.98
	Mothers	Hyperactivity	-.02	1.10	-.13	.95	-.09	1.00
		Inattentiveness	-.14	1.22	-.33	1.03	-.25	1.10
		Conduct Disorder	.57	.74	.24	.99	.40	.89
		Total	.13	1.08	-.10	.99	-.01	1.02
	Total	Hyperactivity	-.04	1.02	-.13	.94	-.10	.97
		Inattentiveness	.04	1.07	-.21	1.02	-.11	1.05
		Conduct Disorder	.65	.82	.10	.99	.35	.95
		Total	.18	1.02	-.10	.97	.00	1.00
Red. control	Fathers	Hyperactivity	-.00	.79	-.00	.96	-.00	.91
		Inattentiveness	.08	.88	-.01	1.00	.02	.95
		Conduct Disorder	-.25	.95	-.04	.93	-.14	.93
		Total	-.05	.86	-.01	.96	-.02	.92
	Mothers	Hyperactivity	-.17	1.13	.08	1.06	.00	1.08
		Inattentiveness	.06	.92	.11	.72	.08	.80
		Conduct Disorder	.16	1.37	-.11	1.20	.01	1.28
		Total	-.01	1.16	.05	1.02	.02	1.07
	Total	Hyperactivity	-.08	.97	.04	1.00	.00	1.00
		Inattentiveness	.07	.89	.04	.88	.05	.88
		Conduct Disorder	-.04	1.19	-.07	1.06	-.05	1.12
		Total	-.03	1.02	1.84	.99	.00	1.00

Note: Higher ratings indicate the parental reaction is more likely to be recommended.

There was a significant parent's sex effect [ $F(1,566)=10.31$ ,  $p=.001$ ] on the factor "approach the child", with mothers giving higher ratings than fathers. Moreover, a main DBD subtype effect was found [ $F(2,566)=16.51$ ,  $p<.001$ ]. The Scheffe test revealed that significantly lower ratings on this factor were given in the case of hyperactivity (Table 6.7).

Significant parent's sex and DBD subtype effects were also obtained for the factor "change the environment" [ $F(1,566)=4.05$ ,  $p<.05$ , and  $F(2,566)=9.57$ ,  $p<.001$ ] respectively. Mothers were found to give higher ratings on this factor than fathers. Moreover, lower ratings on this factor were given in the case of hyperactivity (Table 6.7).

However, a significant child's sex X DBD subtype effect [ $F(2,566)=3.56$ ,  $p<.05$ ], revealed that the above finding was true mainly for hyperactive girls (Figure 6.3).

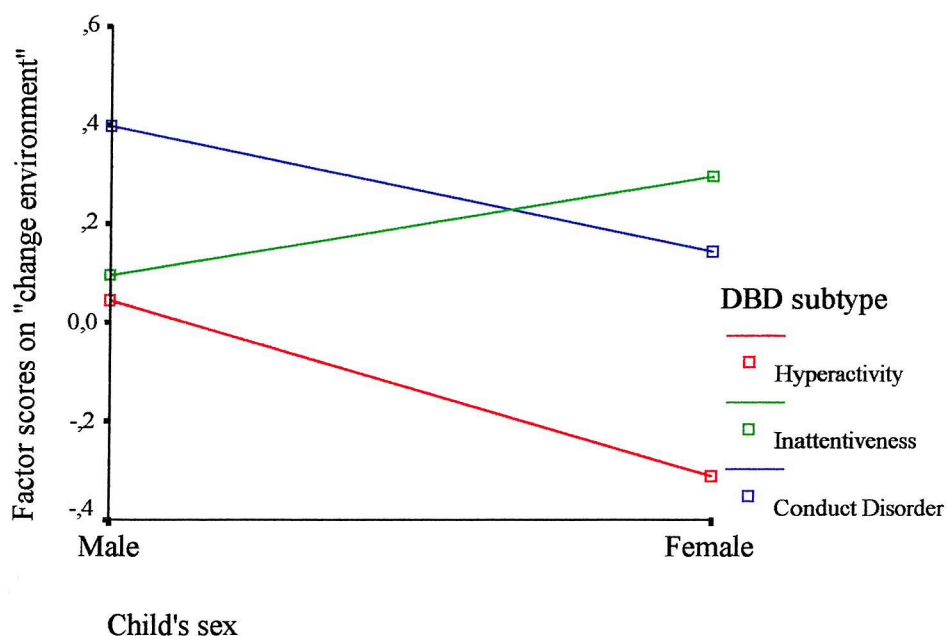


Figure 6.3

Ratings of "change environment" for the 3 DBD subtypes in boys and girls

Significant child's sex and DBD subtype effects were obtained for strictness [ $F(1,566)=10.90$ ,  $p=.001$ , and  $F(2,566)=11.31$ ,  $p<.001$  respectively]. Results showed that significantly higher ratings on this factor were given to males than females. Moreover, significantly higher ratings on this factor were given in the case of CD (Table 6.7).

Finally, there were found no significant effects of the independent variables in relation to the 'reduced control' factor (Table 6.7).

### **6.3.5 Perceptions about recommended sources of advice for the three DBD subtypes presented in the vignette**

The next part of the analysis concerned views about appropriate sources of advice. Principal component analysis performed on the eight proposed ratings produced two factors, accounting for 44.58% of the variance (Table 6.8). These two factors referred to professional and non-professional sources of advice respectively.

TABLE 6.8  
Principal Component Analysis of perceptions  
about recommended sources of advice seeking

Factor	1	2
Percent variance	23.33	21.25
Item		
Doctor	.64	
Child psychiatrist	.62	
Teacher	.53	
Books	.54	
Health visitor	.61	
Friends		.74
Grandparents		.83
Religious leader		.41

Note: Factor loadings with absolute values less than .40 are not reported.

Two two-way ANOVAs were carried out, using each one of the two factors revealed by the above factor analysis as dependent variables. These analyses revealed no significant effects of the independent variables on either of the two factors (Table 6.9).

TABLE 6.9

Fathers' and mothers' ratings of recommended sources of advice seeking for boys and girls

Factor	Parents ' sex	Type of condition	Males (N=230)		Females (N=404)		Total (N=634)	
			Mean	SD	Mean	SD	Mean	SD
Non-profes.	Fathers	Hyperactivity	-.43	1.41	-.15	1.00	-.24	1.15
		Inattentiveness	.33	.90	-.07	1.06	.07	1.02
		Conduct Disorder	.06	.90	.03	.71	.05	.80
		Total	-.09	1.20	-.09	.97	-.09	1.05
	Mothers	Hyperactivity	.13	1.27	.08	.92	.10	1.03
		Inattentiveness	-.05	.88	.29	.80	.15	.84
		Conduct Disorder	-.08	.87	.16	.64	.03	.77
		Total	.01	1.06	.15	.85	.09	.93
	Total	Hyperactivity	-.16	1.37	-.02	.97	-.06	1.10
		Inattentiveness	.13	.90	.09	.96	.11	.93
		Conduct Disorder	-.01	.88	.09	.68	.04	.78
		Total	-.03	1.13	.02	.92	.00	1.00
Professional	Fathers	Hyperactivity	-.43	1.41	-.15	1.00	-.24	1.15
		Inattentiveness	.33	.90	-.07	1.06	.07	1.02
		Conduct Disorder	.06	.90	.03	.71	.05	.80
		Total	-.09	1.20	-.09	.97	-.09	1.05
	Mothers	Hyperactivity	.13	1.27	.08	.92	.10	1.03
		Inattentiveness	-.05	.88	.29	.80	.15	.84
		Conduct Disorder	-.08	.87	.16	.64	.03	.77
		Total	.01	1.06	.15	.85	.09	.93
	Total	Hyperactivity	-.16	1.37	-.02	.97	-.06	1.10
		Inattentiveness	.13	.90	.09	.96	.11	.93
		Conduct Disorder	-.01	.88	.09	.68	.04	.78
		Total	-.03	1.13	.02	.92	.00	1.00

Note: Higher ratings indicate professional or non-professional advice seeking is more likely to be recommended.

#### 6.3.6 Inter-relationships among attributions about the nature, the causes, recommended parental reactions and sources of advice seeking

In order to investigate how different types of attributions about the DBD subtypes presented in the vignette

were related with each other, a series of correlational analyses were performed.

Table 6.10 shows the correlation between perceived untypicality and severity and causal factors. A significant positive association was found between ratings of untypicality and both biological cause and parental fault only for boys. A significant positive interaction was also found between severity and parental absence only for boys. A negative interaction was found between both untypicality and severity and child's fault for boys. A significant positive correlation was revealed between severity and parental fault, only for girls.

TABLE 6.10

Correlation between perceived untypicality, severity and causal factors for boys and girls

	Untypicality		Severity	
	M	F	M	F
Parental absence	.02	.05	.18*	.06
Child's fault	-.19*	-.04	-.16*	.09
Biological cause	.18*	.02	.07	-.07
Parental fault	.19*	-.01	.15	.17**
Difficult circumstances	-.05	-.04	-.03	-.00

Note: M = Male, F = Female. \*= $p < .05$ , \*\*= $p < .01$

Table 6.11 displays the correlation between perceived untypicality and severity, parental reactions and advice seeking for boys and girls. Untypicality was positively correlated with the approach to the child only for boys whereas severity was positively correlated with this reaction for both sexes. Severity was also positively correlated with the change of the environment only for boys.

Significant positive correlations were found between untypicality and professional advice seeking only for boys. Positive correlations were also found between severity and professional advice seeking for both boys and girls.

TABLE 6.11

Correlation between perceived untypicality and severity, parental reactions and advice seeking for boys and girls

	Untypicality		Severity	
	M	F	M	F
Approach the child	.15*	-.00	.30**	.19**
Change the environment	.11	-.05	.15*	.06
Be more strict	-.02	-.05	.04	.02
Reduced control	-.06	.04	-.17*	-.14**
Non-professional advice	-.12	-.03	-.14*	-.06
Professional advice	.28**	.08	.32**	.19**

Note: M = Male, F = Female. \*= $p < .05$ , \*\*= $p < .01$

The last correlational analysis was performed between causal attributions and advice seeking (Table 6.12). Results showed that professional advice seeking was positively correlated with biological cause and negatively correlated with child's fault only for boys. Moreover, it was positively correlated with parental absence and difficult life circumstances only for girls. Non-professional advice seeking was positively correlated with child's fault and difficult life circumstances and negatively correlated with parental fault only for boys.

TABLE 6.12

Correlation between perceptions about advice seeking  
and causal factors for boys and girls

	Professional advice seeking		Non-Professional advice seeking	
	M	F	M	F
Parental absence	.07	.28**	-.04	.08
Child's fault	-.24**	-.00	.24**	-.03
Biological cause	.26**	-.09	.09	.03
Parental fault	.13	.01	-.16*	-.01
Difficult circumstances	.12	.11*	.23**	.04

Note: M = Male, F = Female. \*= $p < .05$ , \*\*= $p < .01$

In order to predict their independent contribution to predicting professional advice seeking, untypicality, severity, biological cause, parental absence and difficult circumstances were entered as independent variables into a set of multiple regression analyses with professional advice seeking as the dependent measure (Table 6.13).

Attributions of severity were significant predictors of advice seeking for both boys and girls. Moreover, biological cause and untypicality accounted for a significant proportion of the variance in professional advice seeking only for boys whereas parental absence and difficult circumstances accounted for a significant proportion of the variance in professional advice seeking only for girls.

TABLE 6.13

Multiple regression of predictors  
of professional advice seeking

Variable	$\beta$		$t$		$p$	
	M	F	M	F	M	F
Untypicality	.24	.08	3.56	1.58	.00	.11
Severity	.30	.17	4.41	3.34	.00	.00
Biological cause	.20	-.06	2.87	-1.12	.00	.27
Parental absence	.03	.27	.44	5.18	.66	.00
Difficult circumstances	.12	.12	1.72	2.26	.09	.03

Note: M=Male, F=Female

A second set of multiple regression analyses was performed with perceived untypicality and severity as independent variables and approach of the child as the dependent measure (Table 6.14). Results showed that severity was a significant predictor of supportive parental responses for both sexes, whereas untypicality was a significant predictor of such responses only for boys.

TABLE 6.14

Multiple regression of predictors  
of "approach the child"

Variable	$\beta$		$t$		$p$	
	M	F	M	F	M	F
Untypicality	.15	.01	2.18	.10	.03	.92
Severity	.29	.19	4.40	3.72	.00	.00

Note: M=Male, F=Female



### **6.3.7 The effect of own child's problems on perceptions about the DBD subtype presented in the vignette**

The SDQs were also completed by both fathers and mothers. Both reports were taken into account for each child. Thus, each child could meet criteria for each problem category either to his/her mother report, his/her father report or both. The SDQ scores for the three behavioural categories related to the DBD subtypes examined in this thesis are presented separately for mothers (Table 6.15) and fathers (Table 6.16). The level of agreement between mother and father scores was ranging from .65 to .85, according to the subscale. The lower level of agreement was found on the "peer problems" subscale (Cohen's kappa=.65) and the higher on "total difficulties subscale" (Cohen's kappa=.85). Data concerning the other subscales is not presented here, as they are not relevant to the behaviours presented in the vignette. It should be noticed that the SDQ was used in order to indicate possible influence of own child's disruptive behaviour on parents' perceptions of this kind of behaviour in hypothetical children.

9.5 percent of the boys and 8.3 percent of the girls included in the sample received abnormal scores on the "total difficulties" category according to their mothers. 22 percent of the boys and 12.5 percent of the girls received abnormal scores on the "conduct problems" category. Finally, 14.4 percent of the boys and 7.6 percent of the girls received abnormal scores on the "hyperactivity" category. This difference was statistically significant ( $\chi^2=6.08$ ,  $p=.05$ ).

Table 6.15

Distribution of the 309 children of the sample  
to three behavioural categories by their mothers

Child's sex	Total difficulties category		
	Normal %	Borderline %	Abnormal %
Male	78.6	11.9	9.5
Female	84.7	6.9	8.3
Total	81.4	9.6	9
	Conduct problems category		
Male	58.9	19	22
Female	70.1	17.4	12.5
Total	64.1	18.3	17.6
	Hyperactivity category		
Male	78.4	7.2	14.4
Female	88.9	3.5	7.6
Total	83.3	5.5	11.3

Fathers' ratings of abnormality were slightly lower compared to mothers' but this difference wasn't statistically significant. As shown in Table 6.16., 7.4 percent of the boys and 6.3 percent of the girls received abnormal scores on the "total difficulties" category. 17.9 percent of the boys and 11.9 percent of the girls received abnormal scores on the "conduct problems" category. Finally, 14.2 percent of the boys and 4.2 percent of the girls received abnormal scores on the "hyperactivity" category. This difference was statistically significant ( $\chi^2=8.94$ ,  $p=.01$ ).

Table 6.16

Distribution of the 309 children of the sample  
to three behavioural categories by their fathers

Child's sex	Total difficulties category		
	Normal %	Borderline %	Abnormal %
Male	79	13.6	7.4
Female	84.7	9	6.3
Total	81.7	11.4	6.9
	Conduct problems category		
	Normal %	Borderline %	Abnormal %
Male	65.4	16.7	17.9
Female	69.2	18.9	11.9
Total	67.2	17.7	15.1
	Hyperactivity category		
	Normal %	Borderline %	Abnormal %
Male	79.6	6.2	14.2
Female	88.9	6.9	4.2
Total	84	6.5	9.5

Possible effects of each one of the above categories and / or their interaction with the sex of the child presented in the vignette on perceptions about the nature and causes of DBD were examined using a series of two-way ANOVAs. The independent variables (problems category and child's sex) have been entered as between subject variables and each one of the nature and causal factors as the dependent variable, separately, in each one of the analyses. Where  $p$  values reached statistical significance, post-hoc analyses were performed. Data based on the whole sample and on the separate samples of mothers and fathers have been analysed. The results presented below are based on the whole sample because no differences were revealed between mothers and fathers in the separate analysis. Furthermore, only results with statistical significance will be presented below.

A significant effect of own child's total difficulties ratings on perceptions about the severity of the DBD subtype presented in the vignette was demonstrated [ $F(2,600)=3.13$ ,  $p<.05$ ]. Post-hoc analyses showed that parents whose own child

received abnormal scores on the total difficulties category rated the DBD subtype presented in the vignette as less severe than parents whose own child received borderline scores on this category. Moreover, parents whose own child received borderline scores on the total difficulties category rated the DBD subtype presented in the vignette as less severe than parents whose own child received normal scores on this category. It seems that the greater familiarity parents have with such problems with their own child, the least severe rate the DBD subtype presented in the vignette, referring to a hypothetical child. Means are shown in Table 6.17

A similar result was found regarding ratings of social impact [ $F(2,600)=5.23$ ,  $p<.01$ ]. Post-hoc analyses showed that parents whose own child received borderline scores on the total difficulties category rated the DBD subtype presented in the vignette as having less negative impact on the child's life than parents whose own child received normal scores on this category (Table 6.17).

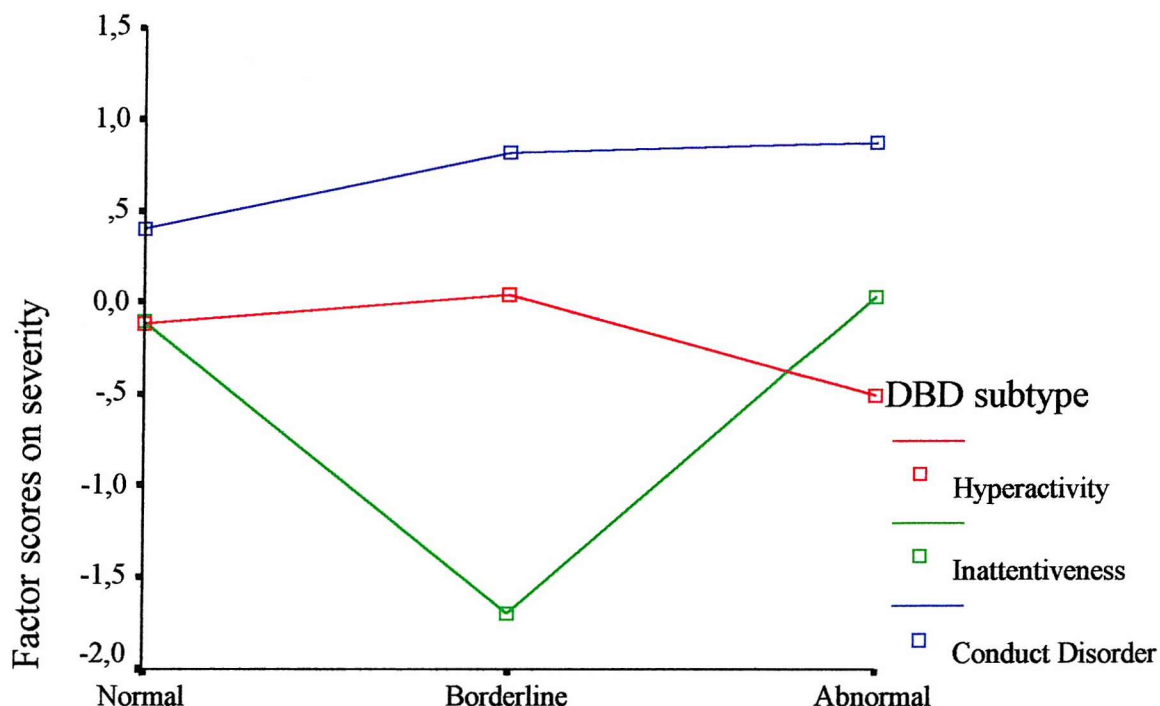
Table 6.17

Parents' ratings of severity of the three DBD subtypes presented in the vignette according to the level of own child's total difficulties

Total difficulties category	Ratings of severity	
	Mean	SD
Normal	.05	1.00
Borderline	-.14	.87
Abnormal	-.28	1.09
Ratings of negative social impact		
Normal	.07	.97
Borderline	-.40	1.03
Abnormal	-.21	1.13

Note: Higher ratings indicate the behaviour is rated as more severe and with more negative impact.

It was also found that the specific problem that parents' own child was facing had a significant impact on ratings of severity of this same problem when presented in the vignette. [ $F(4)=3.52, p<.01$ ]. More specifically, parents whose child was hyperactive, according to their answers to the SDQ, rated the hyperactive behaviour in the vignette as less severe in comparison with the other DBD subtypes (Figure 6.4).



Hyperact. category

Figure 6.4

The effect of having a hyper. child on ratings of severity of hyperact.

A similar pattern followed the results regarding the effect of own child's conduct problems on attributions about the untypicality of the DBD subtype presented in the vignette [ $F(4,596)=5.93, p<.01$ ]. Post-hoc analyses showed that parents whose own child received abnormal scores on the conduct problems category rated the DBD subtype presented in the

vignette as less untypical than parents whose own child received normal scores on this category (Table 6.18).

Table 6.18

Parents' ratings of untypicality of the three DBD subtypes presented in the vignette according to the level of own child's conduct problems

Conduct problems category	Ratings of untypicality	
	Mean	SD
Normal	.11	1.01
Borderline	-.12	.92
Abnormal	-.26	.98

Note: Higher ratings indicate the behaviour is rated as more untypical.

Regarding the effect of the independent variables on parents' causal attributions, it was found that parents whose child received abnormal scores on the conduct problems scale, were significantly less likely to attribute the DBD subtype presented in the vignette to parental fault compared to parents whose child received normal scores on this category [ $F(2,524)=5.31, p<.01$ ] (Table 6.19).

Table 6.19

Parents' ratings of parental fault as causal factor of the three DBD subtypes presented in the vignette according to the level of own child's conduct problems

Conduct problems category	Ratings of parental fault	
	Mean	SD
Normal	.06	.99
Borderline	.09	.91
Abnormal	-.33	1.05

Note: Higher ratings indicate the factor is more likely to be causal.

Before move to the discussion of these findings, we have summarised the results of the first three studies in Table 6.20, in relation to the predictions made at the introductory section.

