

Assessing and treating
three to twelve-year- olds
displaying
disruptive behaviour problems

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Abstract

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The aim of this thesis was (a) to examine a Swedish version of a measure for early identification and treatment evaluation of children with disruptive behaviour problems and (b) to explore the effectiveness, in terms of reduction of children's disruptive behavioural problems, of interventions not specifically directed towards the children but to their caregivers and other adults in their immediate environment. The focus of this thesis has been on clinical applicability. However, there have been considerable advances in the knowledge of the origins, development and maintenance of disruptive behaviour in children. This has led to corresponding changes in treatment. In line with this, research on phenomenology, prevalence, etiology, treatment and assessment of children that display disruptive behaviour are presented as an introduction to the empirical studies. The aim of study I was to develop and examine a systemic school-based model for detection and early intervention among 4 to 12 year old children who displayed externalizing behaviour problems. The intervention was a combination of the Marte Meo model and Coordination meetings. Treatment effects in the group who had received the intervention (N= 33) were compared with a group (N=16) who had received treatment-as-usual in their ordinary school setting. Assessments were carried out before and two years after the intervention. There was a significant decrease in children's symptoms for the intervention group, but not for the comparison group. The aim of study II was to evaluate the effectiveness of the structured parent training programme Incredible Years Series in diverse clinical settings in Sweden. Parents of 113 children aged 3 to 9 participated in the study. Pre-data were collected prior to commencement of the parent training groups and post-data immediately after the training group sessions had finished. Significant reduction was found on all symptom-related measures in parents' ratings. A significant increase in the self-rated well-being of the parents was also found. The aim of study III was to examine the psychometric properties and obtain Swedish norms for the Eyberg Child Behaviour Inventory (ECBI). Parents of 841 children aged 3 to 10 participated. The ECBI showed sound psychometric properties and seems to be a very useful measure in a Swedish context. Normative data from the Swedish sample was also presented. The aim of Study IV was to examine a three factor solution of the ECBI in a confirmatory factor analysis based on 22 items in a Swedish sample. The same sample as in study III was used. The results were consistent with the results from an American sample indicating that the 22-item version of the ECBI is a robust and useful alternative that can be used for evaluating and measuring treatment outcome. Preliminary normative data was also presented.

Key words: Disruptive Behaviour Problems, Assessment, Early intervention, Eyberg Child Behaviour Inventory (ECBI), School based model, Marte Meo, Parent training, Incredible Years Series,

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Skövde, February 2007

Ulf Axberg

List of publications

This thesis is based on the following studies which will be referred to by their Roman numerals:

- I Axberg, U., Hansson, K., Broberg, A.G. & Wirtberg, I. (2006) The development of a systemic school-based intervention: Marte Meo and coordination meetings, *Family process*, 45, 375-389

- II Axberg, U., Hansson, K. & Broberg A.G. (2007) Evaluation of the Incredible Years Series – an open study of its effects when first introduced in Sweden, *Nordic Journal of Psychiatry*, 61

- III Axberg, U. & Broberg, A.G. (Submitted) Parents' description of conduct problems in their children – A validation and standardization of the Eyberg Child Behavior Inventory (ECBI) in a Swedish sample aged 3-10

- IV Axberg, U, Johansson Hanse, J. & Broberg, A.G. (Submitted). A confirmatory factor analysis of Eyberg Child Behavior Inventory (ECBI) in a Swedish sample

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Abbreviations

ADHD	Attention Deficit Hyperactivity Disorder
ASEBA	Achenbach System of Empirically Based Assessment
BMP	Behaviour Management Problems
CBCL	Child Behaviour Checklist
CD	Conduct Disorder
CM	Coordination Meetings
COPE	Community Parent Education Program
CPB	Conduct Problem Behaviour
CPRS	Conners' Parent Rating Scale
CTRS	Conners' Teacher rating scale
DBP	Disruptive Behaviour Problems
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders:4 th edition
ECBI	Eyberg Child Behaviour Inventory
ICD-10	International Classification of Mental and Behavioural Disorders: 10 th edition
ICDP	International Child Development Programmes
InattB	Inattentive Behaviour
ITT	Intent-to-treat
IYS	Incredible Years Series
MM	Marte Meo
ODD	Oppositional Defiant Disorder
ODBTA	Oppositional Defiant Behaviour Towards Adults
SCL-90	Symptom Check List
SDQ	Strengths and Difficulties Questionnaire
SoC-13	Sense of Coherence scale - short form
TRF	Teacher's Report Form

Introduction

Disruptive behaviour problems (DBP): aggression, defiance, non-compliance, truancy or impulsiveness constitute the largest group of mental health problems in childhood and has become a major public health concern (Maughan, Rowe, Messer, Goodman, & Meltzer, 2004; Romeo, Knapp, & Scott, 2006). The children themselves suffer from these problems and so do their families, peers and others in regular contact with them. On top of the suffering caused by DBP, anti-social behaviours: truancy, stealing, robbery and drug abuse also entail huge costs to society. In a British longitudinal study Scott, Knapp, Henderson, and Maughan (2001) demonstrated that by age 28, the financial societal costs of persons with a childhood diagnosis of Conduct Disorder were 10 times higher than for persons with no registered childhood problem. In Sweden Riksdagens Revisor (2001) has estimated the social services' costs for residential and other care of children and adolescents (most often children with severe DBP) alone to be 8 billion SEK for the fiscal year 2000. Romeo, Knapp and Scott (2006) have shown that even if the costs for society are huge, the families of children with DBP take the brunt of the economical load. The earlier the child displays disruptive behaviour problems the greater is the risk that the problems worsen and persist even into adulthood (Loeber, 1991; Moffitt, 1993). DBP has been shown to be linked to an increased risk of later mental health problems as well as social and academic problems (Hill, Coie, Lochman, & Greenberg, 2004). Moffitt (2003) has demonstrated that only 15 per cent of boys who displayed severe DBP (Conduct Disorder), showed no further problems in adulthood. Hence children with DBP form a large group within the child and adolescent social and psychiatric services (Kopp & Gillberg, 2003; Lundahl, Risser, & Lovejoy, 2006). As a group children who display DBP have been considered hard to reach and treat within the child- and adolescent psychiatric services, and expectations of finding effective intervention have been low. In the last decades however, methods showing promising results have been introduced and an atmosphere of cautious optimism has begun to evolve among researchers and professionals (Rutter, Giller, & Hagell, 1998). In addition to the lack of effective interventions the fact that children with antisocial behaviour and their parents frequently drop out of treatment creates another obstacle. The drop out rate in various studies has been estimated to be as high as 45-65% (Cottrell, Hill, Walk, Dearnaley, & Ierotheou, 1988; Eresund, 1996; Gould, Shaffer, & Kaplan, 1985; Lai, Chan, Pang, & Wong, 1997; Pekarik & Stephenson, 1988). The benefits of early interventions have been demonstrated in several studies. The earlier the interventions are carried out (i.e. before the child reaches

adolescence), the higher the probability for a positive outcome (Kazdin, 1987; Kazdin, Esveldt-Dawson, French, & Unis, 1987; Patterson, DeBaryshe, & Ramsey, 1989; Patterson, Dishion, & Chamberlain, 1993; Webster-Stratton & Taylor, 2001). However, the high drop out rate and the fact that many children who display disruptive behaviour problems do not come in contact with the ordinary social and psychiatric services indicate a need for the development and evaluation of interventions that focus on improving children's behavior in non-clinical settings too, such as schools.

The picture drawn above indicates that early identification is important. It's also important to deliver proper interventions both to young children at risk and to their families and other important people in their lives. This puts demands on the availability of reliable measures which are easy to distribute, for screening as well as for evaluation purposes.