Table 6.20

Predictions and results over the first three studies

Predictions	Study one (160 students)	Study two (492 students)	Study three (634 parents)
1. DBDs will be perceived as more untypical in the case of girls.	<b>YES</b>	<b>YES</b>	<b>YES</b>
2. DBDs will be perceived as more severe in the case of girls.	<b>NO</b> (equally severe)	<b>NO</b> (more severe for boys)	<b>YES</b> (partially) (hyperactivity rated as more severe for girls, by fathers)
3. DBDs will be perceived more often as out of the child's control in the case of girls.	<b>NO</b>	<b>YES</b>	<b>YES</b> (indirectly)
4. Perceptions of untypicality for DBDs will be positively correlated with perceptions of severity.	<b>NO</b>	<b>NO</b>	<b>NO</b>
5. Perceptions of untypicality and / or severity will be positively correlated with causal attributions out of the child's control.	a) untypicality <b>NO</b>  b) severity <b>YES</b> (for boys)	a) untypicality <b>YES</b>  b) severity <b>YES</b>	a) untypicality <b>YES</b> (for boys)  b) severity <b>YES</b> (for girls)
6. Perceptions of untypicality and / or severity will predict professional advice seeking and more supportive parental responses.	a) untypicality <b>NO</b>  b) severity <b>NO</b>	a) untypicality <b>NO</b>  b) severity <b>YES</b>	a) untypicality <b>YES</b> (for boys)  b) severity <b>YES</b>
7. Causal attributions out of the child's control will predict professional advice seeking.	<b>YES</b>	<b>YES</b>	<b>YES</b> (for boys)



## 6.4 Discussion

There are a large number of similarities between the results from this study and study 2.

First, this study replicated the structure of perceptions of the nature of DBDs revealed in study two: untypicality, severity, social impact and endogeneity. It also confirmed the lack of association between perceptions of untypicality and severity.

As in the two previous studies, DBDs were perceived as more untypical for girls than boys. Thus, perceived untypicality of a girl's externalising behaviour appears to be a robust finding across all subtypes of DBDs and all samples (trainee nursery teachers, mothers and fathers). Consequently, the first prediction of this thesis is confirmed.

In the previous study, the hyperactive-impulsive type of AD/HD was rated by trainee nursery teachers as more severe for boys. In contrast, in the present study, hyperactive behaviour was considered by fathers as more severe when displayed by girls than boys. This finding is consistent with our primary hypothesis regarding perceptions of severity. However, it seems that this kind of perception concerns only the case of hyperactivity and is influenced by the sex of the rater.

One possible explanation for this difference between mothers and fathers is that fathers usually engage in more rough-and-tumble play with their sons than with their daughters (Maccoby & Jacklin, 1975). In general, fathers stimulate gross motor activity mainly in boys and tend to treat girls as though they were more fragile than boys (Maccoby & Jacklin, 1975). Consequently, it may be concluded that a girl's hyperactive behaviour seems to them both untypical and problematic because they are much more familiarised with this pattern of behaviour when displayed by boys. On the contrary, mothers are not usually involved with this kind of play, so they don't differentiate between the

sexes in terms of their perceptions of severity of hyperactive behaviour.

There is also an alternative related explanation. Due to the fact that fathers do not engage in this kind of play with girls, they may feel less competent to deal with hyperactive behaviour when displayed by girls and more at ease when they are called to control boys' hyperactive behaviour. Thus, girls' hyperactive behaviour may be perceived as more severe because fathers perhaps don't feel sure about how to deal with it. These explanations are of course highly speculative, so, it would be interesting for future research to investigate them empirically with a larger sample of fathers.

Regarding the difference found in perceptions of severity between trainee nursery teachers and parents, a similar finding was revealed by Abikoff et al., (1993). These authors report that teachers rate AD/HD males as significantly more impaired than AD/HD females in comparison to parent reports. They claim that such differences in ratings may indicate a "halo" effect whereby teachers overly attend to disruptive behaviours and ignore positive behaviours (Abikoff et al., 1993).

Regarding causal attributions for DBDs, the same factors as in study two were extracted with the exception of "strict environment". In this study, the items "strict parents" and "strict school", previously loading on the factor "strict environment", were loading on "parental fault" and "difficult life circumstances" respectively.

Sex differences were found in relation to two of these factors: child's fault and difficult life circumstances were both significantly more likely to be attributed to male DBD. These findings do not entirely support our prediction that DBDs would be perceived more often as out of the child's control in the case of girls, but do support it partially and indirectly since DBDs were perceived more often as under the child's control in the case of boys.

CD was perceived as the least endogenous of the three DBD subtypes and the least likely to be attributed to biological cause, finding consistent with the results of the previous study. Moreover, inattentiveness was rated as the least likely DBD subtype to be attributed to child's fault. Other causal attributions did not clearly differentiate between the three DBDs presented.

It appears that, for parents, the most distinct DBD subtype regarding its nature and etiology is CD, as it is also considered as the most severe and the one with the most negative impact of the three. Earlier research also supports the above findings, in which inattentive - overactive and aggressive child behaviours are found to be distinct. It is argued that children with these different types of externalising behaviours appear to be shaping quite different environment for themselves (Scarr & McCartney, 1983) in both school and home settings, which, in turn, may contribute to the differential outcomes associated with these behaviours (Hinshaw, 1987).

Finally, the only difference found between mothers' and fathers' causal attributions was that parental absence was chosen significantly more often by mothers than fathers as a factor associated with DBDs in general.

Regarding parental reactions to DBDs, four factors were revealed: approach the child, change the environment, be more strict and reduced control. Two of these factors ("approach the child" and "change the environment") were also revealed in study two, whereas "more strictness" and "reduced control" were added by parents. An important sex difference was found concerning the reaction "be more strict", which was found to be recommended significantly more often for boys. Review of the literature is consistent with this finding as it is reported that parents tend to employ punishment more with boys than girls (Block, 1983). It has been argued that parents may punish their sons more because boys actually provide more

opportunities to receive punishment because of their more difficult behaviour (Maccoby & Jacklin, 1975). However, this study shows that for identical disruptive behaviours, parents believe that boys should be treated more strictly than girls.

This finding is in line with the main idea of this thesis that, if hyperactive and disruptive behaviour is perceived differently in boys and girls, these differences might lead to differential discipline methods which might aggravate the manifestation of symptoms in boys and attenuate them in girls, thus providing an indirect route through attributions to socialisation to the persistence of problems. An extensive body of research has linked punitive parenting practices with the emergence of child oppositional and aggressive behaviours (Danforth et al., 1991; Hart et al., 1990). Punishment for a behaviour that a child finds difficult to control is very likely to lead to the escalation of conflicts and to the appearance of the secondary symptoms of AD/HD, which are usually those who bring children to Child Mental Health Services.

Regarding the effect of DBD subtype on proposed parental reactions, "more strictness" is mainly proposed for CD and "approach" is recommended significantly less often for hyperactivity, result also found in the previous study. In addition, "approach" and "change" are more often chosen by mothers than fathers, indicating that mothers appear more indulgent in their responses towards DBDs in general.

Finally, no important differences were found regarding the choice of professional or non-professional advice seeking, indicating that parents do not differentiate their source of advice-seeking neither according to the child's sex nor according to the specific DBD subtype in question.

As predicted, perceptions of untypicality and severity were related to causal attributions suggesting that the behaviour problem was out of the child's control. However, these relations were somehow different for boys and girls.

Boys' untypical behaviour was related to both parental fault and biological cause whereas girls' problematic behaviour was related only to parental fault. Our prediction was also confirmed by the negative association found between the boys' untypical and problematic behaviour and attributions of this behaviour to the own child's fault.

As in the previous study and consistent with our predictions, ratings of severity were found to be the best predictors of professional advice seeking and supportive parental responses for both boys and girls. In contrast with the previous study, untypicality and biological cause were found to predict professional advice seeking only for boys. Taken together, these results indicate that although parents may seek professional advice for both sons and daughters, if they view their behaviour as a severe problem, they may seek professional advice only for their sons if they judge their behaviour to be untypical or the result of a biological cause. In other words, if a child's behaviour is perceived as problematic, parents are usually willing to seek advice from a specialist. On the other hand, if a child's behaviour is perceived as untypical, the child's sex determines parental reactions. Parents seem to believe that a boy's untypical behaviour usually needs professional care whereas a girl's untypical behaviour can be probably faced at home.

A possible explanation for this is that parents may feel more capable themselves of taking care of girls' untypical behaviour, probably by changing their disciplinary methods and socialisation practices. On the contrary, untypical behaviour in boys may be considered unresponsive to these sort of changes. This explanation is also supported by the finding that for girls, significant predictors of professional advice seeking are the causal factors of parental absence and difficult life circumstances. So, according to parents, professional advice for girls is to be sought when parental presence and strength are weakened.

An additional aim of the present study was to examine the impact of parents' own experiences with their sons or daughters on their perceptions.

First of all, it should be noted that the difference in prevalence of DBDs in boys and girls reported in the literature was also revealed in this study, which used the SDQ as screening measure.

Second, it was predicted that own child's problems would influence parents' perceptions about DBDs. This could work in one of two ways. Having experience with difficult behaviour could make parents rate DBDs as less problematic, because of their familiarisation with such situation. It could also make it more problematic because of their knowledge of the problem, in comparison with parents having no experience. The first view was supported by the data: parents with children presenting problematic behaviour were found to rate DBDs as less severe, untypical and impairing than parents whose children didn't display such behaviour. Moreover, parents whose children presented conduct problems attributed DBDs significantly less often to parental fault than the other parents. These results were similar for mothers and fathers and for both boys and girls.

An alternative explanation to the one proposed above is that parents with experience of child behaviour problems may perceive as less severe similar problems in a hypothetical child because, by doing so, they 'attenuate' their perceptions of severity of their own child's problems as well. This latter explanation is supported by Cornah's (2001) finding that mothers tend to display an attributional bias in favour of their own child compared to a hypothetical other child. Cornah explains that mothers demonstrate a child serving bias in order to protect or maintain a positive self-concept.

To summarise, a number of important findings were revealed in this study. First, DBDs were perceived as more untypical for girls. This finding is similar for trainee

nursery teachers and parents. Second, as predicted, girls' DBDs seem to be perceived more often as out of the child's control and boys' DBDs as under the child's control. However, different causal factors are related to boys' and girls' DBDs, dependent on the raters. Trainee nursery teachers attribute girls' DBDs more often to biological causes and parental absence, whereas parents attribute boys' DBDs more often to child's fault and difficult circumstances. Third, more strictness is recommended by parents towards boys' DBDs, confirming the idea proposed that the same disruptive behaviour may be treated differently in boys and girls. Fourth, as predicted, perceived severity was found to be the best predictor of professional advice seeking for both boys and girls, in both studies. Fifth, untypicality constituted a predictor of professional advice seeking for boys, according to parents. In the previous studies, with trainee nursery teachers, there was a trend for untypicality to constitute a predictor of professional advice seeking for girls. It seems that perceptions of untypicality function differently for trainee nursery teachers and parents as far as referral of boys and girls is concerned.

Despite general confirmation of our predictions, we must be cautious before making too strong a claim. Certain limitations of both studies two and three must be acknowledged. First, these studies share the weakness of all self-report studies. Parents' and teachers' responses to vignettes might not disclose how they would actually think and act in real situations (Freeman et al., 1997). Moreover, the results are restricted to inexperienced nursery teachers and families where both parents are present and cannot be generalised to experienced nursery teachers and families with a different structure (e.g. monoparental families). Finally, these studies are correlational in nature and are restricted to predictive relationships. Therefore, they cannot yield any causal associations between the variables studied.

However, the consistency of the main findings across three different samples (mothers, fathers and trainee nursery teachers) provides evidence of validity. Two additional aspects of the results, which were counter to our expectations, warrant further research. First, the consistent finding of lack of relation between perceptions of untypicality and severity and, second, the difference found between trainee nursery teachers' higher ratings of severity for boys, and mothers' equal ratings of severity for boys and girls. Fathers' perceptions of severity would also be very important to further investigate but their limited willingness to participate prevents us from recruiting such a sample, at least, in the current research.

In the previous section, the issue of a third variable which might influence differently perceptions of untypicality and severity was raised. Results of the present study reinforce the need to investigate the potential impact of a third variable on perceptions of untypicality and severity. A review of the literature enlightens two factors that are closely related to attributions and perceptions of a given behaviour: the emotions evoked by attributions about a certain behaviour, and the sense of self-efficacy to respond adequately to the behaviour. Thus, study four aims to build upon the first three studies and examine the relation between these two factors and perceptions of severity and untypicality of hyperactive behaviour in boys and girls.



## CHAPTER 7 - STUDY FOUR: INVESTIGATION OF ADULTS' EMOTIONS AND SENSE OF SELF-EFFICACY

### 7.1 Rationale

The most consistent findings across the three studies conducted so far are the following: a) disruptive behaviour of all kinds is considered as markedly less sex-typical for girls than boys and b) perceived untypicality and severity of this behaviour are unrelated constructs. That is, a child may be seen as behaving in a sex-untypical way without being regarded as having a severe problem. Of course, this evaluation depends on the role that the rater holds in relation to the child, because results have demonstrated that parents and prospective educators perceive these matters somewhat differently.

The most intriguing findings concern an important sex difference revealed regarding perceptions of severity of hyperactive behaviour. Prospective educators rate the boys' hyperactive behaviour as a more severe problem than the girls' identical behaviour, whereas mothers consider this behaviour as equally severe in boys and girls. We remind that "severe problem" refers to a condition that is considered global, stable, concerning and out of the child's control.

On the basis of the above, two questions are raised:

1. Why are perceptions of severity and untypicality unrelated?  
Is it possible that this happens because these perceptions are influenced by different variables, e.g. cultural values in the case of perceptions of untypicality and personal attributes in the case of perceptions of severity?
2. Why do prospective educators rate hyperactive behaviour as more severe when present in boys rather than girls whereas mothers rate this behaviour as equally severe? Is it possible that perceptions of severity are influenced by different factors for mothers and prospective educators, e.g. emotions in the case of mothers and sense of self-efficacy in the case of prospective educators?

As mentioned in the previous section, two factors are closely related to perceptions of a given behaviour: the emotions evoked by the behaviour and the sense of self-efficacy to respond adequately to the behaviour.

Feelings are ever present in parent-child rearing interactions; they contribute to either effective, responsive parenting or the converse (Dix, 1991). Lazarus (1991) has described the different emotions as conveying different relational messages or "core relational themes". For example, happiness signals a co-operative social intention whereas anger signals a hostile social intent.

Following a review of attributional theories, Weiner (1992) concluded that the majority of these theories did not include emotion as a construct. In addition, in cases where emotions were included, only a very restricted range of emotions were studied. In agreement with that view, Taylor (1981) argued that attribution theory lacks reference to emotion, and that a 'cold' model of social behaviour cannot persist for long.

In response to this, Weiner (1992, 1995) developed a model of motivation attributions. According to this model, the classification of an outcome along the attributional dimensions of locus, stability and controllability determines which emotion is evoked. Anger or annoyance emerge from the external attribution of a negative outcome, whereas guilt or sympathy result from the internal attribution of a negative outcome. In the first case, Weiner's model predicts that our resulting behaviours will be negative, whereas in the second case, we will demonstrate positive reactions, such as support. Thus, the key aspect of Weiner's model is the mediating role of affect as determining a subject's propensity to help (Betancourt, 1990; Schmidt & Weiner, 1988).

Thus, parents' emotions about the child's hyperactive behaviour, and the relation of these emotions to perceptions of severity and untypicality of this behaviour in boys and

girls are important elements that might be closely linked to parental responses and referral practices.

As far as prospective educators are concerned, another factor may be related to their perceptions of the severity of hyperactivity in boys and girls. Educators are responsible for a group of children and the maintenance of a regulated environment, in accordance with the school rules is an important aspect of their job. A child like the one presented in the vignette might be seen as a prospective member of a classroom and, probably, as a threat to its normal function. Thus, the educator's sense of self-efficacy regarding the management of such a child's behaviour might be an important factor to consider.

Teacher efficacy has been defined as *"teachers' belief or conviction that they can influence how well students learn, even those who may be difficult or unmotivated"* (Guskey & Passaro, 1994, p. 4). Researchers in psychology and education have generally based the conceptualisation of teacher efficacy on the theoretical framework of self-efficacy developed by Bandura (1977; 1993). Bandura proposed two cognitively-based sources of motivation: outcome expectations and efficacy expectations. Outcome expectations refer to a person's estimation that a given behaviour will lead to a specific outcome, whereas efficacy expectations refer to the individual's belief that he or she is capable of demonstrating the behaviours necessary to achieve the outcome.

Bandura's self efficacy theory posits that self-efficacy beliefs are linked to specific activities rather than to a global personality trait. For example, teachers may feel themselves quite competent at drafting a test to assess their students' progress, but, at the same time, may doubt their abilities to maintain an orderly learning environment.

Within this framework, it seems important to investigate whether prospective educators' perceptions of the severity of

hyperactivity in boys and girls is related to their sense of self-efficacy to manage this behaviour.

In summary, the following predictions are made:

1. Perceptions of severity will be positively correlated with certain emotions towards hyperactive children whereas perceptions of untypicality will not.
2. Perceptions of severity will be positively correlated with sense of self-efficacy towards hyperactive children whereas perceptions of untypicality will not.
3. Hyperactive behaviour displayed by boys will be considered more difficult to handle than hyperactive behaviour displayed by girls.

## **7.2 Method**

### **7.2.1 Participants**

The sample consisted of 115 female Greek students of the Department of Early Childhood Education at the Technological Educational Institution (T.E.I.) of Athens and 118 mothers of boys and girls aged 4-6, enrolled in kindergartens and nursery schools in Athens. 7 nursery schools, different to those that took part in the previous studies, participated. Fathers were not included in the sample due to the great difficulty encountered in the previous study to get them to participate.

Students' mean age was 19.9 years with a SD of 1.24 years. Half of the sample (57,4%) had completed primary school in Athens, 7.8% in another big city, 20% in a small province city and 14.8% in a village. 38.3% of the students were in their first year of study, 22.6% in their second year, and 39.1% in their third year of study.

Mothers' mean age was 34.2 years with a SD of 4.1 years. Half of the sample had completed primary school in Athens and the other half was almost equally divided in three groups, having finished primary school in another big city, a small

province city or a village. Half of the sample (55.6%) had two children, 31.6% had one child and 12.9% had three children or more.

In general, the demographic characteristics of the participants resembled those of the participants of the previous studies.

### **7.2.2 Measures**

Two questionnaires were used in this study. The first one was used in two versions, one including a vignette ascribed to a five-year old boy and another one including a vignette ascribed to a five-year old girl (c.f. Appendices 12, 13, 14, 15). The vignette presented symptoms of AD/HD, Predominantly Hyperactive - Impulsive Type. The vignette was almost the same with one of the vignettes used in studies two and three, with minor changes, in order to fit better the design of this study. These changes are the following:

- a) The age of the child was changed from nine to five years old because in this study we asked trainee nursery teachers to imagine that they had this child in their class.
- b) "Often attempts to leave his seat in classroom" was changed to "is often prone to little accidents", in order for this item to fit better to the age of the child.
- c) "Moves from one activity to another, without completing any of them" was added.
- d) "When he participates in the lesson" was changed to "when he participates in discussion".

The vignette was followed by 36 items, composing the four scales described below and 4 items referring to demographic information:

- I. "Severity" scale was composed by the 5 items loading on this factor in studies two and three: severity, uncontrollability, stability, globality and parental concern.
- II. "Untypicality" scale was composed by the 4 items loading on this factor in studies two and three: untypicality for age, untypicality for sex, universality and rarity.
- III. "Emotions" scale was composed by 23 items describing an extended range of emotions, 5 positive and 17 negative. Participants were asked to indicate how frequently they believed they might feel as proposed (e.g. angry, anxious, confident, etc.) if they interacted with children like the one presented in the vignette. Responses were scored from 0 to 3, with 0 assigned to "never" and 3 to "very frequently". Trainee nursery teachers were asked to imagine that they had to work with such a child in class and mothers were asked to imagine that John or Jane was their own child.

"Emotions" scale was adapted from the "Emotional Reactions to Challenging Behaviour Scales" (Mitchel & Hastings, 1998). This scale was developed for use in a research study exploring the relationships between attribution, emotion and staff coping in services for people with learning disabilities. Items were developed using information from transcripts or interviews with staff (Hastings, 1995) and from literature concerned with responses to challenging behaviours in psychiatric settings (e.g. Lanza, 1983; Ryan & Poster, 1989). The scales have good internal consistency and test-retest reliability and are relatively unaffected by social desirability response biases (Mitchell & Hastings, 1998). In this study, 7 items of the original scale were replaced, in order to better fit the situation presented.
- IV. The "Self-Efficacy" scale comprised 4 items, adapted from the subscale of Efficacy in Classroom Management of the

"Teachers' Sense of Efficacy Scale" (short form; Tschannen-Moran & Woolfolk, 2001). This scale was employed to assess participants' confidence in their abilities to (a) control a child's hyperactive behaviour, (b) get a hyperactive child to follow rules, (c) calm a hyperactive child when he / she is disruptive and noisy, and (d) establish a classroom management system (or a harmonious everyday family life) with a hyperactive child in class (or at home). The items were measured on a 5-point Likert-type scale with anchors at 1-nothing, 3-some influence and 5-a great deal. Formulation of the items was slightly modified in order to fit in the case of mothers as well. According to the authors, this instrument has been found to hold good psychometric properties (Tschannen-Moran & Woolfolk, 2001).

Both the "Emotions" and "Self-efficacy" scales were translated into Greek by bilingual Greek/English speaker and checked for consistency of meaning by an expert translator. Following this, the scales were back-translated into English and the equivalence of the items on the original questionnaire and the Greek version were rated by five English psychology postgraduate students. There was a very high level of consistency between these versions with the mean rating of equivalence being 4.10 on a 5 point scale where 1 represented "no similar at all" and 5 represented "identical" (cf. Appendix 16).

The second questionnaire used was the SDQ (Goodman, 1997). Participants were asked whether they thought the child presented in the vignette would also display behaviours described by each of the 25 items of the SDQ as well. The purpose of the use of this instrument in this way was to obtain ratings of disorder for the DBD subtype in the vignette. In other words, we sought to examine whether the DBD

subtype presented was actually perceived as AD/HD for both boys and girls.

### **7.2.3 Procedure**

The same procedure as in the previous studies was followed. In the case of trainee nursery teachers, the questionnaires were administered to the whole sample at the same day by their professor of Psychology. The same instructions as in the previous studies were given. Specific care was taken that no student having already participated in the previous studies took part in this one too.

As for mothers, they were given the questionnaires by the nursery teacher of their child and they were asked to fill them in at home. A letter accompanied the questionnaire (c.f. Appendix 17). The questionnaires were then collected by the nursery teacher and handed in to the researcher. Specific care was taken that both students and mothers remained unaware of the existence of two versions of the vignette.

### **7.3 Results**

115 questionnaires were administered to trainee nursery teachers, 59 presenting a male and 56 presenting a female version of the vignette. All questionnaires were completed. 300 questionnaires were administered to mothers. 118 of them were completed, 52 presenting a male and 66 presenting a female version of the vignette. Results from the analysis of the 233 questionnaires are presented below.

Analysis of the SDQ has shown that participants identified the behaviour presented in the vignette as indicative of AD/HD symptomatology, independent of the child's sex. As shown in Table 7.1, 90% of the participants answered



that the child presented in the vignette might also present behaviours included in the hyperactivity category of the SDQ.

Table 7.1

Possible representation of the child presented in the vignette in the SDQ hyperactivity category

Child's sex	Hyperactivity category		
	Normal %	Borderline %	Abnormal %
Male	1.9	7.8	90.3
Female	4.2	5.8	90
Total	3.1	6.7	90.1

The associations between the nine items referring to the nature of the AD/HD subtype presented in the vignette were examined using a principal component analysis, with an orthogonal rotation to varimax solution. Factor structure was similar for trainee nursery teachers and mothers. As in the previous studies in this thesis, two factors were extracted, one related to perceived severity and one related to perceived untypicality of the behaviour, accounting for 61.43% of the variance (Table 7.2).

TABLE 7.2

Principal Component Analysis of perceptions about the nature of the AD/HD subtype presented in the vignette

Factor	1	2
Percent variance	29.00	49.89
Item		
Severity	.74	
Uncontrollability	.69	
Stability	.75	
Globality	.74	
Parental concern	.75	
Untypicality for age		.62
Untypicality for sex		.82
Uniqueness		.78
Rarity		.84

A series of independent samples t-tests were conducted separately for trainee nursery teachers and mothers exploring sex differences in perceived untypicality and severity of the behaviour presented in the vignette. As shown in Table 7.3, the behaviour presented was rated as significantly more untypical for girls than boys by both samples. In addition, trainee nursery teachers rated the behaviour as significantly more severe for boys than girls, whereas mothers' ratings on perceived severity didn't differ for boys' and girls' behaviour.

TABLE 7.3

Ratings of the nature of the AD/HD subtype  
presented in the vignette for boys and girls

Participant's role	Factor	Males		Females		t
		Mean	SD	Mean	SD	
N. teachers	Untypicality	-.36	.90	.36	.97	-4.08**
	Severity	.21	.87	-.22	1.08	2.35*
Mothers	Untypicality	-.22	.90	.17	1.05	-2.07*
	Severity	.11	.89	-.08	1.09	1.01

Note: \* = significant ( $p < .05$ ); \*\* = significant ( $p < .01$ );  
d.f. for t-tests = 111 (tr. nursery teachers) and 115 (mothers);  
Higher ratings indicate the behaviour is rated as more severe and untypical.

A factor analysis with an orthogonal rotation to varimax solution was then carried out in order to identify which emotions towards hyperactive children cluster together. Seven factors were extracted by the factor analysis, accounting for 68.52% of the variance (Table 7.4). As the last factor included only one item, a six-factor solution was then asked but the factor structure revealed was not meaningful. Given the factor to item correlations, the factors were named as follows: Factor 1-Annoyance; factor 2-positive emotions;

factor 3-Feelings of incompetence; factor 4-concern, factor 5-sadness; factor 6-shame, and factor 7-resign.

Factor analysis was also conducted separately for trainee nursery teachers and mothers. The structures revealed were similar to the one revealed in the overall analysis apart from few interesting differences. The items loading on concern-factor in the overall analysis loaded on incompetence-factor for mothers. Furthermore, "afraid", loading on concern-factor in the overall analysis, loaded on shame-factor for trainee nursery teachers.

TABLE 7.4

Principal Component Analysis of participants' emotions towards hyperactive children

Factor Percent variance Item	1	2	3	4	5	6	7
	13.48	13.06	11.11	9.34	8.86	8.09	4.59
Angry	.75						
Upset	.52						
Anxious	.50			.62			
Annoyed	.72						
Nervous	.76						
Confident		.46					
Comfortable		.68					
Proud		.83					
Happy		.86					
Cheerful		.80					
Hopeless			.54				
Incompetent			.74				
Frustrated			.64				
Helpless			.81				
Embarrassed				.68			
Afraid				.53			
Concerned				.46			
Sad					.80		
Worried					.73		
Ashamed						.77	
Humiliated						.80	
Resigned							.93

Note Factor loadings with absolute values less than .50 are not reported

Seven two-way ANOVAs (child's sex X participant's role) were carried out, using the seven factor scores revealed from the factor analysis of emotions as the dependent variables (Table 7.5).

TABLE 7.5

Ratings of participants' emotions towards  
hyperactive boys and girls

Participants' role	Emotion	Males (N=97)		Females (N=100)		Total (N=197)	
		Mean	SD	Mean	SD	Mean	SD
N. teachers	Annoyance	-.48	.88	-.45	.82	-.46	.85
	Positive	-.14	1.08	.01	.97	-.06	1.03
	Incompetence	.02	.94	-.02	.94	-.00	.94
	Concern	-.05	1.01	.10	.94	.01	.98
	Sadness	-.02	.88	-.30	1.09	-.16	.99
	Shame	-.25	.85	-.23	.76	-.24	.80
	Resign	.14	.92	-.05	.97	.04	.94
Mothers	Annoyance	.48	.82	.55	.97	.52	.90
	Positive	-.00	.85	.13	1.07	.07	.97
	Incompetence	.08	1.23	-.07	.91	.00	1.07
	Concern	.06	1.01	-.09	1.05	-.02	1.03
	Sadness	.18	.97	.17	1.01	.17	.98
	Shame	.28	1.19	.25	1.08	.27	1.13
	Resign	.06	1.05	-.16	1.07	-.05	1.06
Total	Annoyance	-.05	.98	.05	1.02	.00	1.00
	Positive	-.07	.98	.07	1.02	-.00	1.00
	Incompetence	.05	1.08	-.05	.92	.00	1.00
	Concern	-.00	1.00	.00	1.00	-.00	1.00
	Sadness	.06	.92	-.06	1.07	-.00	1.00
	Shame	-.01	1.04	.01	.96	-.00	1.00
	Resign	.11	.98	-.10	1.02	-.00	1.00

Note: Higher ratings indicate emotion is more likely to be evoked.

Significant effects of the participants' role were found for the factors "annoyance" [ $F(1,193)=60.56$ ,  $p<.001$ ], "sadness" [ $F(1,193)=5.79$ ,  $p<.05$ ], and "shame" [ $F(1,193)=13.00$ ,  $p<.001$ ], with mothers giving higher ratings to all these

factors compared to trainee nursery teachers. No other significant effects were found.

Cronbach's alpha coefficient was then calculated for the total score of the self-efficacy scale (4 items). The total score revealed an alpha of .78, indicating satisfactory internal consistency of the scale.

In order to investigate the effects of the child's sex, the participants' role and their interactions on sense of self-efficacy towards child hyperactive behaviour, a two-way ANOVA was carried out using the self-efficacy score as the dependent variable. Important child's sex [ $F(1,228)=16.09$ ,  $p<.001$ ], and participants' role [ $F(1,228)=13.18$ ,  $p<.001$ ], effects were revealed. Mothers were found to have higher levels of sense of self-efficacy compared to trainee nursery teachers and both samples were found to have higher levels of sense of self-efficacy towards hyperactive girls than hyperactive boys (Table 7.6).

TABLE 7.6

Ratings of participants' sense of self-efficacy  
towards hyperactive boys and girls

Participants' role	Males (N=111)		Females (N=121)		Total (N=234)	
	Mean	SD	Mean	SD	Mean	SD
N. teachers	3.06	.51	3.31	.50	3.18	.52
Mothers	3.27	.68	3.61	.52	3.46	.62
Total	3.16	.60	3.47	.53	3.32	.58

Note: Higher ratings indicate higher level of sense of self-efficacy

In order to investigate how perceptions about the nature of AD/HD, emotions towards hyperactive boys and girls and sense of self-efficacy to control these children's behaviour were related to each other, a series of correlational analyses were performed separately for trainee nursery teachers and mothers.

It was found that, for trainee nursery teachers, perceived severity of the behaviour presented in the vignette was negatively correlated with their sense of self-efficacy only for boys, and positively correlated with sadness only for girls (Table 7.7). In other words, it seems that the less competent trainee nursery teachers feel to deal with a boy's hyperactive behaviour, the more severe they consider this behaviour. In contrast, for girls, perceived severity of hyperactive behaviour was not related to sense of self-efficacy but to feelings of sadness.

TABLE 7.7

Correlation between perceived untypicality and severity, emotions and sense of self-efficacy of trainee nursery teachers towards hyperactive boys and girls

	Severity		Untypicality	
	M	F	M	F
Annoyance	.04	.01	-.16	.09
Positive emotions	-.08	-.15	-.00	-.17
Incompetence	.22	.19	-.22	.15
Concern	.18	.09	.19	-.07
Sadness	-.10	.29*	-.00	.01
Shame	.14	-.07	.16	-.16
Resign	-.14	.20	.11	-.18
Sense of self-efficacy	-.32*	.04	-.04	-.21

Note: M = Male, F = Female. \*= $p < .05$ , \*\*= $p < .01$

In the case of mothers, perceived severity and untypicality of the behaviour presented in the vignette were negatively correlated with their sense of self-efficacy for both boys and girls (Table 7.8). Perceived severity was also positively correlated with feelings of incompetence for boys. Moreover, perceived severity was positively correlated with feelings of annoyance, concern and sadness only for girls whereas perceived untypicality was correlated with concern only for boys (Table 7.8).

TABLE 7.8

Correlation between perceived untypicality and severity, emotions and sense of self-efficacy of mothers towards hyperactive boys and girls

	Severity		Untypicality	
	M	F	M	F
Annoyance	.15	.32*	.09	-.24
Positive emotions	-.15	.01	-.23	-.21
Incompetence	.39**	.25	.08	.06
Concern	.14	.42**	.53**	.04
Sadness	.00	.37**	.27	.15
Shame	.03	.21	-.13	.13
Resign	.27	.03	-.14	.14
Sense of self-efficacy	-.41**	-.40**	-.30*	-.26*

Note: M = Male, F = Female. \*= $p < .05$ , \*\*= $p < .01$

#### 7.4. Discussion

There are a number of important similarities between study 4 and the previous studies. First, perceived severity and untypicality remain unrelated constructs according both to trainee nursery teachers' and parents' ratings. Second, girls' hyperactive behaviour is consistently considered by both samples as more untypical compared to the identical male behaviour. Third, AD/HD behaviour is considered as significantly more severe for boys by trainee nursery teachers but equally severe for boys and girls by mothers. The above findings, taken together with the absence of gender effect in the SDQ ratings, where participants correctly identified the behaviour presented in the vignette as symptomatic of AD/HD, further support the distinction between perceptions of untypicality and severity in the case of AD/HD.

In this study, participants' emotions towards hyperactive boys and girls were also investigated. No difference was found according to the child's sex. In contrast, the participants' role was found to significantly influence these emotions. Mothers were found to express annoyance, sadness and shame

significantly more frequently than trainee nursery teachers. These feelings are intense and indicate that child AD/HD behaviours have a great impact on mothers' psychological condition.

Regarding perceived sense of self-efficacy, mothers were found to feel more competent than trainee nursery teachers do towards child hyperactive behaviour. In addition, as predicted, both samples rated their sense of self-efficacy as significantly lower in the case of boys. It seems that, although the behaviour presented is identical for boys and girls, participants feel that it is easier for them to control girls' behaviour than boys'.

Two questions were raised in the present study. The first one concerned the lack of association between perceptions of severity and untypicality. As predicted, significant associations were revealed between several emotions and perceptions of severity for both prospective educators and mothers. Only concern was related to perceived untypicality for boys, and only in the case of mothers. Thus, it seems that variables associated with perceptions of severity are not necessarily associated with perceptions of untypicality as well. A given behaviour may be considered as untypical, because it doesn't conform to social expectations, but perceived severity of this behaviour has been found to relate more to personal attributes like the feelings evoked by this behaviour. Of course, in this study, we focused on possible correlates of severity perceptions and we didn't directly investigate possible correlates of untypicality perceptions. However, the literature strongly supports the view that typicality and untypicality judgements regarding a given behaviour are strongly influenced by the prevalent cultural ideologies in a society (Dix et al., 1990).

As predicted, severity judgements were related to the participants' sense of self-efficacy towards hyperactive children. Against prediction, untypicality judgements were



also related to the sense of self-efficacy for mothers. However, this association was not as strong as the association between perceived severity and sense of self-efficacy. Thus, it appears that personal sense of self-efficacy is also an important correlate of severity judgements, although it may function differently for mothers and prospective educators.

This relates to the second question, concerning sex differences in prospective educators' severity judgements and the absence of such sex differences in mothers' severity judgements. It was found that, in the case of prospective educators, the association between sense of self-efficacy and severity perceptions concerned only males, whereas in the case of mothers it concerned both males and females.

Based on the above finding, differences in mothers' and prospective educators' perceptions of severity of hyperactive behaviour in boys and girls can be explained as follows. Mothers' sense of self-efficacy is related to perceptions of severity for both boys and girls, but mothers are also found to have significantly higher levels of perceived self-efficacy than prospective educators. Consequently, their greater feeling of competence to deal with hyperactive behaviour in both boys and girls might lead to not differentiate their ratings of severity.

In contrast, prospective educators have been found to feel less competent than mothers do to deal with hyperactive behaviour and their sense of self-efficacy is positively correlated with perceived severity only for boys. As they have also been found to rate boys' hyperactive behaviour as more difficult to handle, it seems logical that they perceive male hyperactive behaviour as more severe.

Furthermore, the link between sense of self-efficacy and severity perceptions might have a more important meaning for them than for mothers since reduced self-efficacy to manage difficult behaviour can have a negative impact on the performance of their job. The ability to control students in a

classroom is a critical factor in any educational setting. If teachers do not respond effectively to students when their behaviour is disruptive, instructional time is lost for all students. In order to reach instructional goals it is necessary for teachers to deal adequately with disruptive behaviour in classroom. It may therefore be assumed that teachers perceive attaining a comfortable classroom environment as an invaluable outcome of their efforts.

Hyperactive boys are known to present more oppositional and aggressive behaviours than hyperactive girls. Girls tend to display more indirect aggression, such as social manipulation and ostracism, rather than direct aggression such as fighting (Achenbach & Edelbrock, 1981; Stattin & Magnusson, 1989). In school, direct aggression presents more of a management problem to teachers than indirect aggression (Masse & Tremblay, 1999). Moreover, girls have higher levels of social and interactional skills that facilitate the management of their symptoms by teachers. In general, teachers have been found to be more tolerant of girls' misbehaviour (Masse & Tremblay, 1999). So, males' hyperactive behaviour may be perceived as more threatening to prospective educators and thus rated as more severe.

Two conclusions can be drawn from the present study, each with different implications. First, it seems that mothers have more intense feelings toward their hypothetical hyperactive child than prospective educators toward their hypothetical hyperactive pupil. Feelings of incompetence were related to severity judgements for boys and feelings of annoyance, concern and sadness were related to severity judgements for girls.

These sex-differentiated associations are consistent with the differences in causal attributions found in the previous studies. According to the theory, attributions of responsibility evoke emotions of anger or indifference, whereas attributions of non-responsibility evoke emotions of

guilt or sympathy. In the previous studies, parents have been found to perceive the hyperactive behaviour as not being the girls' fault and there was a trend toward hyperactivity being attributed to biological causes for girls. In contrast, experiential factors have been found to account more for the presence of hyperactivity in boys, according to parents. Parents regarded hyperactive behaviour as being the boys' fault or from difficult life circumstances. Moreover, the response most often adopted for boys' hyperactivity is to increase strictness, which is consistent with parents' causal attributions for the boys' behaviour.

Support for an attributional model of emotions in parenting has been found in a number of studies. Dix et al. (1989), exposed parents to hypothetical scenarios of children engaged in problem behaviours and asked parents to rate their attributions of control and their emotional reactions toward the children. As predicted, parents who believed the child was responsible for the misbehaviour were likely to report feeling angry. Similar findings have been demonstrated in a plethora of studies (Caprara et al., 1997; Chavira et al., 2000; Smith & O'Leary 1995).

Thus, it seems that emotions are key elements in parenting patterns. Emotions may be central to the enhancement of proactive parenting which is associated both with fewer behaviour problems (Pettit & Bates, 1989) and a decrease in these problems over time (Zahn-Waxler et al., 1990). Consequently, taken together, the gendered perceptions and causal attributions reported in this study may have an important impact on the reactions that would be chosen toward a hyperactive boy or girl and on referral practices.

The second conclusion that can be drawn is that prospective educators feel less competent than mothers to deal with hyperactive children, especially boys, and that their higher ratings of severity of AD/HD in boys must be related to their personal feeling of reduced self-efficacy towards them.

Literature supports such an idea. Dealing with children with behaviour problems is considered to be a frustrating task for teachers and can generate feelings of helplessness and incompetence (Gray et al., 1996; Lennox, 1991).

This study was restricted to predictive relationships and therefore cannot yield any causal associations. The correlational design imposes obvious limitations in interpreting the direction of effect in these associations. Although it is assumed that emotions and sense of self-efficacy determine, to a certain degree, perceptions of severity of AD/HD, an alternative interpretation could be proposed. It is possible that, at least part of the basis for the perceived severity-emotion relationship, lies on the effect of perceived severity on emotions rather than the reverse. More sophisticated statistical techniques (e.g path analysis) should be used in order to determine the direction of causality for the relations found. Whatever is the case, the relationship between emotions and perceptions of severity of AD/HD (stronger for parents) and the relationship between sense of self-efficacy and severity (stronger for prospective educators) are supported both theoretically and empirically and may have important implications for parental responses to hyperactivity and referral practices.

## **CHAPTER 8 - INTEGRATED DISCUSSION**

### **8.1 Summary of findings**

The main aim of this thesis was to explore possible sex differences in prospective educators' and parents' perceptions about DBDs in boys and girls. The study of adults' perceptions of children's behaviour has gained considerable interest in both developmental and clinical psychology because these perceptions are linked to adults' affective and behavioural responses to children. In this thesis, two different categories of perceptions regarding DBDs (nature and causes) and two categories regarding possible reactions to the behaviour (parental reactions and sources of advice seeking) were studied. This aim was included in a broader plan, to test a part of a theoretical model that was proposed in this thesis in order to contribute to the understanding of the reported sex difference in the prevalence of DBDs, and especially AD/HD, in boys and girls.

Four studies were conducted. The first study demonstrated a main effect of the child's sex on prospective educators' ratings of untypicality of a comorbid condition that included symptoms of AD/HD and CD. This condition was considered as significantly more untypical for girls than boys but as equally severe for both sexes. The only additional sex difference found concerned biological cause more often ascribed to boys than girls (Maniadaki, Sonuga-Barke & Kakouros, 2001; Maniadaki, Sonuga-Barke & Kakouros, submitted for publication).

The second study, based on data from a much larger sample of prospective educators, showed a main effect of the specific DBD subtype presented on the perceptions examined. Literature supports the distinction between inattentive/overactive and aggressive behaviours. Many children exhibit both inattentive/overactive and aggressive behaviours. However,

research suggests that the two types of behaviour are at least partially independent and have separate correlates and adult outcomes (Hinshaw, 1987). When inattentive/overactive and aggressive/oppositional behaviours occur at rates or intensities that are developmentally inappropriate, they comprise the core symptoms of AD/HD and ODD/CD, which were the DBD subtypes presented in the measures used in this thesis.

In study two, ratings of severity, causal attributions and perceptions about recommended parental reactions and sources of advice seeking frequently differed dependent on the DBD subtype presented, sometimes in interaction with the child's sex. This finding explains the few sex differences found in study one, where only one vignette, presenting a relatively severe form of a disruptive disorder was presented. This finding is consistent with research on teacher perceptions of child behaviour that demonstrates that educators' beliefs and affective reactions vary with the type of problem behaviour that is exhibited. Teachers are generally more upset by defiant or aggressive behaviour than immature or withdrawn behaviour, and they also believe that children have more control over defiant and aggressive acts (Cunningham & Sugawara, 1988; Voivodas & Tannenbaum, 1979).

The untypicality finding in this study replicated that in study one. However, an effect of child's sex on ratings of severity was demonstrated in this study, with boys receiving higher ratings than girls when the hyperactive/impulsive type of AD/HD was presented. That is, prospective educators rated hyperactive behaviour as more untypical for girls but as more severe in boys. Moreover, in contrast to the previous study, sex differences were also revealed regarding causal attributions. Biological causes and parental absence were more often chosen in the case of girls, whereas parental fault was more often attributed to the boys' behaviour.