The goals of this thesis are to (a) explore the effectiveness, in terms of reduction of children's disruptive behavioural problems (DBP), of interventions not specifically directed towards the children but to their care givers and other adults in their immediate environment and (b) examine the psychometric properties of a Swedish version of a measure for early identification and treatment evaluation of children with DBP. The ambition is to keep a clinical focus, that is, to let the utility for professionals come to the fore. However, in recent years considerable advances have been made in the treatment of children with DBP, and these are closely linked to, or even based on, basic research. Thus, the increased knowledge of the origins, development and maintenance of DBP has brought about the tailoring of specific measures and effective interventions. In line with this, research on phenomenology, prevalence, etiology, treatment and assessment of children that display DBP are presented as an introduction to the empirical studies.

Phenomenology

Behaviour patterns that go against social norms and expectations, may cause harm to other people, and are disruptive, have been denoted in several different ways in the literature when describing child psychopathology. Categorical (as in different diagnostic manuals) as well as dimensional (i.e. externalizing behaviour problems, conduct problems, antisocial problems) approaches have been used (Fonseca & Perrin, 2001). The terms used often refer to

essentially the same construct, that is, behaviour patterns that are persistent and include oppositional, aggressive and antisocial behaviours.

In the categorical approaches, as in the diagnostic manuals of DSM-IV (American Psychiatric Association, 1994) and ICD-10 (World Health Organization, 1992), a person either fulfils the criteria for the diagnosis or not, depending on whether or not the minimum number of required symptoms are evident. The diagnoses are primarily based on the opinions of various expert committees that have, from clinical practice and research, come to an agreement regarding which criteria have to be present for a specific diagnosis. In contrast to a categorical approach which operates dichotomously, a dimensional approach operates within a continuous domain in which the symptoms are shared by everyone and described on a continuum where one can score low or high on the dimension in question. Thus, there might be large differences in the severity of the problems between children who fall below the diagnostic threshold as well as among those who fulfill the criteria. The Achenbach System of Empirically Based Assessment (ASEBA) is a widely used empirically derived, dimensional system of classification (Achenbach & Rescorla, 2001). Severe DBP is indicated by high scores on the externalizing scale, which is the sum of symptoms on the “rule-breaking behaviour” and “aggressive behaviour” syndrome scales. Another example of a well-developed and widely used questionnaire is the Strength and Difficulties Questionnaire (SDQ) (Goodman, 1999). The SDQ and CBCL are highly correlated (Bettge, Ravens-Sieberer, Wieteker, & Holling, 2002; Goodman & Scott, 1999). In recent years there has been some debate as to whether a dimensional or categorical approach is the most appropriate for describing psychopathology (see for instance: Brown & Barlow, 2005; Helzer, Kraemer, & Krueger, 2006; Nathan & Langenbucher, 1999; Widiger & Samuel, 2005). The categorical approach has proven to be useful and necessary when it comes to deciding whether an individual is a “case” or not, and if he or she should receive a specific treatment (i.e. cut-off points for medication) and if so from what organisation or department (i.e. psychiatric or social services). It also facilitates communications with other clinicians and researchers and has contributed to a common language across nations and cultures. Besides, by increasing the transparency of the diagnostic process the categorical system has also facilitated communication between professionals and patients (Helzer et al., 2006). However, the categorical approach also poses some serious dilemmas. One problem is the co-occurrence of different diagnosis. For many syndromes co-morbidity (the co-occurrence of distinct disorders, with different aetiology, and pathology) is the rule rather than the exception,

especially if lifetime co-morbidity is taken into account (Widiger & Samuel, 2005). Another dilemma is the debate over the borders between various diagnoses as for example between oppositional defiant, attention-deficit and conduct disorder (Widiger & Samuel, 2005). These dilemmas raise questions regarding whether the different diagnoses really reflect distinct disorders with different aetiology and pathology or if they are expressions of a latent (dimensional) structure, i.e. one underlying disorder that has been labelled in different ways.