The third study of this thesis was based on data from a sample of mothers and fathers of pre-schoolers. Once again,

all DBDs presented were perceived as significantly more untypical for girls. The child's sex had an effect on ratings of severity only for fathers, who perceived girls' hyperactive behaviour as more severe than boys' behaviour. In contrast, mothers rated this behaviour as equally severe in boys and girls. Moreover, parents were more likely to attribute boys' hyperactivity to the child's own fault rather than girls' (Maniadaki, Sonuga-Barke, & Kakouros, 2002). Related to this is the choice of more strictness mainly for boys (Kakouros, Maniadaki, Sonuga-Barke, & Daley, 2002). Finally, although severity was the best predictor for professional advice seeking for both boys and girls, untypicality predicted professional advice seeking only for boys. This might indicate that parents feel capable enough of dealing with girls' untypical behaviour themselves, probably through the choice of different socialisation practices. Finally, the presence of a DBD in their own child was found to significantly influence parental ratings regarding DBDs in hypothetical children, by attenuating their perceptions of severity, untypicality and social impact of the disorder.

In the fourth and final study, the main findings of the previous studies were replicated. First, girls' hyperactive behaviour was considered as significantly more untypical than boys'. Second, prospective educators rated hyperactivity as more severe in boys than girls whereas mothers didn't differentiate their ratings of severity according to the child's sex. Two new scales were introduced in this study ("Emotions" and "Sense of self-efficacy" scales) in order to explore possible differences in correlates of severity and untypicality perceptions that might explain: a) the differences found in ratings of severity of AD/HD in boys and girls between mothers and prospective educators, and b) the lack of relationship between ratings of untypicality and severity.

As predicted, several emotions were related to perceptions of severity, mainly for mothers. Moreover, perceived self-efficacy was related to perceptions of severity for both boys and girls in the case of mothers whereas this relation concerned only the boys in the case of prospective educators. No significant associations were found between emotions and untypicality perceptions whereas the association between untypicality and perceived self-efficacy was modest. Taken together, these results suggest that perceptions of untypicality and severity have quite distinct correlates. In addition, the correlates of severity have different strength and importance in the cases of mothers and prospective educators.

In summary, two findings were consistent across all four studies. First, as predicted, all behaviours of the DBD spectrum presented were considered as more untypical for girls than for boys. Second, against prediction, perceptions of severity and untypicality for the above behaviours were unrelated constructs, indicating that behaving in an untypical way is not necessarily perceived as a severe problem. This finding can be explained on the basis of the different correlates of perceptions of severity and untypicality. Correlates of severity were directly explored in study four whereas correlates of untypicality were found in the literature. Finally, as predicted, the role of the rater in relation to the child and the specific DBD examined were found to significantly influence perceptions of severity and causal attributions, very often in interaction with the child's sex.

Consequently, it is clear from the present research and the body of studies with which it is consistent, that, as sex differences exist in social perceptions of "normal" behaviour in boys and girls, several sex differences also exist in social perceptions of behaviour characteristic of the DBD spectrum in boys and girls.



However, it seems unlikely that these sex differences in perceptions influence directly sex differences in the prevalence of DBDs. Although the same behaviour is perceived as more untypical for girls, it is not perceived as more severe for them as well. Thus, the hypothesis of a direct perceptual bias is refuted and sex differences in prevalence of DBDs seem real. Further investigation is needed in order to test the hypothesis of the indirect effect of perceptions in the prevalence of DBDs through their possible effect on the choice of different socialisation practices in boys and girls.

## **8.2 Revision of the proposed theoretical model**

The findings of this thesis support the part of the proposed model that was tested but highlight the need for certain changes. The revised model is presented in Figure 8.1.

## FACTORS RELATING TO PERCEPTIONS

## PERCEPTION PROCESS

## EFFECTS ON BEHAVIOUR

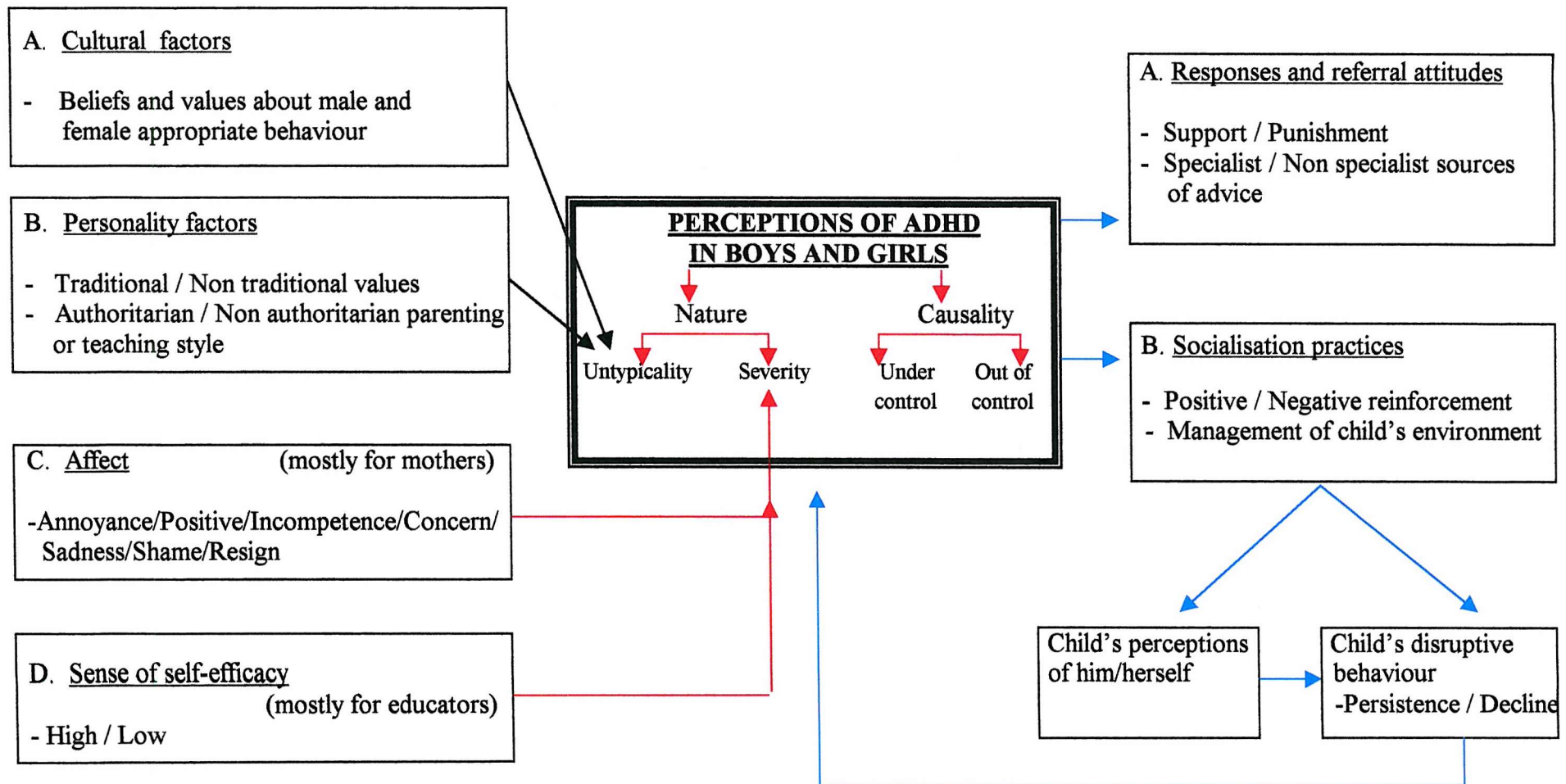


Figure 8.1. Revised model of adults' perceptions of ADHD in boys and girls and their effects on referral attitudes, socialisation practices and differentiation of children's symptom expression

Note: —▶ Literature  
 —▶ Present research,  
 —▶ Future research

As proposed in the initial model, the existence of two perceptual categories regarding AD/HD in boys and girls, which further contain two dimensions each is supported by the results of this thesis. These categories are: a) nature, including untypicality and severity, and b) causality, including causes under and out of the child's control. Results have revealed two additional categories, endogeneity and social impact, but these are not included in the model due to their limited contribution to the subject studied.

Three major changes have been made to this model. First, we hypothesised that untypicality and severity are inter-related and inter-dependent constructs. However, results consistently demonstrated that these constructs are not necessarily related. Thus, the arrow indicating the relationship between untypicality and severity has been removed.

Second, we hypothesised that perceptions of untypicality and severity are related to the same variables, that is cultural and personality factors. However, results demonstrated that these two dimensions have different correlates. According to the literature, appropriateness of a given behaviour is mainly related to cultural beliefs and personality effects (Dix et al., 1989). Regarding the latter, Baumrind (1973) has argued, for example, that mothers who subscribe to authoritarian beliefs about child rearing are more likely than non-authoritarian mothers to have high expectations of children and to attribute to children more derogatory dispositions (Dix et al., 1989). Available evidence suggests that parent variables may predict dispositional attributions about children more strongly and more consistently than measures of children's actual dispositions and behaviours (Sameroff et al., 1982).

Thus, it seems that the above factors are mainly related to perceptions of typicality or untypicality of a problematic behaviour. So, the arrow linking cultural and personality

effects to perceptions of AD/HD in general, has been moved in order to link these effects only to untypicality.

Third, two new factors have been added as they were found to be related to perceived severity of a problematic behaviour (in this case, AD/HD): affect and sense of self-efficacy. On the one hand, emotions evoked to adults by the child's hyperactive behaviour are related to their perceptions of severity of this behaviour. Emotional factors seem to be of particular importance to mothers. On the other hand, adults' sense of self-efficacy to handle children's hyperactive behaviour is also related to their perceptions of severity of this behaviour. This relationship concerns mostly educators' perceptions about male hyperactive behaviour.

It could be argued that parental perceptions of child hyperactive behaviour are also shaped by children's actual behaviour and that sex differences in these perceptions might result from actual differences in the behaviour of boys and girls. Such a view is supported by Scarr and McCartney (1983) who formulated the hypothesis of evocative genotype-environment influences, suggesting that differential practices towards boys and girls are a reaction to differences in boys' and girls' pre-existing dispositions. However, children's actual behaviour does not always predict parents' dispositional inferences, and when significant prediction occurs, it is modest (Bates, 1980; Daniels et al., 1984). Moreover, in studies exploring the direction of effect between child temperament and maternal behaviour ratings, maternal characteristics have been found to make a greater contribution to maternal perceptions of the child than observed child behaviour (Lancaster et al., 1989).

The model proposed here includes elements of Dix's (1991) correspondent inference model of parent cognition that implies the following relations: a) inferences about child's motivation and control over behaviour, b) inferences of intent

- dispositional attribution, and c) socialisation related responses (affect, decisions to respond, decisions to punish).

However, this model extends Dix's model by taking into account the child's sex. In the review of the literature presented at the beginning of this thesis it was mentioned that there is substantial research regarding sex differences in parental perceptions about specific domains of normal development and regarding parental perceptions about child disruptive behaviour in general. However, most of the studies that have focused explicitly on sex as a variable have concerned attributions for performance in math. Apart from the domain of math, sex of child has clearly been a peripheral variable to date in studies of parents' attributions, and few effects of sex have been reported. Miller (1995) argues that sex of child should be regarded as a central variable and that research should concentrate on situations in which parents might be expected to reason differently about boys' and girls' behaviour. Miller adds that it seems possible that sex-of-target differences might emerge when the behaviour being judged is regarded as more typical for one sex than the other.

In summary, this study provides evidence that DBDs in general and AD/HD in specific are often perceived by main socialising agents in different ways when present in boys and girls, regarding their nature and, sometimes, causality. Moreover, it shows that perceptions about the nature of DBDs usually predict the nature of parental responses and the sources of advice seeking, with perceptions of severity and untypicality predicting more supportive parental responses and professional advice seeking. Finally, these perceptions are differently related to adults' emotions and sense of self-efficacy when they refer to boys or girls. Implications of these findings will now be considered.

### 8.3 Implications of the findings

As described in the introductory section, the starting point of this thesis was the reported difference in the prevalence of AD/HD and other DBDs in boys and girls, combined with a clinical observation of a young girl with AD/HD who was trying to control her disruptive behaviour by telling herself that "*girls shouldn't behave this way*". A hypothesis was made that if behaviours characteristic of AD/HD are considered as more untypical in males than females, then it is possible that socialising agents will put more effort to help girls to learn how to control these behaviours. In addition, even if more effort is not put, differences in socialisation practices usually adopted for "normal" boys and girls might favour the inclination of such disruptive behaviours in girls.

The effect of perceptions and attributions about children's behaviour on parental responses is well documented in the literature. Perceptions regulate parenting by influencing the degree of control parents display during discipline (Dix et al., 1989; Larrance & Twentyman, 1983). Negative emotion increases when parents think children understand, intend, control, and are responsible for their negative behaviour. Parents' negative emotion, in turn, predicts their intentions to use controlling child-rearing techniques (Dix, 1993).

Previous research findings provide support for the suggestion made earlier that differential perceptions about problematic behaviour may influence parenting strategies, that, in turn may influence the outcome of such behaviour. In a study (Denham et al., 2000) designed to examine whether parental emotions and behaviours may influence the developmental course of behaviour problems during the transition from pre-school to school, it has been found that mothers' proactive parenting practices consistently predicted fewer externalising problems in children over time. Proactive

parenting decreased disruptive antisocial behaviour patterns. Parental anger predicted children's later aggressive, antisocial behaviour. Moreover, parental anger was most influential as a disorganiser of the behaviour of those already at risk, indicating the interaction of parental anger and early vulnerability. This study demonstrated that both parental emotions and parental behaviours contribute to risk and resiliency in children initially at risk for behaviour problems.

Adults' perceptions about children's disruptive behaviour not only regulate adults' reactions to children and thus the socialisation experiences to which children are exposed, but they also influence children's conceptions of themselves and of how adults want them to act (Dix, 1993). Since AD/HD behaviours are considered as more untypical for girls than for boys, then, girls may internalise rules that, on the one hand, help them to control their symptoms and, on the other hand, help them to attain the desirable gender identity. Children learn at a very early age what gets socially linked to gender as well as the values and conditional outcome dependencies about the gendered conduct that is considered proper or inappropriate for their gender (Bussey & Bandura, 1999). Recent emphasis has been placed on sex-based differences in parental and teacher expectations, as well as on the importance of both explicit and subtle cultural values for the understanding of sex-role behaviours (Archer & Lloyd, 1985; Block, 1984). For example, it is not by chance that mothers of tomboys were more likely to have been tomboys themselves and to accept tomboyish behaviour on the part of their daughters (Williams et al., 1985). In other words, adults' perceptions of typicality or untypicality of AD/HD behaviour may influence differentially boys' and girls' development -both indirectly, via their effects on parent affect and parent behaviour, and directly.

From our point of view, emotion-regulation, behavioural inhibition, and control of impulses, which are considered as therapeutic goals in the case of AD/HD, are viewed as normal sex-role behaviours in the case of girls and are usually implemented at an early age at home, as a part of the female gender-identity attainment. Emotion regulation involves the altering or moderating of affective reactions within eliciting situations, such that appropriate and adaptive responses to such situations are more likely (Thompson, 1990). Kopp (1982) and Silverman & Ragusa (1990) suggest that maternal interactive style has a direct influence on the development of self-regulation in the child. In addition, research shows that mothers of girls with AD/HD are more critical of their daughters' lack of emotion-regulation than mothers of boys with AD/HD (Barkley, 1994).

In other words, aspects of male roles and behaviours can, in extreme cases, contribute to the development of disruptive behaviour problems, while the aspects of female roles can contribute to early decline of this kind of problems for girls. This idea is consistent with Huselid and Cooper (1994) who believe that "gender role attributes substantially, though not completely, mediate sex differences in a range of externalising and internalising symptoms."

Of course, this is not to suggest that sex-role socialisation completely prevents girls from displaying AD/HD symptoms. This suggestion is closely related to the approach to classification systems of mental disorders that is adopted. As summarised in a paper by Sonuga-Barke (1998), ICD-10 and DSM-IV adopt a categorical approach to classification, based on the acceptance that the normal differs from the pathological by kind rather than by degree (Wilson, 1993), and that distinctions can be drawn between qualitatively different types of disorder (Kendall, 1991). A second set of authors favour the use of dimensional systems that characterise disorder "on a linear continuum of graded severity" (Clark et



al., 1995, p. 145). These systems would give more weight to severity as an indicator of treatment need. Adhering to the view that childhood disorders are best viewed as lying on a continuum rather than as distinct clinical entities (Kakouros & Maniadaki, 2002), we suggest that adults' perceptions and responses to girls with AD/HD could make them to display AD/HD symptoms at a *lesser degree*. In this way, specific traits of girls' socialisation may be protective factors against the development of the full picture of AD/HD.

Behaving in socially approved ways represents both a co-operative orientation and an effective strategy for warding off anxiety engendered by anticipation of disapproval from peers or adults (Block, 1983). Of course, it should be noted that exactly the same traits that may be protective factors for one form of psychopathology can be a risk factor for another. For example, the phenomenon of behavioural inhibition with high autonomic reactivity has been shown to be a protective factor for delinquency (Lahey et al., 1995) but a risk factor for anxiety disorders (Hirshfeld et al., 1992).

Considering the result of this thesis that perceptions of typicality or untypicality of male and female AD/HD may differ, it is important to explore in future research whether these differences influence the adoption of socialising practices that may lead to the aggravation of symptoms for boys (through overt conflicts and punishment) and to the attenuation, at least of the externalising part of the disorder, in girls (through direct and indirect messages of "not-appropriateness" and the use of more co-operative strategies). The results of this thesis provide support for the view that both severity and untypicality judgements are related to more supportive parental responses. Since girls' behaviour is considered as significantly more untypical than boys' one may conclude that girls have higher chances to be treated in a more effective way than boys. Moreover, it has been found that hyperactive boys are more likely than girls to

be treated with more strictness, which further supports the above point of view. Of course, whether these differences may actually lead to the persistence or decline of the child's hyperactive behaviour remains to be tested in prospective longitudinal designs.

The view that experiential factors may considerably influence the expression of AD/HD is proposed by other researchers as well. In developmental psychopathology, there is a common held belief that in no case is the genetic determination of psychological attributes so strong that there is no room for environmental effects (McGuffin & Gottesman; Shields, 1980). The potential and even likely influence of biological factors conjoined with the bidirectional effects of child and parent interaction are recognised as confounded with an interpretation in terms of differential socialization (Block, 1983).

Jacobvitz & Sroufe (1987) and Silverman & Ragusa (1992) propose that, for some children, experiential factors alone or in combination with organic factors may play a predominant role in the development of AD/HD. Carlson et al. (1995) suggest that there may be multiple routes to the development of AD/HD in childhood. The differentiation of pathways of development of AD/HD may encourage the use of preventive therapeutic approaches such that emphasis in AD/HD treatment for some cases is placed on the development of early parenting skills and social support.

However, possible inclination of the disruptive AD/HD symptoms in girls does not mean that the disorder disappears. In contrast, symptoms like inattention and deficits that underlie academic underachievement go untreated with important implications for these girls (Kakouros & Maniadaki, 1998). In contrast to rule-breaking, inattention tends to be more societally and culturally neutral, drawing less attention from adults (Abikoff et al.). Girls who are distracted, disorganised, quiet daydreamers may give less cause for

concern. Studies have shown that predominantly inattentive children with AD/HD are more difficult to identify (Epstein et al., 1991). Because girls are more likely to fall into this predominantly inattentive subtype (Biederman et al., 1999; Gaub & Carlson, 1997; Wolraich et al., 1996)), they are more likely to be overlooked. However, despite the studies available that demonstrate that girls cluster more in the inattentive subtype, most standardised teacher and parent rating scales continue to emphasise hyperactivity and impulsivity (Nadeau & Quinn, 2002).

Though girls' struggles are less overt, the impact of their AD/HD is no less significant. The nature of the differences reported is one that is likely to result in many cases of AD/HD in girls being missed, or at least not diagnosed until substantially later than boys. Even Primary Care Clinicians, who examined boys and girls with similar levels of parent-reported problems and in a similar visit context, were more likely to find AD/HD in boys (Gardner et al., 2002).

Unfortunately, this would increase the likelihood of significant academic problems and other emotional and/or behavioural difficulties developing as a girl's core AD/HD symptoms go untreated (Abikoff et al., 2002; AD/HD). The under-identification and under-treatment of females with AD/HD may have substantial mental health and educational implications, suggesting that research is needed to develop a better understanding of clinical indicators of AD/HD in females (Biederman et al., 1994).

These patterns of under-referral of girls for treatment of AD/HD have important implications, not only for girls, but for women as well. When diagnosis and treatment are delayed, the potentially damaging side effects of AD/HD, including low self-esteem, underachievement, and secondary anxiety and depression, have many years to negatively affect undiagnosed females (Rucklidge & Kaplan, 1997).

Rucklidge & Kaplan (2000) designed a study in order to examine current attributions and perceptions of childhood of women identified in adulthood with AD/HD symptomatology. This study demonstrated that women with AD/HD symptomatology had more uncontrollable, stable and global attributions, reported more dissatisfaction in their childhood, parent, peer, and teacher relationships, and felt less in control of negative childhood events as compared with the non AD/HD women. The current study suggests an important way in which nongenetic factors, such as maladaptive attributional styles developed as a way to cope with negative experiences, could contribute to high rates of comorbidity of AD/HD and depression or anxiety disorders. It is possible that repeated experiences of failure in childhood lead to a learned helpless response that, in turn, increases the likelihood of developing depression and anxiety. It also suggests that the health risk of not being diagnosed with AD/HD until adulthood could be significant, including higher rates of depression, anxiety and physical disease.

It seems therefore that, if socialisation strategies indeed make girls control their hyperactive symptoms, this outcome has a price for them. Girls with AD/HD are taught very early that they must become "young ladies". Responding to such expectancies, many girls with AD/HD begin to hide those parts of themselves that meet with criticism from parents, teachers, and peers. Ellen Littman (2002) notices that early on, girls with AD/HD learn to compensate for their difficulties, and they become impressively adept at this ability. They develop creative strategies to counterbalance their difficulties so that their overt behaviour is appropriate.

Research shows that most women with AD/HD compensate so well that they function at a very high level, so that others do not necessarily perceive any difficulty or dysfunction. By maintaining carefully controlled behaviour, and keeping the accompanying emotional experience internalised, they can

successfully hide their struggles. However, when women with AD/HD compensate successfully for their AD/HD symptoms, their "mask of competency" comes at a high price (Solden, 1995). *"If they put effort into trying to conform to cultural expectations of femininity, their self-worth then becomes completely dependent upon others. Developing a false self is a risky business, even if it buys temporary approval"* (Hope Langner, 2002; p. 72).

#### **8.4 Contribution of this thesis**

The findings of this thesis are important in a number of ways. First, they contribute to the studies investigating sex differences in DBDs, by lending support to the view that sex differences exist, above all, in perceptions about the nature and, sometimes causality, of these disorders. These differences have considerable implications for adults' responses and referral practices. In this way, these findings contribute to the understanding of risk and protective factors for the development of DBDs. This relates to the need for prevention programs focused on socialisation effects that possibly interfere with the development, course, and outcome of DBDs in boys and girls.

Second, they provide evidence that effective interventions in childhood psychopathology must be based on the change of erroneous attributions from the part of socialising agents. Attribution theory provides a useful heuristic in guiding clinicians and parents alike in adopting the optimum attributional stance given the specific circumstances of each family (Chavira et al., 2000). Parents of hyperactive children may enter into clinical relationships with preconceived ideas about the nature and the reasons of their children's problems (Sonuga-Barke & Balding, 1993). This thesis has shown that these ideas may be different for boys

and girls. Unrealistic perceptions may actually cause important difficulties in relation to intervention (Kakouros & Maniadaki, 2000; Maniadaki, 2001).

Related to the above, is the need for the clinician to take into account parents' emotions toward their children's problematic behaviour. This thesis has shown that emotions are positively correlated to mothers' perceptions of severity of the disorder. Thus, whatever the direction of causality is between perceptions and emotions, the important thing is that perceptions of child behaviour and the affect related to these perceptions are important to socialisation. Moreover, a growing body of literature on parenting factors associated with child outcomes, suggests the need to incorporate explicit efforts to aid parents in their regulation of emotion as well (Denham et al., 2000).

Third, this investigation also points to the need for better education about AD/HD in females for nursery teachers as they represent the primary professionals who come in contact with this group of under-serviced individuals. In a longitudinal research that was conducted in a provincial town of Greece, with a sample of 141 pre-schoolers, it was found that half of the children who presented ADHD symptoms at the nursery school, according to their nursery teachers, met diagnostic criteria of AD/HD at the first and second grade of primary school (Kakouros, Maniadaki, & Lalioti, 1999). Thus, since nursery teachers are usually the first to notice these children's difficulties, it is very important that they have realistic perceptions about children's hyperactive behaviour and that they are aware of the different manifestations of the disorder in boys and girls.

Fourth, because attributions are related to educators' affective and disciplinary responses to children (Lovejoy, 1996), these findings support the importance of carefully assessing educator beliefs about children's intentions, motivations, and control over the behaviour when designing and

implementing school-based interventions. In a study focused on how teachers in Greece perceive school functioning of young pupils with symptoms of ADHD, it was found that school problems associated with different symptoms of ADHD may not be directly caused from inborn, biological factors that underlie the disorder; rather they are mediated from a mismatch between the child and the school environment (Kakouros, Maniadaki, & Papaheliou, submitted for publication).

Finally, besides its clinical and educational implications, this study has theoretical implications as well. It has borrowed aspects of theorising about social cognition and applied them to the area of DBDs. It has also suggested that educational psychology could benefit from drawing on attribution theories and other theoretical approaches in social and cognitive psychology. In sum, the conceptual framework proposed here seems richer than current alternative conceptions.

### **8.5 Future directions**

The findings of this thesis provide the basis for future investigations that should explore directly the impact of such differences on socialisation practices and subsequent differences in the manifestation of these disorders. If this mechanism of inclination of disruptive symptoms in girls is supported by future research, it should be taken into account by educators and clinicians, so that girls with AD/HD receive proper treatment even if they are not so disruptive to cause important difficulties to their parents and teachers.

Another area of future research concerns the development of a different philosophy in the study of perceptions and attributions. The majority of work in the field of family cognitions makes the assumption that such processes operate in a conscious mode. Cognitions are, in turn, regularly assessed

with direct, self-reported measures that presume accurate introspection (and immunity from self-presentation artifacts). Efforts are needed to find ways to measure family cognitions as implicit processes in order to understand better their subtle, unaware influences on affect and behaviour (Bugental & Johnston, 2000).

Finally, similar studies exploring more thoroughly fathers' perceptions, emotions, and sense of self-efficacy toward hyperactive boys and girls would be extremely important as fathers also make an important contribution to children's socialisation and data on them are rather limited.

## **8.6 Limitations**

The study has a number of limitations that are important to take into account when interpreting the findings. First, the use of written vignettes, although common in research on attitudes and attributions of children's behaviour, inevitably leads to limited ecological validity. This approach has the great advantage of presenting a standard and controllable stimulus event to all participants but at the cost of limited generalisability (Freeman et al., 1997). Moreover, this study shares the weakness of all self-report studies. Educators' and parents' responses to vignettes might not disclose how they actually thought and felt and might not represent their actual behaviour.

Related to the above is the fact that vignettes present clearly given situations that are imaginary and isolated from their social context. Raters are called to make attributions based on limited and fragmented information. In real situations, information available is mixed and relates to social context. Thus, reported attributions and perceptions might be affected by the artificial nature of the stimuli presented.



Second, the correlational design of the data analysis does not permit conclusions about causal associations between the variables studied.

Third, half of the participants in this study were pre-service nursery teachers. This choice is justified as we sought to examine with which preconceived ideas educators enter the educational system before getting experience from their interaction with children. However these findings are restricted to this sample and cannot be generalised to nursery teachers in service and to educators of higher grades.

Fourth, the low response rate of parents, especially fathers, may have important implications for the findings. Given the high educational level of the parents who agreed to participate, it is possible that parents of lower educational level reason in different ways about disruptive behaviour in boys and girls. Alternatively, parents who hesitated to participate might have problems with their own children and fear that these problems could be reflected to their responses, even if the questionnaires were anonymous. Of course just the opposite could also be true: that the ones who participated were the most sensitised to child problem behaviour. In any case, it would be very helpful if we could have some information regarding the parents who didn't respond, but this was not feasible due to practical constraints. Anonymity of the questionnaires usually helps the participants to respond more honestly but prevents the researcher from collecting more information about the ones who didn't respond.

Finally, it should be noted that caution is needed when theoretical models, the one proposed in this thesis included, are used in psychopathology. Although such models contribute to the better communication of theoretical and empirical evidence between researchers and to the integration of several ideas in a structured framework, they also foster the danger of oversimplification and may give birth to absolute

interpretations. From a clinician's point of view, relationships such as the ones that are schematised in the proposed model are much more complicated in clinical practice, so room must be left to alternative explanations and additional pathways that may lead to a specific behaviour or outcome of behaviour.

## **CHAPTER 9 - FINAL CONCLUSIONS**

The present thesis has shown that the sex of a child displaying symptoms of a DBD may shape adults' perceptions and attributions about this behaviour differently. Moreover, it was demonstrated that several of these perceptions are related to affect and sense of self-efficacy in different ways for boys and girls. In addition, the sex-differentiated predictive value of these perceptions for parental responses and referral practices was revealed. Finally, evidence from previous and the present research were integrated in a theoretical model proposing a mechanism that might explain some of the variance of the reported sex differences in the prevalence of AD/HD and other DBDs. In this way, a solid basis has been provided for future research, that should focus on the effect of these sex-differentiated perceptions on actual behaviour of the socialising agents which might lead to differential outcome of boys and girls at risk for the development of DBDs.

The present thesis has combined theoretical and clinical knowledge from developmental psychopathology, as it focuses on a spectrum of common childhood disorders, developmental psychology, as it uses evidence from the theory of sex-role socialisation, and social psychology as it is conducted within the framework of attributional theory.

Eisenberg (1977) argued that a developmental perspective constituted the essential underlying concept in the psychiatry of both adults and children, because the process of

development provided the crucial link between genetic determinants and environmental variables, between sociology and individual psychology, and between physiogenic and psychogenic causes. The bringing together of social, genetic and developmental perspectives constitutes one of the cornerstones of the research approach that has come to be called "developmental psychopathology" (Cicchetti & Cohen, 1995; Rutter, 1996).

From our point of view, the major contribution of this study and the final conclusion drawn go beyond the specific findings regarding the specific subject of the thesis. The contribution of this thesis to the science of psychology should be measured dependent on the degree that it has managed to show that, if research aims to be useful outside research laboratories and academic departments, it should combine evidence from different branches and should not be isolated from the real world.

## Chapter 10 - APPENDICES

### Appendix 1 - Rating of similarity between the original questionnaire and the back translation from the Greek language

Item	Rater 1	Rater 2	Rater 3	Rater 4	Rater 5
A	4	4	4	4	4
B	3	4	4	4	3
C	3	4	4	4	2
Q1	4	5	5	5	5
Q2	5	5	5	5	5
Q3	5	5	5	5	5
Q4	4	5	5	4	5
Q5	5	5	5	5	5
Q6	5	5	5	5	5
Q7	4	2	5	4	4
Q8	4	4	3	4	1
Q9	4	4	5	5	3
Q10	5	5	5	5	5
Q11	5	4	5	5	3
Q12	4	5	5	5	4
Q13	5	5	5	5	5
Q14	4	3	4	4	4
Q15	5	5	5	5	5
Q16	5	5	5	5	5
Q17	5	4	5	4	4
Q18	5	5	5	5	5
Q19	4	5	3	3	4
Q20	4	4	3	2	1
Q21	5	4	5	2	4
Q22	4	5	5	4	4
Q23	5	5	5	4	5
Q24	5	5	5	5	5
Q25	3	5	5	4	4
Q26	5	3	5	3	4
Q27	5	5	5	5	5
Q28	5	5	5	5	5
Q29	5	5	5	3	3
Q30	5	5	5	3	5
Q31	5	5	5	5	5
Q32	3	5	5	5	5
Q33	5	5	5	5	5
Q34	4	5	5	4	5
Q35	5	5	5	5	5
Q36	5	4	4	5	4
Q37	5	5	5	5	5
Q38	5	5	5	5	5
Q39	4	4	3	5	5

**Appendix 1 - Rating of similarity between the original questionnaire and the back translation from the Greek language (continued)**

Note:

- A. Overall rating: How similar are the two questionnaires?
  - B. Vignettes: How similar are the two vignettes in terms of content?
  - C. Vignettes: How similar are the two vignettes in terms of severity of symptoms?
- 1-39 Please rate the similarity of each symptom of Questionnaire 1 with its equivalent in Questionnaire 2.

Table 1.  
Mean ratings of the back translation of the questionnaire

	Mean	S.D.
Rater 1	4.50	.67
Rater 2	4.57	.70
Rater 3	4.64	.69
Rater 4	4.38	.85
Rater 5	4.29	1.07
Overall rating	4.48	.59

## Appendix 2 - QUESTIONNAIRE (Study 1, b)

Here is a description of a child. Please read it carefully and then answer the questions which follow. You may read it as many times as you like. If you forget any of the information when answering the questions, you may reread the descriptions at any time.

**It is important to remember that these questions are NOT about your own children.**

### JOHN SMITH

John is a nine-year old boy who is very restless. He is also quarrelsome, quick to lose his temper and quite destructive.

At school, John is always behind in his work, he won't concentrate or sit still for more than a few minutes and often distracts others. He will not do as his teachers tell him and acts as a ringleader, bullying other children and being cruel to animals. He has taken money and food from other children's bags.

At home, John is scatty and always fidgeting, even when doing something he likes. His parents have trouble keeping him under control as he is disobedient, rude and always fighting with his brothers and sisters. John is also a very restless sleeper.

### Part One: What do you think of John?

First, I would like you to say whether you think John has a problem. I would like you to ring on the scale below a number between 1 and 10. Ring 1 if you think that John has no problems and 10 if you think he has severe problems.

1. No problem \_\_\_\_\_ Severe problem  
1    2    3    4    5    6    7    8    9    10

## Appendix 2 - QUESTIONNAIRE (Study 1, b) - Continued

### Part Two: How typical is John's behaviour and what impact does it have on his life?

Then, I would like you to ring a number between 1 and 5 in order to indicate your opinion about John's behaviour.

2. How typical is John's behaviour for his age?

Very typical for his age	_____	No typical at all
	1            2            3            4            5	

3. How typical is John's behaviour for his sex?

Very typical for his sex	_____	No typical at all
	1            2            3            4            5	

4. How much do John's parents need to worry about their son's behaviour?

Not at all	_____	Very much
	1            2            3            4            5	

5. How popular is John among his peers?

Very popular	_____	No popular at all
	1            2            3            4            5	

6. How happy is John?

Very happy	_____	No happy at all
	1            2            3            4            5	

### Part Three: Why does John behave as he does?

From what you have read about John, I would like to know how likely you think each statement is to be true. Read each statement and when you have decided how likely it is to be true of John, tick the appropriate response. This is not just one right answer. For instance, you could tick "very unlikely" for all the statements if that is what you think.

## Appendix 2 - QUESTIONNAIRE (Study 1, b) - Continued

John behave as he does because.....

	Very unlikely	Unlikely	No opinion/ uncertain	Likely	Very likely
7. his school is too strict					
8. he can't help it					
9. he enjoys behaving like that					
10. he has a learning problem					
11. his parents don't exercise enough discipline					
12. he is attention seeking					
13. he is deaf					
14. he takes after parents (runs in the family)					
15. his father died when he was young					
16. his parents are divorced					
17. he is mentally subnormal					
18. he is spoilt at home					
19. he lives in a single-parent family					
20. he lives in an inner city area					
21. his mother went to work when he was young					
22. he was a premature child					
23. he has mild brain damage					
24. his mother died when he was young					
25. his mother suffered post-natal depression					
26. his parents ignore him					
27. his parents are too strict					
28. his parents don't show him enough love					
29. it is in his nature/it's just how he is					
30. of a recent bereavement in the family					
31. to upset his parents/teacher					



## Appendix 2 - QUESTIONNAIRE (Study 1, b) - Continued

### Part Four: John's parents should seek advice from.....

	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
32. his doctor					
33. a child psychiatrist					
34. their friends					
35. John's grandparents					
36. his teacher					
37. books on children's problems					
38. health visitor					
39. religious leader					

### Part Five: Now please answer some questions about yourself.

40. What is your sex?

- a. Male
- b. Female

41. What is your age?

- a. 18-25 years
- b. 26-35 years
- c. 36-45 years
- d. 45 years and more

**Thank you very much for your time and co-operation**

### Appendix 3 - QUESTIONNAIRE (Study 1, g)

Here is a description of a child. Please read it carefully and then answer the questions which follow. You may read it as many times as you like. If you forget any of the information when answering the questions, you may reread the descriptions at any time.

**It is important to remember that these questions are NOT about your own children.**

#### JANE SMITH

Jane is a nine-year old girl who is very restless. She is also quarrelsome, quick to lose her temper and quite destructive.

At school, Jane is always behind in her work, she won't concentrate or sit still for more than a few minutes and often distracts others. She will not do as her teachers tell her and acts as a ringleader, bullying other children and being cruel to animals. She has taken money and food from other children's bags.

At home, Jane is scatty and always fidgeting, even when doing something she likes. Her parents have trouble keeping her under control as she is disobedient, rude and always fighting with her brothers and sisters. Jane is also a very restless sleeper.

#### Part One: What do you think of Jane?

First, I would like you to say whether you think Jane has a problem. I would like you to ring on the scale below a number between 1 and 10. Ring 1 if you think that Jane has no problems and 10 if you think she has severe problems.

1. No problem \_\_\_\_\_ Severe problem  
1 2 3 4 5 6 7 8 9 10

### Appendix 3 - QUESTIONNAIRE (Study 1, g) - Continued

#### Part Two: How typical is Jane's behaviour and what impact does it have on her life?

Then, I would like you to ring a number between 1 and 5 in order to indicate your opinion about Jane's behaviour.

2. How typical is Jane's behaviour for her age?

Very typical for her age	_____	No typical at all
	1            2            3            4            5	

3. How typical is Jane's behaviour for her sex?

Very typical for her sex	_____	No typical at all
	1            2            3            4            5	

4. How much do Jane's parents need to worry about their daughter's behaviour?

Not at all	_____	Very much
	1            2            3            4            5	

5. How popular is Jane among her peers?

Very popular	_____	No popular at all
	1            2            3            4            5	

6. How happy is Jane?

Very happy	_____	No happy at all
	1            2            3            4            5	

#### Part Three: Why does Jane behave as she does?

From what you have read about Jane, I would like to know how likely you think each statement is to be true. Read each statement and when you have decided how likely it is to be true of Jane, tick the appropriate response. There is not just one right answer. For instance, you could tick "very unlikely" for all the statements if that is what you think.

### Appendix 3 - QUESTIONNAIRE (Study 1, g) - Continued

Jane behave as she does because.....

	Very unlikely	Unlikely	No opinion/ uncertain	Likely	Very likely
7. her school is too strict					
8. she can't help it					
9. she enjoys behaving like that					
10. she has a learning problem					
11. her parents don't exercise enough discipline					
12. she is attention seeking					
13. she is deaf					
14. she takes after parents (runs in the family)					
15. her father died when she was young					
16. her parents are divorced					
17. she is mentally subnormal					
18. she is spoilt at home					
19. she lives in a single-parent family					
20. she lives in an inner city area					
21. her mother went to work when she was young					
22. she was a premature child					
23. she has mild brain damage					
24. her mother died when she was young					
25. her mother suffered post-natal depression					
26. her parents ignore her					
27. her parents are too strict					
28. her parents don't show her enough love					
29. it is in her nature/it's just how she is					
30. of a recent bereavement in the family					
31. to upset her parents/teacher					

### Appendix 3 - QUESTIONNAIRE (Study 1, g) - Continued

#### Part Four: Jane's parents should seek advice from.....

	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
32. her doctor					
33. a child psychiatrist					
34. their friends					
35. Jane's grandparents					
36. her teacher					
37. books on children's problems					
38. health visitor					
39. religious leader					

#### Part Five: Now please answer some questions about yourself.

40. What is your sex?

- a. Male
- b. Female

41. What is your age?

- a. 18-25 years
- b. 26-35 years
- c. 36-45 years
- d. 45 years and more

Thank you very much for your time and co-operation

## Appendix 4 - QUESTIONNAIRE (Study 2, b)

Here is a description of a child. Please read it carefully, as many times as you like, and then answer **all** the questions that follow. You are kindly asked to give **only one** answer to each question. If you forget any of the information when answering the questions, you may reread the description at any time.

**It is important to remember that these questions are NOT about your own children.**

### JOHN SMITH

John is a restless nine-year old boy, who wants to move all the time. His mother describes him as being always in motion, running and jumping excessively, as if he was “driven by a motor”.

At school, John usually won't sit still for more than a few minutes and he often attempts to leave his seat in classroom. While seated, he usually fidgets with hands and feet. When he participates in the lesson, he often interrupts his teachers and classmates when they talk, as he has difficulty awaiting turn. Moreover, he usually blurts out answers without the teacher's permission, even before the question has been completed.

His friends remark that John doesn't always follow the rules of the games. His father says: “John usually seems to act before thinking.

### Part One: What is the nature of John's behaviour?

First, we would like you to ring a number between 1 and 5 on the scale below in order to indicate your opinion regarding the nature of John's behaviour. For example, at the first question, ring 1 if you think that John has no problem at all and 5 if you think he has a severe problem.

1. No problem \_\_\_\_\_ Severe problem  
1 2 3 4 5
2. To what extent do you think that this behaviour is caused by something specifically to do with John, rather than something else?

Something else \_\_\_\_\_ Something specifically  
1 2 3 4 5 to do with John

#### Appendix 4 - QUESTIONNAIRE (Study 2, b) – Continued

3. To what extent do you think that John would have control over behaving in this way?

Has complete control over his behaviour    1            2            3            4            5    Has no control at all over his behaviour

4. To what extent do you think that the cause of his behaviour will be present again in the future or was it a “one-off”?

Will never be present again            1            2            3            4            5    Will always be present.

5. Would the cause of this behaviour influence John in other situations or would it only influence this sort of situation?

Only influences this sort of situation    1            2            3            4            5    Influences all situations in John’s life

#### Part Two: How typical is John’s behaviour?

Then, we would like you to ring a number between 1 and 5 in order to indicate your opinion about the typicality of John’s behaviour.

6. How typical is John’s behaviour for his age?

Very typical for his age    1            2            3            4            5    No typical at all

7. How typical is John’s behaviour for his sex?

Very typical for his sex    1            2            3            4            5    No typical at all

8. To what extent do you think that this behaviour is caused by something unique to John or by something common to most boys of that age?

Something common to most boys of his age    1            2            3            4            5    Something unique to John

#### Appendix 4 - QUESTIONNAIRE (Study 2, b) – Continued

9. How frequently do you think that a typical boy of John's age behaves in this way or a similar way?

1	2	3	4	5
Very often	Often	Sometimes	Rarely	Very rarely

#### Part Three: What impact does John's behaviour have on his and his parents' life?

10. How much do John's parents need to worry about their son's behaviour?

Not at all						Very much
	1	2	3	4	5	

11. How popular is John among his peers?

Very popular						No popular at all
	1	2	3	4	5	

12. How happy is John?

Very happy						No happy at all
	1	2	3	4	5	

#### Part Four: Why does John behave as he does?

From what you have read about John, we would like to know how likely you think each statement is to be true. Read each statement and when you have decided how likely it is to be true of John, tick the appropriate response. We would like to notice that there is not just one right answer.