Another dilemma is that the categorical approach is very sensitive to changes in criteria of inclusion or exclusion. Even small changes may result in large differences in for example epidemiological studies. Small discrepancies between the two systems of DSM-IV and ICD-10 may also cause differences in who will be included or excluded in a diagnostic group. An example of this is that some children, with serious disruptive behaviour problems, who receive a diagnosis according to the ICD-10, does not receive a CD or ODD diagnosis in the DSM-IV (Rowe, Maughan, Costello, & Adrian, 2005).

Diagnostic criteria for Oppositional Defiant Disorder (ODD)

A. A pattern of negativistic, hostile, and defiant behaviour lasting at least 6 months, during which four (or more) of the following are present:

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

Note: Consider a criterion met only if the behaviour occurs more frequently than is typically observed in individuals of comparable age and developmental level.

B. The disturbance in behaviour causes clinically significant impairment in social, academic, or occupational functioning.

C. The behaviours do not occur exclusively during the course of a Psychotic or Mood Disorder.

D. Criteria are not met for Conduct Disorder, and, if the individual is age 18 years or older, criteria are not met for Antisocial Personality Disorder.

(American Psychiatric Association, 1994)

Diagnostic criteria for Conduct Disorder (CD)

A. A repetitive and persistent pattern of behaviour in which the basic rights of others or major age-appropriate societal norms or rules are violated, as manifested by the presence of three (or more) of the following criteria in the past 12 months, with at least one criterion present in the past 6 months:

Aggression to people and animals

- (1) often bullies, threatens, or intimidates others
- (2) often initiates physical fights
- (3) has used a weapon that can cause serious physical harm to others (e.g., a bat, brick, broken bottle, knife, gun)
- (4) has been physically cruel to people
- (5) has been physically cruel to animals
- (6) has stolen while confronting a victim (e.g., mugging, purse snatching, extortion, armed robbery)
- (7) has forced someone into sexual activity

Destruction of property

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

Deceitfulness or theft

- (10) has broken into someone else's house, building, or car
- (11) often lies to obtain goods or favors or to avoid obligations (i.e., "cons" others)
- (12) has stolen items of nontrivial value without confronting a victim (e.g., shoplifting, but without breaking and entering; forgery)

Serious violations of rules

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

B. The disturbance in behaviour causes clinically significant impairment in social, academic, or occupational functioning.

C. If the individual is age 18 years or older, criteria are not met for Antisocial Personality Disorder.

(American Psychiatric Association, 1994)

A dimensional approach may solve these dilemmas, but the complexity of understanding and communicating profile scores might instead lead to increased clinical confusion, and so new dilemmas may arise. In recent years some attempts have been made to reconcile or merge the categorical and dimensional approaches, such as the DSM-oriented scales of the ASEBA (Achenbach et al., 2003; Achenbach & Rescorla, 2000, 2001). In addition Goodman, Renfrew and Mullick (2000) have developed an algorithm based on both symptom and impact scores in the SDQ that has proven to be reliable and useful in predicting diagnostic categories. Other

attempts can be found in the ongoing process of developing DSM-V and ICD-11, where the possibility of incorporating dimensional scales in the diagnostic systems are discussed (Brown & Barlow, 2005).

DSM-oriented scales for ASEBA school-aged forms

The available DSM oriented scales are: Affective, Anxiety, Somatic, Attention deficit/hyperactivity, Oppositional defiant and Conduct problems.

The *Oppositional Defiant Problem* scale includes the items:

- Argues
- Defiant
- Disobedient at home
- Stubborn
- Temper

The *Conduct problems* scale includes the items:

- | | |
|---|---|
| <ul style="list-style-type: none"> - Cruel to animals - Mean - Destroys other's things - Behaves irresponsibly - Steals at home - Steals outside home - Breaks rules - Bad companions - Lies, cheats | <ul style="list-style-type: none"> - Runs away - Sets fires - Lacks guilt - Fights - Attacks - Swears - Threatens - Truant - Vandalism |
|---|---|

(Achenbach, Dumenci, & Rescorla, 2003)

Predicting diagnostic categories from SDQ scores

Items that are involved in predicting (questions marked (R) are reversed):

Conduct-oppositional disorders

- Hot tempered
- Obedient (R)
- Fights or bullies
- Lies or cheats
- Steals

Hyperactivity disorders

- Restless, overactive
- Fidgeting, squirming
- Easily distracted
- "Thinks" before acting (R)
- Good attention span (R)

A psychiatric disorder is probably present if the problem score is above the 95th percentile and the impact score is two or more based on ratings from two domains (the criteria can be met by only one rater for the prediction of conduct disorder).