#### Appendix 4 - QUESTIONNAIRE (Study 2, b) – Continued

**John behave as he does because.....**

	Very unlikely	Unlikely	No opinion/ uncertain	Likely	Very likely
13. his school is too strict					
14. he can't help it					
15. he enjoys behaving like that					
16. he has a learning problem					
17. his parents don't exercise enough discipline					
18. he is attention seeking					
19. he is deaf					
20. he takes after parents (runs in the family)					
21. his father died when he was young					
22. his parents are divorced					
23. he is mentally subnormal					
24. he is spoilt at home					
25. he lives in a single-parent family					
26. he lives in an inner city area					
27. his mother went to work when he was young					
28. he was a premature child					
29. he has mild brain damage					
30. his mother died when he was young					
31. his mother suffered post-natal depression					
32. his parents ignore him					
33. his parents are too strict					
34. his parents don't show him enough love					
35. it is in his nature/it's just how he is					
36. of a recent bereavement in the family					
37. to upset his parents/teacher					

#### Appendix 4 - QUESTIONNAIRE (Study 2, b) – Continued

##### Part Five: What should his parents do?

Below are some things that John's parents might do to try and help John. Read each statement and decide if you agree that it would help John.

##### To try and control John's behaviour his parents...

	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
38. should help him with his schoolwork					
39. should leave him alone					
40. should show him a bit more love					
41. should be less strict with him at home					
42. should move him to a different school					
43. should stop him from watching the T.V.					
44. should stop spoiling him					
45. should try and work out where they went wrong					
46. should sit down and ask him why he is unhappy					
47. should change his diet					
48. should introduce him to new friends					

##### Part Six: John's parents should seek advice from.....

	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
49. his doctor					
50. a child psychiatrist					
51. their friends					
52. John's grandparents					
53. his teacher					
54. books on children's problems					
55. health visitor					
56. religious leader					

#### **Appendix 4 - QUESTIONNAIRE (Study 2, b) – Continued**

##### **Part Seven: Now please answer some questions about yourself.**

57. What is your sex?

- a. Male
- b. Female

58. What is your age? (Please complete ..... years)

59. Where have you finished primary school?

- a. In Athens
- b. In another big city
- c. In a small Province city
- d. In a village

60. What is your father's occupation? .....

61. In which Department do you study?

- a. Department of Early Childhood Education
- b. Other (Please specify: .....)

62. In which year of your studies are you?

- a. First
- b. Second
- c. Third
- d. Fourth
- e. Other

63. How much experience have you had with children?

- a. A little
- b. Moderate
- c. A lot

64. Have you ever met a boy like John?

- a. Yes
- b. No
- c. I don't remember

65. How much would you like having a son like John?

- a. Not at all
- b. A little
- c. A lot

66. As an educator, would you refer John to Child Mental Health Services?

- a. Yes
- b. No
- c. I don't know

**Thank you very much for your time and co-operation**

## Appendix 5 - QUESTIONNAIRE (Study 2, g)

Here is a description of a child. Please read it carefully, as many times as you like, and then answer **all** the questions that follow. You are kindly asked to give **only one** answer to each question. If you forget any of the information when answering the questions, you may reread the description at any time.

**It is important to remember that these questions are NOT about your own children.**

### JANE SMITH

Jane is a restless nine-year old girl, who wants to move all the time. Her mother describes her as being always in motion, running and jumping excessively, as if she was “driven by a motor”.

At school, Jane usually won’t sit still for more than a few minutes and she often attempts to leave her seat in classroom. While seated, she usually fidgets with hands and feet. When she participates in the lesson, she often interrupts her teachers and classmates when they talk, as she has difficulty awaiting turn. Moreover, she usually blurts out answers without the teacher’s permission, even before the question has been completed.

Her friends remark that Jane doesn’t always follow the rules of the games. Her father says: “Jane usually seems to act before thinking.

### Part One: What is the nature of Jane’s behaviour?

First, we would like you to ring a number between 1 and 5 on the scale below in order to indicate your opinion regarding the nature of Jane’s behaviour. For example, at the first question, ring 1 if you think that Jane has no problem at all and 5 if you think she has a severe problem.

1. No problem \_\_\_\_\_ Severe problem  
1 2 3 4 5
2. To what extent do you think that this behaviour is caused by something specifically to do with Jane, rather than something else?

Something else \_\_\_\_\_ Something specifically  
1 2 3 4 5 to do with Jane

3. To what extent do you think that Jane would have control over behaving in this way?

4. To what extent do you think that the cause of her behaviour will be present again in the future or was it a “one-off”?

5. Would the cause of this behaviour influence Jane in other situations or would it only influence this sort of situation?

## Part Two: How typical is Jane's behaviour?

Then, we would like you to ring a number between 1 and 5 in order to indicate your opinion about the typicality of Jane's behaviour.

6. How typical is Jane's behaviour for her age?

7. How typical is Jane's behaviour for her sex?

8. To what extent do you think that this behaviour is caused by something unique to Jane or by something common to most girls of that age?

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## Appendix 5 - QUESTIONNAIRE (Study 2, g) – Continued

9. How frequently do you think that a typical girl of Jane's age behaves in this way or a similar way?

1	2	3	4	5
Very often	Often	Sometimes	Rarely	Very rarely

### Part Three: What impact does Jane's behaviour have on her and her parents' life?

10. How much do Jane's parents need to worry about their daughter's behaviour?

Not at all	1	2	3	4	5	Very much
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11. How popular is Jane among her peers?

Very popular	1	2	3	4	5	No popular at all
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12. How happy is Jane?

Very happy	1	2	3	4	5	No happy at all
------------	---	---	---	---	---	-----------------

### Part Four: Why does Jane behave as she does?

From what you have read about Jane, we would like to know how likely you think each statement is to be true. Read each statement and when you have decided how likely it is to be true of Jane, tick the appropriate response. We would like to notice that there is not just one right answer.

## Appendix 5 - QUESTIONNAIRE (Study 2, g) – Continued

Jane behave as she does because.....

	Very unlikely	Unlikely	No opinion/ uncertain	Likely	Very likely
13. her school is too strict					
14. she can't help it					
15. she enjoys behaving like that					
16. she has a learning problem					
17. her parents don't exercise enough discipline					
18. she is attention seeking					
19. she is deaf					
20. she takes after parents (runs in the family)					
21. her father died when she was young					
22. her parents are divorced					
23. she is mentally subnormal					
24. she is spoilt at home					
25. she lives in a single-parent family					
26. she lives in an inner city area					
27. her mother went to work when she was young					
28. she was a premature child					
29. she has mild brain damage					
30. her mother died when she was young					
31. her mother suffered post-natal depression					
32. her parents ignore her					
33. her parents are too strict					
34. her parents don't show her enough love					
35. it is in her nature/it's just how she is					
36. of a recent bereavement in the family					
37. to upset her parents/teacher					

## Appendix 5 - QUESTIONNAIRE (Study 2, g) – Continued

### Part Five: What should her parents do?

Below are some things that Jane's parents might do to try and help Jane. Read each statement and decide if you agree that it would help Jane.

#### To try and control Jane's behaviour her parents...

	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
38. should help her with her schoolwork					
39. should leave her alone					
40. should show her a bit more love					
41. should be less strict with her at home					
42. should move her to a different school					
43. should stop her from watching the T.V.					
44. should stop spoiling her					
45. should try and work out where they went wrong					
46. should sit down and ask her why she is unhappy					
47. should change her diet					
48. should introduce her to new friends					

### Part Six: Jane's parents should seek advice from.....

	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
49. her doctor					
50. a child psychiatrist					
51. their friends					
52. Jane's grandparents					
53. her teacher					
54. books on children's problems					
55. health visitor					
56. religious leader					



## **Appendix 5 - QUESTIONNAIRE (Study 2, g) – Continued**

### **Part Seven: Now please answer some questions about yourself.**

57. What is your sex?
- a. Male                      b. Female
58. What is your age? (Please complete ..... years)
59. Where have you finished primary school?
- a. In Athens
  - b. In another big city
  - c. In a small Province city
  - d. In a village
60. What is your father's occupation? .....
61. In which Department do you study?
- a. Department of Early Childhood Education
  - b. Other (Please specify: .....)
62. In which year of your studies are you?
- a. First                      b. Second
  - c. Third                      d. Fourth                      e. Other
63. How much experience have you had with children?
- a. A little                      b. Moderate                      c. A lot
64. Have you ever met a girl like Jane?
- a. Yes                      b. No                      c. I don't remember
65. How much would you like having a daughter like Jane?
- a. Not at all                      b. A little                      c. A lot
66. As an educator, would you refer Jane to Child Mental Health Services?
- a. Yes                      b. No                      c. I don't know

**Thank you very much for your time and co-operation**

## Appendix 6 – Criteria for the construction of the three vignettes

### VIGNETTE 1

John is a nine-year old boy, who is often **absentminded**. Sometimes, **he doesn't seem to listen when spoken to**, or **he gives answers irrelevant to the question**.

John's teachers remark that he has **difficulty in organising the tasks** assigned to him and that he is **easily distracted**. As a result, he usually makes **careless mistakes** in his schoolwork, even when he knows the rules that he should follow. Moreover, he seems that he is **daydreaming** in class and that **he doesn't really attend the lesson**. For example, **he can rarely repeat the teacher's question** when he is asked to or he frequently **asks about something that has been answered** a few minutes before.

His mother notices that John **loses his personal stuff** frequently and that he **forgets to take to school all the necessary books**. Moreover, she remarks that **he is not persistent** as he **abandons easily activities that he finds difficult**.

**Type of Psychopathology: ADHD, Predominantly Inattentive Type**

**DSM-IV criteria used: 7 criteria, 14 statements, 11 lines**

#### **Inattention**

1. Does not seem to listen when spoken to directly
2. Difficulty in organising tasks
3. Easily distracted
4. Makes careless mistakes in schoolwork
5. Loses things necessary for tasks
6. Often forgetful in daily activities
7. Fails to finish activities

## Appendix 6 – Criteria for the construction of the three vignettes (continued)

### VIGNETTE 2

John is a **restless** nine-year old boy, who **wants to move all the time**. His mother describes him as **being always in motion, running and jumping excessively**, as if he was “**driven by a motor**”.

At school, John usually **won't sit still** for more than a few minutes and he often attempts to **leave his seat** in classroom. While seated, he usually **fidgets** with hands and feet. When he participates in the lesson, he often **interrupts his teachers** and classmates when they talk, as he has **difficulty awaiting turn**. Moreover, he usually **blurts out answers** without the teacher's permission, even before the question has been completed.

His friends remark that John **doesn't always follow the rules** of the games. His father says: “John usually **seems to act before thinking**.”

**Type of Psychopathology: ADHD, Predominantly Hyperactive-Impulsive Type**

**DSM-IV criteria used: 7 criteria, 14 statements, 10 lines**

#### **Hyperactivity**

1. Runs and climbs all the time
2. Acts as if “driven by a motor”
3. Often leaves seat
4. Often fidgets

#### **Impulsivity**

5. Interrupts others
6. Difficulty awaiting turn
7. Blurts out answers before the questions have been completed

## Appendix 6 – Criteria for the construction of the three vignettes (continued)

### VIGNETTE 3

John is a **hard-to-manage** nine-year old boy. His mother describes him as an **explosive** and **disobedient** child, **difficult to co-operate with**. At home, he **rarely does as his parents tell him** whereas at school he **refuses to do assignments** by saying: “I don’t want and I won’t do it”.

John is a **quarrelsome** boy who **loses his temper easily**. Sometimes, he becomes **aggressive** towards the other children, especially when they disagree with him or don’t do as he says. His schoolmates complain that he **usually lies** in order to avoid the consequences of his misbehaviour and often **blames others** for it.

His teacher has frequently called his parents in order to inform them about John’s **continuous absences from school**. Despite punishment, John continues to **repeat the same actions of misbehaviour**. His father says: “My son **doesn’t seem to learn from his mistakes**”.

**Type of Psychopathology: ODD + Conduct Disorder**

**DSM-IV criteria used: 7 criteria, 14 statements, 10 lines**

#### **ODD**

1. Often argues with adults
2. Often refuses to comply with adults requests
3. Often loses temper
4. Often blames others

#### **Conduct Disorder**

5. Often initiates physical fights
6. Often lies to avoid obligations
7. Often truant from school

## Appendix 7 - Test-Retest reliability of the main questionnaire per variable and overall

Variables (Q=Time 1, R=Time 2)	Pearson's r
Q1-R1	.74**
Q2-R2	.63**
Q3-R3	.65**
Q4-R4	.79**
Q5-R5	.76**
Q6-R6	.74**
Q7-R7	.62**
Q8-R8	.57**
Q9-R9	.62**
Q10-R10	.74**
Q11-R11	.72**
Q12-R12	.71**
Q13-R13	.69**
Q14-R14	.75**
Q15-R15	.77**
Q16-R16	.56**
Q17-R17	.73**
Q18-R18	.60**
Q19-R19	.72**
Q20-R20	.64**
Q21-R21	.73**
Q22-R22	.67**
Q23-R23	.62**
Q24-R24	.62**
Q25-R25	.70**
Q26-R26	.72**
Q27-R27	.62**
Q28-R28	.51**
Q29-R29	.64**
Q30-R30	.72**
Q31-R31	.85**
Q32-R32	.64**
Q33-R33	.71**
Q34-R34	.75**
Q35-R35	.79**
Q36-R36	.88**
Q37-R37	.62**
Q38-R38	.61**
Q39-R39	.79**
Q40-R40	.67**
Q41-R41	.69**
Q42-R42	.62**
Q43-R43	.61**
Q44-R44	.51**
Q45-R45	.76**
Q46-R46	.65**
Q47-R47	.67**

**Appendix 7 - Test-Retest reliability of the main questionnaire per variable and overall  
(continued)**

Q48-R48	.86**
Q49-R49	.79**
Q50-R50	.75**
Q51-R51	.69**
Q52-R52	.69**
Q53-R53	.74**
Q54-R54	.79**
Q55-R55	.71**
Q56-R56	.88**
Overall	.70**

Note: \*\* =  $p < .01$

## Appendix 8 - QUESTIONNAIRE (Study 3, b)

Here is a description of a child. Please read it carefully, as many times as you like, and then answer **all** the questions that follow. You are kindly asked to give **only one** answer to each question. If you forget any of the information when answering the questions, you may reread the description at any time.

**It is important to remember that these questions are NOT about your own children.**

### JOHN SMITH

John is a restless nine-year old boy, who wants to move all the time. His mother describes him as being always in motion, running and jumping excessively, as if he was “driven by a motor”.

At school, John usually won’t sit still for more than a few minutes and he often attempts to leave his seat in classroom. While seated, he usually fidgets with hands and feet. When he participates in the lesson, he often interrupts his teachers and classmates when they talk, as he has difficulty awaiting turn. Moreover, he usually blurts out answers without the teacher’s permission, even before the question has been completed.

His friends remark that John doesn’t always follow the rules of the games. His father says: “John usually seems to act before thinking.

### Part One: What is the nature of John’s behaviour?

First, we would like you to ring a number between 1 and 5 on the scale below in order to indicate your opinion regarding the nature of John’s behaviour. For example, at the first question, ring 1 if you think that John has no problem at all and 5 if you think he has a severe problem.

1. No problem \_\_\_\_\_ Severe problem  
1 2 3 4 5

2. To what extent do you think that this behaviour is caused by something specifically to do with John, rather than something else?

Something else \_\_\_\_\_ Something specifically  
1 2 3 4 5 to do with John

## Appendix 8 - QUESTIONNAIRE (Study 3, b) – Continued

3. To what extent do you think that John would have control over behaving in this way?

Has complete control over his behaviour    1            2            3            4            5    Has no control at all over his behaviour

4. To what extent do you think that the cause of his behaviour will be present again in the future or was it a “one-off”?

Will never be present again    1            2            3            4            5    Will always be present.

5. Would the cause of this behaviour influence John in other situations or would it only influence this sort of situation?

Only influences this sort of situation    1            2            3            4            5    Influences all situations in John’s life

### Part Two: How typical is John’s behaviour?

Then, we would like you to ring a number between 1 and 5 in order to indicate your opinion about the typicality of John’s behaviour.

6. How typical is John’s behaviour for his age?

Very typical for his age    1            2            3            4            5    No typical at all

7. How typical is John’s behaviour for his sex?

Very typical for his sex    1            2            3            4            5    No typical at all

8. To what extent do you think that this behaviour is caused by something unique to John or by something common to most boys of that age?

Something common to most boys of his age    1            2            3            4            5    Something unique to John



## Appendix 8 - QUESTIONNAIRE (Study 3, b) – Continued

9. How frequently do you think that a typical boy of John's age behaves in this way or a similar way?

1	2	3	4	5
Very often	Often	Sometimes	Rarely	Very rarely

### Part Three: What impact does John's behaviour have on his and his parents' life?

10. How much do John's parents need to worry about their son's behaviour?

Not at all	1	2	3	4	5	Very much
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11. How popular is John among his peers?

Very popular	1	2	3	4	5	No popular at all
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12. How happy is John?

Very happy	1	2	3	4	5	No happy at all
------------	---	---	---	---	---	-----------------

### Part Four: Why does John behave as he does?

From what you have read about John, we would like to know how likely you think each statement is to be true. Read each statement and when you have decided how likely it is to be true of John, tick the appropriate response. We would like to notice that there is not just one right answer.

## Appendix 8 - QUESTIONNAIRE (Study 3, b) – Continued

John behave as he does because.....

	Very unlikely	Unlikely	No opinion/ uncertain	Likely	Very likely
13. his school is too strict					
14. he can't help it					
15. he enjoys behaving like that					
16. he has a learning problem					
17. his parents don't exercise enough discipline					
18. he is attention seeking					
19. he is deaf					
20. he takes after parents (runs in the family)					
21. his father died when he was young					
22. his parents are divorced					
23. he is mentally subnormal					
24. he is spoilt at home					
25. he lives in a single-parent family					
26. he lives in an inner city area					
27. his mother went to work when he was young					
28. he was a premature child					
29. he has mild brain damage					
30. his mother died when he was young					
31. his mother suffered post-natal depression					
32. his parents ignore him					
33. his parents are too strict					
34. his parents don't show him enough love					
35. it is in his nature/it's just how he is					
36. of a recent bereavement in the family					
37. to upset his parents/teacher					

## Appendix 8 - QUESTIONNAIRE (Study 3, b) – Continued

### Part Five: What should his parents do?

Below are some things that John's parents might do to try and help John. Read each statement and decide if you agree that it would help John.

#### To try and control John's behaviour his parents...

	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
38. should help him with his schoolwork					
39. should leave him alone					
40. should show him a bit more love					
41. should be less strict with him at home					
42. should move him to a different school					
43. should stop him from watching the T.V.					
44. should stop spoiling him					
45. should try and work out where they went wrong					
46. should sit down and ask him why he is unhappy					
47. should change his diet					
48. should introduce him to new friends					

### Part Six: John's parents should seek advice from.....

	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
49. his doctor					
50. a child psychiatrist					
51. their friends					
52. John's grandparents					
53. his teacher					
54. books on children's problems					
55. health visitor					
56. religious leader					

## Appendix 8 - QUESTIONNAIRE (Study 3, b) – Continued

**Part Seven: Now please answer some questions about yourself.**

57. What is your sex?

- a. Male    b. Female

58. What is your age? (Please complete .....years)

59. Where have you finished primary school?

- a. In Athens                                      b. In another big city  
c. In a small Province city                d. In a village

60. What is your occupation? .....

61. What is your educational level?

- a. Primary school                      b. Junior High School  
c. High School                        d. College/University  
e. Other

62. How many children between 4-6 do you have? .....

63. What is the sex of your child(ren) aged 4-6?

- a. Boy(s)                      b. Girl(s)                      c. Boy(s) and girl(s)

64. Have you ever met a boy like John?

- a. Yes                      b. No                      c. I don't remember

65. How much would you like having a son like John?

- a. Not at all                      b. A little                      c. A lot

66. If any of your children resembled to John, would you seek advice from a specialist?

- a. Yes                  b. No                  c. I don't know

67. Do any of your children resemble to John?

- a. No
- b. Yes (Please specify age and sex.....)

**Please turn over – there are a few more questions.**

## Appendix 8 - QUESTIONNAIRE (Study 3, b) – Continued

### Strengths and Difficulties Questionnaire (SDQ-Hel)

P 4-16

Now please answer the following questions for your **OWN CHILD**, aged 4-6. In case you have two or more children of that age, please answer the following questions only for the older one. For each item, please mark the box Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months.

68. Child's sex (Please ring): 1. Male                      2. Female

<b>YOUR CHILD:</b>	<b>1 Not True</b>	<b>2 Somewhat True</b>	<b>3 Certainly True</b>
69. Considerate of other people's feelings.			
70. Restless, overactive, cannot stay still for long.			
71. Often complains of headaches, stomach-aches or sickness.			
72. Shares readily with other children (treats, toys, pencils etc.).			
73. Often has temper tantrums or hot tempers.			
74. Rather solitary, tends to play alone.			
75. Generally obedient, usually does what adults request.			
76. Many worries, often seems worried.			
77. Helpful if someone is hurt, upset or feeling ill.			
78. Constantly fidgeting or squirming.			
79. Has at least one good friend.			
80. Often fights with other children or bullies them.			
81. Often unhappy, down-hearted or tearful.			
82. Generally liked by other children.			
83. Easily distracted, concentration wanders.			
84. Nervous or clingy in new situations, easily loses confidence.			
85. Kind to younger children.			
86. Often lies or cheats.			
87. Picked on or bullied by other children.			
88. Often volunteers to help others (parents, teachers, other children).			
89. Thinks things out before acting.			
90. Steals from home, school or elsewhere.			
91. Gets on better with adults than with other children.			
92. Many fears, easily scared.			
93. Sees tasks through to the end, good attention span.			

## Appendix 8 - QUESTIONNAIRE (Study 3, b) – Continued

94. Overall, do you think that your child has difficulties in one or more of the following areas:  
emotions, concentration, behaviour or being able to get on with other people?