(Goodman, Renfrew, & Mullick, 2000)

A dilemma in research on children who display disruptive behaviour problems (DBP) is that researchers have had difficulties in reaching consensus on how to classify different types of disruptive behaviour (Collett, Ohan, & Myers, 2003). As noted above, there are some differences in the classification of DBP within and between the two major classificatory systems DSM and ICD. Another example is that the formulation of conduct disorder has been changed in each version of DSM since DSM-II (Collett et al., 2003). In DSM-III Disruptive behaviour disorders (DBD) includes Oppositional Defiant Disorder (ODD), Conduct Disorder (CD) as well as Attention Deficit Hyperactivity Disorder (ADHD) whereas in DSM-IV severe DBD are only codified in terms of the two diagnoses CD and ODD (and DBD Not Otherwise Specified). In addition, in the DSM-IV a diagnosis of CD excludes an ODD diagnosis, whereas ODD is considered as one form of CD in ICD-10. Furthermore, a diagnosis of CD excludes an ODD diagnosis in DSM-IV whereas ODD is considered as one form of CD in ICD-10. The co-morbidity between ODD, CD and ADHD combined type is high (American Psychiatric Association, 2000). Roughly half of the children and adolescents who display ADHD also meet the criteria for CD and/or ODD (Kutcher et al., 2004).

In addition, co-morbidity with disorders that do not fall in the category of disruptive behaviours is also high. In a sample of more than 10 000 5-15-year-olds Maughan and colleagues (2004) found that 36 % - 39 % of the girls who displayed DBP and 46% of the boys also met the criteria for at least one non-disruptive diagnosis. Common co-morbid problems with DBP are emotional disorders (anxiety and depression), substance abuse, tics and learning disorders and mental retardation (Kutcher et al., 2004). However, the association between CD and/or ODD and emotional disorders is complex since anxiety and depression are co-morbid within the domain of emotional disorders and thus the co-morbidity between CD and/or ODD might partly be an effect of the co-morbidity between anxiety and depression (Maughan et al., 2004).

In the present thesis the overarching description “disruptive behaviour problems” (DBP) has been used to refer to an underlying construct reflected in behaviours that (1) are directed outwards, (2) go against social rules and expectations, and (3) may be distressing or cause harm to other people. Different terms have been used in the four studies that are included in the present thesis, partly as an effect of a change in concepts over time but also because of a slight shift of focus in the author’s understanding of DBP.

Prevalence

Swedish studies have shown that 6 to 12 % of all children exhibit early antisocial behaviour (Cederblad & Höök, 1991; Graff, 1999), which is in line with various studies from other countries that have revealed that 5-10 % of all children display highly persistent conduct problems (Keller, Spieker, & Gilchrist, 2005). Messer and colleagues (2006) found the prevalence for any DSM-IV disruptive behaviour disorder to be 2.4 % for girls and 6.0 for boys in a British sample of about 5900 5-10-year olds. In a study of developmental trajectories of childhood disruptive behaviour across three countries Broidy and colleagues (2003) found that 4-11 % of the boys and 0-10 % of the girls followed a chronic physical aggression trajectory. The prevalence of DBP has even been estimated to be as high as 19 % among preschool children (Eyberg & Pincus, 1999). The picture is somewhat unclear regarding whether there are any changes in prevalence. While some meta analyses indicate that the prevalence is rising (Rutter et al., 1998) others points out that there seem to have been no changes in prevalence during the last decades (Andershed & Andershed, 2005) One reason for the difficulties in obtaining a consistent pattern has to do with methodological issues such as inconsistencies of definitions between different studies and over time.