1. No
2. Yes – minor difficulties
3. Yes – definite difficulties
4. Yes – severe difficulties

- If you have answered “Yes”, please answer the following questions about these difficulties:

95. How long have these difficulties been present?

1. Less than a month
2. 1-5 months
3. 6-12 months
4. Over a year

96. Do the difficulties upset or distress your child?

1. Not at all
2. Only a little
3. Quite a lot
4. A great deal

- Do the difficulties interfere with your child’s everyday life in the following areas?

	1. Not at all	2. Only a little	3. Quite a lot	4. A great deal
97. Home life				
98. Friendships				
99. Classroom learning				
100. Leisure activities				

101. Do the difficulties put a burden on you or the family as a whole?

1. Not at all
2. Only a little
3. Quite a lot
4. A great deal

**Thank you very much for your time and co-operation.**

## Appendix 9 - QUESTIONNAIRE (Study 3, g)

Here is a description of a child. Please read it carefully, as many times as you like, and then answer **all** the questions that follow. You are kindly asked to give **only one** answer to each question. If you forget any of the information when answering the questions, you may reread the description at any time.

**It is important to remember that these questions are NOT about your own children.**

### JANE SMITH

Jane is a restless nine-year old girl, who wants to move all the time. Her mother describes her as being always in motion, running and jumping excessively, as if she was “driven by a motor”.

At school, Jane usually won’t sit still for more than a few minutes and she often attempts to leave her seat in classroom. While seated, she usually fidgets with hands and feet. When she participates in the lesson, she often interrupts her teachers and classmates when they talk, as she has difficulty awaiting turn. Moreover, she usually blurts out answers without the teacher’s permission, even before the question has been completed.

Her friends remark that Jane doesn’t always follow the rules of the games. Her father says: “Jane usually seems to act before thinking.

### Part One: What is the nature of Jane’s behaviour?

First, we would like you to ring a number between 1 and 5 on the scale below in order to indicate your opinion regarding the nature of Jane’s behaviour. For example, at the first question, ring 1 if you think that Jane has no problem at all and 5 if you think she has a severe problem.

1. No problem \_\_\_\_\_ Severe problem  
1 2 3 4 5

2. To what extent do you think that this behaviour is caused by something specifically to do with Jane, rather than something else?

Something else \_\_\_\_\_ Something specifically  
1 2 3 4 5 to do with Jane

## Appendix 9 - QUESTIONNAIRE (Study 3, g) – Continued

3. To what extent do you think that Jane would have control over behaving in this way?

Has complete control over her behaviour	_____	Has no control at all over her behaviour
	1      2      3      4      5	

4. To what extent do you think that the cause of her behaviour will be present again in the future or was it a “one-off”?

Will never be present again	_____	Will always be present.
	1      2      3      4      5	

5. Would the cause of this behaviour influence Jane in other situations or would it only influence this sort of situation?

Only influences this sort of situation	_____	Influences all situations in Jane’s life
	1      2      3      4      5	

### Part Two: How typical is Jane’s behaviour?

Then, we would like you to ring a number between 1 and 5 in order to indicate your opinion about the typicality of Jane’s behaviour.

6. How typical is Jane’s behaviour for her age?

Very typical for her age	_____	No typical at all
	1      2      3      4      5	

7. How typical is Jane’s behaviour for her sex?

Very typical for her sex	_____	No typical at all
	1      2      3      4      5	

8. To what extent do you think that this behaviour is caused by something unique to Jane or by something common to most girls of that age?

Something common to most girls of her age	_____	Something unique to Jane
	1      2      3      4      5	



## Appendix 9 - QUESTIONNAIRE (Study 3, g) – Continued

9. How frequently do you think that a typical girl of Jane's age behaves in this way or a similar way?

1	2	3	4	5
Very often	Often	Sometimes	Rarely	Very rarely

### Part Three: What impact does Jane's behaviour have on her and her parents' life?

10. How much do Jane's parents need to worry about their daughter's behaviour?

Not at all						Very much
	1	2	3	4	5	

11. How popular is Jane among her peers?

Very popular						No popular at all
	1	2	3	4	5	

12. How happy is Jane?

Very happy						No happy at all
	1	2	3	4	5	

### Part Four: Why does Jane behave as she does?

From what you have read about Jane, we would like to know how likely you think each statement is to be true. Read each statement and when you have decided how likely it is to be true of Jane, tick the appropriate response. We would like to notice that there is not just one right answer.

## Appendix 9 - QUESTIONNAIRE (Study 3, g) – Continued

Jane behave as she does because.....

	Very unlikely	Unlikely	No opinion/ uncertain	Likely	Very likely
13. her school is too strict					
14. she can't help it					
15. she enjoys behaving like that					
16. she has a learning problem					
17. her parents don't exercise enough discipline					
18. she is attention seeking					
19. she is deaf					
20. she takes after parents (runs in the family)					
21. her father died when she was young					
22. her parents are divorced					
23. she is mentally subnormal					
24. she is spoilt at home					
25. she lives in a single-parent family					
26. she lives in an inner city area					
27. her mother went to work when she was young					
28. she was a premature child					
29. she has mild brain damage					
30. her mother died when she was young					
31. her mother suffered post-natal depression					
32. her parents ignore her					
33. her parents are too strict					
34. her parents don't show her enough love					
35. it is in her nature/it's just how she is					
36. of a recent bereavement in the family					
37. to upset her parents/teacher					

## Appendix 9 - QUESTIONNAIRE (Study 3, g) – Continued

### Part Five: What should her parents do?

Below are some things that Jane's parents might do to try and help Jane. Read each statement and decide if you agree that it would help Jane.

#### To try and control Jane's behaviour her parents...

	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
38. should help her with her schoolwork					
39. should leave her alone					
40. should show her a bit more love					
41. should be less strict with her at home					
42. should move her to a different school					
43. should stop her from watching the T.V.					
44. should stop spoiling her					
45. should try and work out where they went wrong					
46. should sit down and ask her why she is unhappy					
47. should change her diet					
48. should introduce her to new friends					

#### Part Six: Jane's parents should seek advice from.....

	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
49. her doctor					
50. a child psychiatrist					
51. their friends					
52. Jane's grandparents					
53. her teacher					
54. books on children's problems					
55. health visitor					
56. religious leader					

## Appendix 9 - QUESTIONNAIRE (Study 3, g) – Continued

**Part Seven: Now please answer some questions about yourself.**

57. What is your sex?

- a. Male    b. Female

58. What is your age? (Please complete .....years)

59. Where have you finished primary school?

- a. In Athens                                      b. In another big city  
c. In a small Province city                d. In a village

60. What is your occupation? .....

61. What is your educational level?

- a. Primary school                      b. Junior High School  
c. High School                        d. College/University  
e. Other

62. How many children between 4-6 do you have? .....

63. What is the sex of your child(ren) aged 4-6?

- a. Boy(s)                      b. Girl(s)                      c. Boy(s) and girl(s)

64. Have you ever met a girl like Jane?

- a. Yes                      b. No                      c. I don't remember

65. How much would you like having a daughter like Jane?

- a. Not at all                      b. A little                      c. A lot

66. If any of your children resembled to Jane, would you seek advice from a specialist?

- a. Yes                  b. No                  c. I don't know

67. Do any of your children resemble to Jane?

- a. No
- b. Yes (Please specify age and sex.....)

**Please turn over – there are a few more questions.**

Now please answer the following questions for your **OWN CHILD**, aged 4-6. In case you have two or more children of that age, please answer the following questions only for the older one. For each item, please mark the box Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months.

68. Child's sex (Please ring): 1. Male                      2. Female

YOUR CHILD:	1 Not True	2 Somewhat True	3 Certainly True
69. Considerate of other people's feelings.			
70. Restless, overactive, cannot stay still for long.			
71. Often complains of headaches, stomach-aches or sickness.			
72. Shares readily with other children (treats, toys, pencils etc.).			
73. Often has temper tantrums or hot tempers.			
74. Rather solitary, tends to play alone.			
75. Generally obedient, usually does what adults request.			
76. Many worries, often seems worried.			
77. Helpful if someone is hurt, upset or feeling ill.			
78. Constantly fidgeting or squirming.			
79. Has at least one good friend.			
80. Often fights with other children or bullies them.			
81. Often unhappy, down-hearted or tearful.			
82. Generally liked by other children.			
83. Easily distracted, concentration wanders.			
84. Nervous or clingy in new situations, easily loses confidence.			
85. Kind to younger children.			
86. Often lies or cheats.			
87. Picked on or bullied by other children.			
88. Often volunteers to help others (parents, teachers, other children).			
89. Thinks things out before acting.			
90. Steals from home, school or elsewhere.			
91. Gets on better with adults than with other children.			
92. Many fears, easily scared.			
93. Sees tasks through to the end, good attention span.			

## Appendix 10 - Strengths and Difficulties Questionnaire (SDQ-HeI)

94. Overall, do you think that your child has difficulties in one or more of the following areas:  
emotions, concentration, behaviour or being able to get on with other people?

1. No
2. Yes – minor difficulties
3. Yes – definite difficulties
4. Yes – severe difficulties

- If you have answered “Yes”, please answer the following questions about these difficulties:

95. How long have these difficulties been present?

1. Less than a month
2. 1-5 months
3. 6-12 months
4. Over a year

96. Do the difficulties upset or distress your child?

1. Not at all
2. Only a little
3. Quite a lot
4. A great deal

- Do the difficulties interfere with your child’s everyday life in the following areas?

	1. Not at all	2. Only a little	3. Quite a lot	4. A great deal
97. Home life				
98. Friendships				
99. Classroom learning				
100. Leisure activities				

101. Do the difficulties put a burden on you or the family as a whole?

1. Not at all
2. Only a little
3. Quite a lot
4. A great deal

**Thank you very much for your time and co-operation.**

## Appendix 11 – Letter accompanied the questionnaire in study 3



University  
of Southampton

Dear Madam/Sir

My name is Katerina Maniadaki and I am a PhD student at the Department of Psychology at the University of Southampton. I am requesting your participation in a study regarding parental perceptions for several behaviours of children.

You are kindly asked to fill in very carefully all the questions of the attached questionnaires and return them within 3 days. By doing so, you make a major contribution to this research. We would like to explain that the **first part** of the questionnaire (p. 1-6) concerns your opinion **in general**, regarding several behaviours of children, whereas in the **second part** (p. 7-8) you are asked to answer a number of questions concerning **your own child**.

We would like to emphasise that the questionnaires are anonymous. Personal information will not be released to or viewed by anyone other researcher involved in this project. Results of this study will not include any identifying characteristics. We also assure you that the data collected will be used exclusively for research purposes.

Your participation is voluntary and you may withdraw your participation at any time. A debriefing statement will be supplied up request. To request a debriefing statement please contact me at the email address *kathrin@compulink.gr*. If you have any questions please contact me at the above email address.

We thank you a lot for your co-operation

Katerina Maniadaki

### NOTICE

**YOU RECEIVE TWO IDENTICAL QUESTIONNAIRES. ONE OF THEM IS TO BE COMPLETED BY THE CHILD'S MOTHER AND THE SECOND ONE BY THE FATHER.**

## Appendix 12 - QUESTIONNAIRE (Study 4, b)

Here is a description of a child. **Imagine that John is one of your pupils in class.** Please read the description carefully, as many times as you like, and then answer **all** the questions that follow. You are kindly asked to give **only one** answer to each question.

### JOHN SMITH

John is a restless five-year old boy, who wants to move all the time. His mother describes him as being always in motion, running and jumping excessively, as if he was “driven by a motor”.

At the nursery school, John usually won't sit still for more than a few minutes and he is often prone to little accidents. While seated, he usually fidgets with hands and feet and uses to move from one activity to another, without completing any of them. When he participates in the discussion, he often interrupts his teacher and classmates when they talk, as he has difficulty awaiting turn. Moreover, he usually blurts out answers without the teacher's permission, even before the question has been completed.

His friends remark that John doesn't always follow the rules of the games, even if he knows them very well. His father says: “John usually seems to act before thinking”.

#### Part One: What is the nature of John's behaviour?

First, we would like you to ring a number between 1 and 5 on the scale below in order to indicate your opinion regarding the nature of John's behaviour. For example, at the first question, ring 1 if you think that John has no problem at all and 5 if you think he has a severe problem.

1. To what extent do you think that this behaviour is indicative of a severe problem in John or does not indicate the presence of a problem at all?

No problem      \_\_\_\_\_      Severe problem  
                                 1            2            3            4            5

2. To what extent do you think that John would have control over behaving in this way?

Has complete control      \_\_\_\_\_      Has no control at all  
over his behaviour      1            2            3            4            5      over his behaviour



## Appendix 12 - QUESTIONNAIRE (Study 4, b) – Continued

3. To what extent do you think that the cause of his behaviour will be present again in the future or was it a “one-off”?

Will never be present again      1      2      3      4      5      Will always be present.

4. Would the cause of this behaviour influence John in other situations or would it only influence this sort of situation?

Only influences this sort of situation      1      2      3      4      5      Influences all situations in John's life

5. How much do John's parents need to worry about their son's behaviour?

Not at all      1      2      3      4      5      Very much

### Part Two: How typical is John's behaviour?

Then, we would like you to ring a number between 1 and 5 in order to indicate your opinion about the typicality of John's behaviour.

6. How typical is John's behaviour for his age?

Very typical for his age      1      2      3      4      5      No typical at all

7. How typical is John's behaviour for his sex?

Very typical for his sex      1      2      3      4      5      No typical at all

8. To what extent do you think that this behaviour is caused by something unique to John or by something common to most boys of that age?

Something common to most boys of his age      1      2      3      4      5      Something unique to John

9. How frequently do you think that a typical boy of John's age behaves in this way or a similar way?

Very often      1      2      3      4      5      Very rarely

## Appendix 12 - QUESTIONNAIRE (Study 4, b) – Continued

### Part Three (Adapted from the Emotional Reactions to Challenging Behaviour Scales; Mitchel & Hastings, 1998)

Below is a list of emotions that educators have said that they experience when they have to work with children who display hyperactive behaviours. We want to know how *you* believe that you would typically feel in this situation. Consider each of the emotional reactions, and select the response next to each item that best describes how you believe that you would feel when working with children like John.

	No, never	Yes, but infrequently	Yes, frequently	Yes, very frequently
10. EMBARRASSED	0	1	2	3
11. CONFIDENT	0	1	2	3
12. GUILTY	0	1	2	3
13. HOPELESS	0	1	2	3
14. COMFORTABLE	0	1	2	3
15. AFRAID	0	1	2	3
16. ANGRY	0	1	2	3
17. PROUD	0	1	2	3
18. INCOMPETENT	0	1	2	3
19. HAPPY	0	1	2	3
20. FRUSTRATED	0	1	2	3
21. HELPLESS	0	1	2	3
22. ASHAMED	0	1	2	3
23. CHEERFUL	0	1	2	3
24. UPSET	0	1	2	3
25. RESIGNED	0	1	2	3
26. ANXIOUS	0	1	2	3
27. ANNOYED	0	1	2	3
28. HUMILIATED	0	1	2	3
29. CONCERNED	0	1	2	3
30. SAD	0	1	2	3
31. WORRIED	0	1	2	3
32. NERVOUS	0	1	2	3

## Appendix 12 - QUESTIONNAIRE (Study 4, b) – Continued

### Part Four (Adapted from the subscale of Efficacy in Classroom Management of the Teachers' Sense of Efficacy Scale, short form; Tschannen-Moran, 2001)

Please indicate your opinion about each of the statements below, according to your personal sense of efficacy to manage John's behaviour in classroom.

33. How much could you do to control John's behaviour in classroom?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

34. How much could you do to get John to follow classroom rules?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

35. How much could you do to calm John when he is disruptive and noisy?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

36. How well could you establish a classroom management system with John in your class?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

### Part Five: Now please answer some questions about yourself.

37. What is your age? (Please complete ..... years)

38. Where have you finished primary school?

- |                             |                        |
|-----------------------------|------------------------|
| a. In Athens                | b. In another big city |
| c. In a small Province city | d. In a village        |

39. In which year of your studies are you?

- |          |           |          |
|----------|-----------|----------|
| a. First | b. Second |          |
| c. Third | d. Fourth | e. Other |

40. As an educator, would you refer John to Child Mental Health Services?

- |        |       |                 |
|--------|-------|-----------------|
| a. Yes | b. No | c. I don't know |
|--------|-------|-----------------|

## Appendix 12 - QUESTIONNAIRE (Study 4, b) – Continued

### Part Six (Strengths and Difficulties Questionnaire; SDQ-Hel)

p 4-16

Please read once more the description of John and indicate in which extent you think that he would also display the following behaviours. For each item, please mark the box Not True, Somewhat True or Certainly True.

JOHN:	1 Not True	2 Somewhat True	3 Certainly True
41. Considerate of other people's feelings.			
42. Restless, overactive, cannot stay still for long.			
43. Often complains of headaches, stomach-aches or sickness.			
44. Shares readily with other children (treats, toys, pencils etc.).			
45. Often has temper tantrums or hot tempers.			
46. Rather solitary, tends to play alone.			
47. Generally obedient, usually does what adults request.			
48. Many worries, often seems worried.			
49. Helpful if someone is hurt, upset or feeling ill.			
50. Constantly fidgeting or squirming.			
51. Has at least one good friend.			
52. Often fights with other children or bullies them.			
53. Often unhappy, down-hearted or tearful.			
54. Generally liked by other children.			
55. Easily distracted, concentration wanders.			
56. Nervous or clingy in new situations, easily loses confidence.			
57. Kind to younger children.			
58. Often lies or cheats.			
59. Picked on or bullied by other children.			
60. Often volunteers to help others (parents, teachers, other children).			
61. Thinks things out before acting.			
62. Steals from home, school or elsewhere.			
63. Gets on better with adults than with other children.			
64. Many fears, easily scared.			
65. Sees tasks through to the end, good attention span.			

**Thank you very much for your time and co-operation**

## Appendix 12 - QUESTIONNAIRE (Study 4, b) – Continued

**PLEASE DON'T FILL IN THIS PAGE – TO BE COMPLETED BY THE RESEARCHER**

66. Sex

1. Male

2. Female

### **SDQ scores**

67. Total. Difficulties Score: .....

68. Emotional Symptoms Score:.....

69. Conduct Problems Score:.....

70. Hyperactivity Score: .....

71. Peer problems Score: .....

72. Prosocial Behaviour Score: .....

73. Impact Score: .....

	<b>1. Normal</b>	<b>2. Borderline</b>	<b>3. Abnormal</b>
74. Total Dif. Score			
75. Emot. Sympt. Score			
76. Con. Pr. Score			
77. Hyper. Score			
78. Peer Prob. Score			
79. Prosoc. Behav. Score			
80. Impact Score			

Here is a description of a child. **Imagine that Jane is one of your pupils in class.** Please read the description carefully, as many times as you like, and then answer **all** the questions that follow. You are kindly asked to give **only one** answer to each question.

Jane is a restless five-year old girl, who wants to move all the time. Her mother describes her as being always in motion, running and jumping excessively, as if she was “driven by a motor”.

Her friends remark that Jane doesn't always follow the rules of the games, even if she knows them very well. Her father says: "Jane usually seems to act before thinking".

First, we would like you to ring a number between 1 and 5 on the scale below in order to indicate your opinion regarding the nature of Jane's behaviour. For example, at the first question, ring 1 if you think that Jane has no problem at all and 5 if you think she has a severe problem.

- No problem 
1
2
3
4
5
 Severe problem

- Has complete control over her behaviour      1      2      3      4      5      Has no control at all over her behaviour

### Appendix 13 - QUESTIONNAIRE (Study 4, g) – Continued

3. To what extent do you think that the cause of her behaviour will be present again in the future or was it a “one-off”?

Will never be present again      1      2      3      4      5      Will always be present.

4. Would the cause of this behaviour influence Jane in other situations or would it only influence this sort of situation?

Only influences this sort of situation      1      2      3      4      5      Influences all situations in Jane’s life

5. How much do Jane’s parents need to worry about their daughter’s behaviour?

Not at all      1      2      3      4      5      Very much

#### Part Two: How typical is Jane’s behaviour?

Then, we would like you to ring a number between 1 and 5 in order to indicate your opinion about the typicality of Jane’s behaviour.

6. How typical is Jane’s behaviour for her age?

Very typical for her age      1      2      3      4      5      No typical at all

7. How typical is Jane’s behaviour for her sex?

Very typical for her sex      1      2      3      4      5      No typical at all

8. To what extent do you think that this behaviour is caused by something unique to Jane or by something common to most girls of that age?

Something common to most girls of her age      1      2      3      4      5      Something unique to Jane

9. How frequently do you think that a typical girl of Jane’s age behaves in this way or a similar way?

Very often      1      2      3      4      5      Very rarely

## Appendix 13 - QUESTIONNAIRE (Study 4, g) – Continued

### Part Three (Adapted from the Emotional Reactions to Challenging Behaviour Scales; Mitchel & Hastings, 1998)

Below is a list of emotions that educators have said that they experience when they have to work with children who display hyperactive behaviours. We want to know how *you* believe that you would typically feel in this situation. Consider each of the emotional reactions, and select the response next to each item that best describes how you believe that you would feel when working with children like Jane.

	No, never	Yes, but infrequently	Yes, frequently	Yes, very frequently
10. EMBARRASSED	0	1	2	3
11. CONFIDENT	0	1	2	3
12. GUILTY	0	1	2	3
13. HOPELESS	0	1	2	3
14. COMFORTABLE	0	1	2	3
15. AFRAID	0	1	2	3
16. ANGRY	0	1	2	3
17. PROUD	0	1	2	3
18. INCOMPETENT	0	1	2	3
19. HAPPY	0	1	2	3
20. FRUSTRATED	0	1	2	3
21. HELPLESS	0	1	2	3
22. ASHAMED	0	1	2	3
23. CHEERFUL	0	1	2	3
24. UPSET	0	1	2	3
25. RESIGNED	0	1	2	3
26. ANXIOUS	0	1	2	3
27. ANNOYED	0	1	2	3
28. HUMILIATED	0	1	2	3
29. CONCERNED	0	1	2	3
30. SAD	0	1	2	3
31. WORRIED	0	1	2	3
32. NERVOUS	0	1	2	3



## Appendix 13 - QUESTIONNAIRE (Study 4, g) – Continued

### Part Four (Adapted from the subscale of Efficacy in Classroom Management of the Teachers' Sense of Efficacy Scale, short form; Tschannen-Moran, 2001)

Please indicate your opinion about each of the statements below, according to your personal sense of efficacy to manage Jane's behaviour in classroom.

33. How much could you do to control Jane's behaviour in classroom?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

34. How much could you do to get Jane to follow classroom rules?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

35. How much could you do to calm Jane when she is disruptive and noisy?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

36. How well could you establish a classroom management system with Jane in your class?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

### Part Five: Now please answer some questions about yourself.

37. What is your age? (Please complete ..... years)

38. Where have you finished primary school?

- |                             |                        |
|-----------------------------|------------------------|
| a. In Athens                | b. In another big city |
| c. In a small Province city | d. In a village        |

39. In which year of your studies are you?

- |          |           |          |
|----------|-----------|----------|
| a. First | b. Second |          |
| c. Third | d. Fourth | e. Other |

40. As an educator, would you refer Jane to Child Mental Health Services?

- |        |       |                 |
|--------|-------|-----------------|
| a. Yes | b. No | c. I don't know |
|--------|-------|-----------------|

## Appendix 13 - QUESTIONNAIRE (Study 4, g) – Continued

### Part Six (Strengths and Difficulties Questionnaire; SDQ-Hel)

P 4-16

Please read once more the description of Jane and indicate in which extent you think that she would also display the following behaviours. For each item, please mark the box Not True, Somewhat True or Certainly True.

<b>JOHN:</b>	<b>1 Not True</b>	<b>2 Somewhat True</b>	<b>3 Certainly True</b>
41. Considerate of other people's feelings.			
42. Restless, overactive, cannot stay still for long.			
43. Often complains of headaches, stomach-aches or sickness.			
44. Shares readily with other children (treats, toys, pencils etc.).			
45. Often has temper tantrums or hot tempers.			
46. Rather solitary, tends to play alone.			
47. Generally obedient, usually does what adults request.			
48. Many worries, often seems worried.			
49. Helpful if someone is hurt, upset or feeling ill.			
50. Constantly fidgeting or squirming.			
51. Has at least one good friend.			
52. Often fights with other children or bullies them.			
53. Often unhappy, down-hearted or tearful.			
54. Generally liked by other children.			
55. Easily distracted, concentration wanders.			
56. Nervous or clingy in new situations, easily loses confidence.			
57. Kind to younger children.			
58. Often lies or cheats.			
59. Picked on or bullied by other children.			
60. Often volunteers to help others (parents, teachers, other children).			
61. Thinks things out before acting.			
62. Steals from home, school or elsewhere.			
63. Gets on better with adults than with other children.			
64. Many fears, easily scared.			
65. Sees tasks through to the end, good attention span.			

**Thank you very much for your time and co-operation**

## Appendix 13 - QUESTIONNAIRE (Study 4, g) – Continued

**PLEASE DON'T FILL IN THIS PAGE – TO BE COMPLETED BY THE RESEARCHER**

66. Sex

1. Male

2. Female

### **SDQ scores**

67. Total. Difficulties Score: .....

68. Emotional Symptoms Score:.....

69. Conduct Problems Score:.....

70. Hyperactivity Score: .....

71. Peer problems Score: .....

72. Prosocial Behaviour Score: .....

73. Impact Score: .....

	<b>1. Normal</b>	<b>2. Borderline</b>	<b>3. Abnormal</b>
74. Total Dif. Score			
75. Emot. Sympt. Score			
76. Con. Pr. Score			
77. Hyper. Score			
78. Peer Prob. Score			
79. Prosoc. Behav. Score			
80. Impact Score			

## Appendix 14 - QUESTIONNAIRE (Study 4, b)

Here is a description of a child. **Imagine that John is your own son.** Please read the description carefully, as many times as you like, and then answer **all** the questions that follow. You are kindly asked to give **only one** answer to each question.

**JOHN SMITH**

John is a restless five-year old boy, who wants to move all the time. His mother describes him as being always in motion, running and jumping excessively, as if he was “driven by a motor”.

At the nursery school, John usually won't sit still for more than a few minutes and he is often prone to little accidents. While seated, he usually fidgets with hands and feet and uses to move from one activity to another, without completing any of them. When he participates in the discussion, he often interrupts his teacher and classmates when they talk, as he has difficulty awaiting turn. Moreover, he usually blurts out answers without the teacher's permission, even before the question has been completed.

His friends remark that John doesn't always follow the rules of the games, even if he knows them very well. His father says: "John usually seems to act before thinking".

### Part One: What is the nature of John's behaviour?

First, we would like you to ring a number between 1 and 5 on the scale below in order to indicate your opinion regarding the nature of John's behaviour. For example, at the first question, ring 1 if you think that John has no problem at all and 5 if you think he has a severe problem.

1. To what extent do you think that this behaviour is indicative of a severe problem in John or does not indicate the presence of a problem at all?

No problem  Severe problem

1                  2                  3                  4                  5

2. To what extent do you think that John would have control over behaving in this way?

Has complete control over his behaviour      1      2      3      4      5      Has no control at all over his behaviour

## Appendix 14 - QUESTIONNAIRE (Study 4, b) - Continued

3. To what extent do you think that the cause of his behaviour will be present again in the future or was it a “one-off”?

Will never be present again      1      2      3      4      5      Will always be present.

4. Would the cause of this behaviour influence John in other situations or would it only influence this sort of situation?

Only influences this sort of situation      1      2      3      4      5      Influences all situations in John's life

5. How much would you need to worry about your son's behaviour?

Not at all      1      2      3      4      5      Very much

### Part Two: How typical is John's behaviour?

Then, we would like you to ring a number between 1 and 5 in order to indicate your opinion about the typicality of John's behaviour.

6. How typical is John's behaviour for his age?

Very typical for his age      1      2      3      4      5      No typical at all

7. How typical is John's behaviour for his sex?

Very typical for his sex      1      2      3      4      5      No typical at all

8. To what extent do you think that this behaviour is caused by something unique to John or by something common to most boys of that age?

Something common to most boys of his age      1      2      3      4      5      Something unique to John

9. How frequently do you think that a typical boy of John's age behaves in this way or a similar way?

Very often      1      2      3      4      5      Very rarely

## Appendix 14 - QUESTIONNAIRE (Study 4, b) – Continued

### Part Three (Adapted from the Emotional Reactions to Challenging Behaviour Scales; Mitchel & Hastings, 1998)

Below is a list of emotions that parents have said that they experience towards their child who displays hyperactive behaviour. We want to know how *you* believe that you would typically feel in this situation. Consider each of the emotional reactions, and select the response next to each item that best describes how you believe that you would feel when dealing with a child like John.

	No, never	Yes, but infrequently	Yes, frequently	Yes, very frequently
10. EMBARRASSED	0	1	2	3
11. CONFIDENT	0	1	2	3
12. GUILTY	0	1	2	3
13. HOPELESS	0	1	2	3
14. COMFORTABLE	0	1	2	3
15. AFRAID	0	1	2	3
16. ANGRY	0	1	2	3
17. PROUD	0	1	2	3
18. INCOMPETENT	0	1	2	3
19. HAPPY	0	1	2	3
20. FRUSTRATED	0	1	2	3
21. HELPLESS	0	1	2	3
22. ASHAMED	0	1	2	3
23. CHEERFUL	0	1	2	3
24. UPSET	0	1	2	3
25. RESIGNED	0	1	2	3
26. ANXIOUS	0	1	2	3
27. ANNOYED	0	1	2	3
28. HUMILIATED	0	1	2	3
29. CONCERNED	0	1	2	3
30. SAD	0	1	2	3
31. WORRIED	0	1	2	3
32. NERVOUS	0	1	2	3

## Appendix 14 - QUESTIONNAIRE (Study 4, b) – Continued

### Part Four (Adapted from the subscale of Efficacy in Classroom Management of the Teachers' Sense of Efficacy Scale, short form; Tschannen-Moran, 2001)

Please indicate your opinion about each of the statements below, according to your personal sense of efficacy to manage John's behaviour at home.

33. How much could you do to control John's behaviour at home?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

34. How much could you do to get John to follow the family's rules?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

35. How much could you do to calm John when he is disruptive and noisy?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

36. How well could you establish a harmonious everyday family life with John at home?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

### Part Five: Now please answer some questions about yourself.

37. What is your age? (Please complete ..... years)

38. Where have you finished primary school?

- |                             |                        |
|-----------------------------|------------------------|
| a. In Athens                | b. In another big city |
| c. In a small Province city | d. In a village        |

39. How many children have you got?

- |          |         |
|----------|---------|
| a. One   | b. Two  |
| c. Three | d. More |

40. As a parent, would you refer John to Child Mental Health Services?

- |        |       |                 |
|--------|-------|-----------------|
| a. Yes | b. No | c. I don't know |
|--------|-------|-----------------|

## Appendix 14 - QUESTIONNAIRE (Study 4, b) – Continued

### Part Six (Strengths and Difficulties Questionnaire; SDQ-Hel)

P 4-16

Please read once more the description of John and indicate in which extent you think that he would also display the following behaviours. For each item, please mark the box Not True, Somewhat True or Certainly True.

JOHN:	1 Not True	2 Somewhat True	3 Certainly True
41. Considerate of other people's feelings.			
42. Restless, overactive, cannot stay still for long.			
43. Often complains of headaches, stomach-aches or sickness.			
44. Shares readily with other children (treats, toys, pencils etc.).			
45. Often has temper tantrums or hot tempers.			
46. Rather solitary, tends to play alone.			
47. Generally obedient, usually does what adults request.			
48. Many worries, often seems worried.			
49. Helpful if someone is hurt, upset or feeling ill.			
50. Constantly fidgeting or squirming.			
51. Has at least one good friend.			
52. Often fights with other children or bullies them.			
53. Often unhappy, down-hearted or tearful.			
54. Generally liked by other children.			
55. Easily distracted, concentration wanders.			
56. Nervous or clingy in new situations, easily loses confidence.			
57. Kind to younger children.			
58. Often lies or cheats.			
59. Picked on or bullied by other children.			
60. Often volunteers to help others (parents, teachers, other children).			
61. Thinks things out before acting.			
62. Steals from home, school or elsewhere.			
63. Gets on better with adults than with other children.			
64. Many fears, easily scared.			
65. Sees tasks through to the end, good attention span.			

**Thank you very much for your time and co-operation**



## Appendix 14 - QUESTIONNAIRE (Study 4, b) – Continued

**PLEASE DON'T FILL IN THIS PAGE – TO BE COMPLETED BY THE RESEARCHER**

66. Sex

1. Male

2. Female

### **SDQ scores**

67. Total. Difficulties Score: .....

68. Emotional Symptoms Score:.....

69. Conduct Problems Score:.....

70. Hyperactivity Score: .....

71. Peer problems Score: .....

72. Prosocial Behaviour Score: .....

73. Impact Score: .....

	<b>1. Normal</b>	<b>2. Borderline</b>	<b>3. Abnormal</b>
74. Total Dif. Score			
75. Emot. Sympt. Score			
76. Con. Pr. Score			
77. Hyper. Score			
78. Peer Prob. Score			
79. Prosoc. Behav. Score			
80. Impact Score			

Here is a description of a child. **Imagine that Jane is your own daughter.** Please read the description carefully, as many times as you like, and then answer **all** the questions that follow. You are kindly asked to give **only one** answer to each question.

Jane is a restless five-year old girl, who wants to move all the time. Her mother describes her as being always in motion, running and jumping excessively, as if she was “driven by a motor”.

At the nursery school, Jane usually won't sit still for more than a few minutes and she is often prone to little accidents. While seated, she usually fidgets with hands and feet and uses to move from one activity to another, without completing any of them. When she participates in the discussion, she often interrupts her teacher and classmates when they talk, as she has difficulty awaiting turn. Moreover, she usually blurts out answers without the teacher's permission, even before the question has been completed.

Her friends remark that Jane doesn't always follow the rules of the games, even if she knows them very well. Her father says: "Jane usually seems to act before thinking".

First, we would like you to ring a number between 1 and 5 on the scale below in order to indicate your opinion regarding the nature of Jane's behaviour. For example, at the first question, ring 1 if you think that Jane has no problem at all and 5 if you think she has a severe problem.

- No problem  Severe problem
- 1                  2                  3                  4                  5

- Has complete control over her behaviour      1      2      3      4      5      Has no control at all over her behaviour

## Appendix 15 - QUESTIONNAIRE (Study 4, g) - Continued

3. To what extent do you think that the cause of her behaviour will be present again in the future or was it a “one-off”?

Will never be present again      1      2      3      4      5      Will always be present.

4. Would the cause of this behaviour influence Jane in other situations or would it only influence this sort of situation?

Only influences this sort of situation      1      2      3      4      5      Influences all situations in Jane's life

5. How much would you need to worry about your daughter's behaviour?

Not at all      1      2      3      4      5      Very much

### Part Two: How typical is Jane's behaviour?

Then, we would like you to ring a number between 1 and 5 in order to indicate your opinion about the typicality of Jane's behaviour.

6. How typical is Jane's behaviour for her age?

Very typical for her age      1      2      3      4      5      No typical at all

7. How typical is Jane's behaviour for her sex?

Very typical for her sex      1      2      3      4      5      No typical at all

8. To what extent do you think that this behaviour is caused by something unique to Jane or by something common to most girls of that age?

Something common to most girls of her age      1      2      3      4      5      Something unique to Jane

9. How frequently do you think that a typical girl of Jane's age behaves in this way or a similar way?

Very often      1      2      3      4      5      Very rarely

## Appendix 15 - QUESTIONNAIRE (Study 4, g) – Continued

### Part Three (Adapted from the Emotional Reactions to Challenging Behaviour Scales; Mitchel & Hastings, 1998)

Below is a list of emotions that parents have said that they experience towards their child who displays hyperactive behaviour. We want to know how *you* believe that you would typically feel in this situation. Consider each of the emotional reactions, and select the response next to each item that best describes how you believe that you would feel when dealing with a child like Jane.

	No, never	Yes, but infrequently	Yes, frequently	Yes, very frequently
10. EMBARRASSED	0	1	2	3
11. CONFIDENT	0	1	2	3
12. GUILTY	0	1	2	3
13. HOPELESS	0	1	2	3
14. COMFORTABLE	0	1	2	3
15. AFRAID	0	1	2	3
16. ANGRY	0	1	2	3
17. PROUD	0	1	2	3
18. INCOMPETENT	0	1	2	3
19. HAPPY	0	1	2	3
20. FRUSTRATED	0	1	2	3
21. HELPLESS	0	1	2	3
22. ASHAMED	0	1	2	3
23. CHEERFUL	0	1	2	3
24. UPSET	0	1	2	3
25. RESIGNED	0	1	2	3
26. ANXIOUS	0	1	2	3
27. ANNOYED	0	1	2	3
28. HUMILIATED	0	1	2	3
29. CONCERNED	0	1	2	3
30. SAD	0	1	2	3
31. WORRIED	0	1	2	3
32. NERVOUS	0	1	2	3

## Appendix 15 - QUESTIONNAIRE (Study 4, g) – Continued

### Part Four (Adapted from the subscale of Efficacy in Classroom Management of the Teachers' Sense of Efficacy Scale, short form; Tschannen-Moran, 2001)

Please indicate your opinion about each of the statements below, according to your personal sense of efficacy to manage Jane's behaviour at home.

33. How much could you do to control Jane's behaviour at home?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

34. How much could you do to get Jane to follow the family's rules?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

35. How much could you do to calm Jane when she is disruptive and noisy?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

36. How well could you establish a harmonious everyday family with Jane at home?

---

1	2	3	4	5
Nothing	Very little	Some influence	Quite a bit	A great deal

### Part Five: Now please answer some questions about yourself.

37. What is your age? (Please complete ..... years)

38. Where have you finished primary school?

- |                             |                        |
|-----------------------------|------------------------|
| a. In Athens                | b. In another big city |
| c. In a small Province city | d. In a village        |

39. How many children have you got?

- |          |         |
|----------|---------|
| a. One   | b. Two  |
| c. Three | d. More |

40. As a parent, would you refer Jane to Child Mental Health Services?

- |        |       |                 |
|--------|-------|-----------------|
| a. Yes | b. No | c. I don't know |
|--------|-------|-----------------|

## Appendix 15 - QUESTIONNAIRE (Study 4, g) – Continued

### Part Six (Strengths and Difficulties Questionnaire; SDQ-Hel)

p 4-16

Please read once more the description of Jane and indicate in which extent you think that she would also display the following behaviours. For each item, please mark the box Not True, Somewhat True or Certainly True.

JOHN:	1 Not True	2 Somewhat True	3 Certainly True
41. Considerate of other people's feelings.			
42. Restless, overactive, cannot stay still for long.			
43. Often complains of headaches, stomach-aches or sickness.			
44. Shares readily with other children (treats, toys, pencils etc.).			
45. Often has temper tantrums or hot tempers.			
46. Rather solitary, tends to play alone.			
47. Generally obedient, usually does what adults request.			
48. Many worries, often seems worried.			
49. Helpful if someone is hurt, upset or feeling ill.			
50. Constantly fidgeting or squirming.			
51. Has at least one good friend.			
52. Often fights with other children or bullies them.			
53. Often unhappy, down-hearted or tearful.			
54. Generally liked by other children.			
55. Easily distracted, concentration wanders.			
56. Nervous or clingy in new situations, easily loses confidence.			
57. Kind to younger children.			
58. Often lies or cheats.			
59. Picked on or bullied by other children.			
60. Often volunteers to help others (parents, teachers, other children).			
61. Thinks things out before acting.			
62. Steals from home, school or elsewhere.			
63. Gets on better with adults than with other children.			
64. Many fears, easily scared.			
65. Sees tasks through to the end, good attention span.			

**Thank you very much for your time and co-operation**

## Appendix 15 - QUESTIONNAIRE (Study 4, g) - Continued

**PLEASE DON'T FILL IN THIS PAGE – TO BE COMPLETED BY THE RESEARCHER**

66. Sex

1. Male

2. Female

### **SDQ scores**

67. Total. Difficulties Score: .....

68. Emotional Symptoms Score:.....

69. Conduct Problems Score:.....

70. Hyperactivity Score: .....

71. Peer problems Score: .....

72. Prosocial Behaviour Score: .....

73. Impact Score: .....

	<b>1. Normal</b>	<b>2. Borderline</b>	<b>3. Abnormal</b>
74. Total Dif. Score			
75. Emot. Sympt. Score			
76. Con. Pr. Score			
77. Hyper. Score			
78. Peer Prob. Score			
79. Prosoc. Behav. Score			
80. Impact Score			

**Appendix 16 - Rating of similarity between the original questionnaire and the back translation from the Greek language (study 4)**

Item	Rater 1	Rater 2	Rater 3	Rater 4	Rater 5
<b>Part A</b>					
<b>A</b>	3	3	4	4	4
<b>B</b>	4	4	4	4	4
<b>1</b>	5	5	5	5	5
<b>2</b>	4	4	3	3	4
<b>3</b>	5	5	5	5	5
<b>4</b>	4	3	1	5	4
<b>5</b>	5	5	5	5	5
<b>6</b>	3	4	4	5	4
<b>7</b>	5	5	5	5	5
<b>8</b>	5	5	5	5	5
<b>9</b>	3	4	2	3	4
<b>10</b>	4	3	4	4	4
<b>11</b>	3	3	1	2	3
<b>12</b>	5	5	5	5	5
<b>13</b>	5	5	5	5	5
<b>14</b>	5	5	5	5	5
<b>15</b>	5	5	5	5	5
<b>16</b>	3	3	1	3	3
<b>17</b>	5	5	5	5	5
<b>18</b>	5	5	5	5	5
<b>19</b>	5	5	5	5	5
<b>20</b>	4	4	2	2	4
<b>21</b>	5	5	5	5	5
<b>22</b>	3	4	2	3	3
<b>23</b>	5	5	5	5	5
<b>Part B</b>					
<b>A</b>	2	3	3	3	3
<b>B</b>	2	4	4	4	4
<b>1</b>	5	4	4	4	4
<b>2</b>	4	4	4	3	4
<b>3</b>	5	4	2	2	3
<b>4</b>	4	3	2	2	3

Note:

- A. Overall rating: How similar are the two questionnaires?
- B. How similar are the rating scales?
- 1-23, 1-4: Please rate the similarity of each item of the Questionnaire 1 with each equivalent in Questionnaire 2.



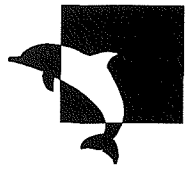
**Appendix 16 - Rating of similarity between the original questionnaire and the back translation from the Greek language (study 4)- Continued**

Table 2.

Mean ratings of the back translation of the questionnaire

	Mean	S.D.
Rater 1	4.19	.80
Rater 2	4.23	.98
Rater 3	3.77	.80
Rater 4	4.06	1.43
Rater 5	4.26	1.12
Overall rating	4.10	.91

## Appendix 17 – Letter accompanied the questionnaire in study 4



University  
of Southampton

Dear Madam/Sir

My name is Katerina Maniadaki and I am a PhD student at the Department of Psychology at the University of Southampton. I am requesting your participation in a study regarding parental perceptions for several behaviours of children.

You are kindly asked to fill in very carefully all the questions of the attached questionnaire and return it within 3 days. By doing so, you make a major contribution to this research.

We would like to emphasise that the questionnaires are anonymous. Personal information will not be released to or viewed by anyone other researcher involved in this project. Results of this study will not include any identifying characteristics. We also assure you that the data collected will be used exclusively for research purposes.

Your participation is voluntary and you may withdraw your participation at any time. A debriefing statement will be supplied up request. To request a debriefing statement please contact me at the email address *kathrin@compulink.gr*. If you have any questions please contact me at the above email address.

We thank you a lot for your co-operation

Katerina Maniadaki

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