In their extensive review Rutter, Giller and Hagell (1998) concluded that there seemed to be no gender difference in the prevalence of oppositional, defiant behaviour (ODD) in young children. However more recent studies have found that boys were diagnosed with ODD at least twice as often as girls (Maughan et al., 2004; Messer et al., 2006). Also this inconsistency might in part be an effect of methodological variants in different studies. Messer and colleagues (2006) reported that there was no significant gender difference in parent ratings but that there was a salient difference in teacher ratings. ODD is often a precursor of the more severe behaviour of Conduct Disorder (CD). Whereas the prevalence of ODD declines in late childhood CD becomes more common. This might be an effect of the fact that a DSM-IV CD diagnosis excludes an ODD diagnosis. Maughan and colleagues (2004) found in their study of more than 10000 5 to 15 year olds that the prevalence of ODD was stable among girls as well as boys (1.8 % and 4.6 respectively) when ODD was diagnosed regardless of a CD diagnosis. CD is rare in younger ages. The rate increases steadily with age among boys from around five years of age, whereas the prevalence among girls is stable until early adolescence when it increases (Maughan et al., 2004). CD occurs at

least twice as often among boys as among girls, but the gender difference diminishes in late adolescence (Rutter et al., 1998).

The prevalence of Attention-deficit/hyperactivity disorder (ADHD) among children and adolescents is estimated to be 3-5 % (Kutcher et al., 2004). The occurrence is between three to six times higher among boys than girls (Gaub & Carlson, 1997). The behaviours of ADHD (i.e. inattention, restlessness, hyperactivity, and impulsiveness) are often persistent and associated with antisocial behaviour (Taylor, 1994). These behaviours are frequently already present in the preschool years.

All in all disruptive behaviour problems in childhood seem to be three to four times more common among boys than girls (Kratzer & Hodgins, 1997; Messer et al., 2006). However, the prevalence among girls might be underestimated as a consequence of the fact that symptoms often shown by girls not are included in the criteria for different forms of DBP (Rutter et al., 1998). DBP is linked to overt direct aggressive behaviour which is more common among boys, while girls might express more indirect relational aggressive behaviour which nonetheless still constitutes norm-breaking disruptive behaviour (Andershed & Andershed, 2005). In addition Zoccolillo, Tremblay and Vitaro (1996) have suggested that to increase the sensitivity of the CD diagnosis a lower threshold of inclusion criteria should be used for girls.

Etiology

Aggression is the strongest predictor of disruptive behaviour and later delinquency (Andershed & Andershed, 2005) and is thus very closely linked to disruptive behaviour. Aggression and fighting are however, part of normal child development and can help children assert and defend themselves. Pro-social forms of aggressive behaviour may in several social contexts like sports, business, research etc even serve a normative function (Tremblay, 2000). Aggressive behaviour is common in early childhood and physical aggression reaches its peak at the age of two (Alink et al., 2006; Koops & Orobio de Castro, 2004). By the age of 17 months, the vast majority of children display aggressive behaviours toward adults, siblings and peers (Tremblay et al., 2004). One explanation of the relatively high level of physical aggression in children at this age may be the combination of the child's increased expression of autonomy and enhanced mobility on the one hand, and parents becoming less accepting and more limit setting on the other (Campbell, 2002).

While there is no difference in the amount of physical aggression between 12 month old girls and boys, boys display more physical aggression at the ages of 24 and 36 months (Alink et al., 2006). Most children show an apparent decline in physical aggression from the age of four. By that age the amount of indirect aggression increases and verbal expressions of aggression become more common (Alink et al., 2006; Koops & Orobio de Castro, 2004). The comorbidity of persistent aggressive behaviour with other problems such as impulsivity and hyperactivity are very high in young children and often reflects more general difficulties with behavioural control and emotion regulation (Calkins, 1994; Rubin, Burgess, Dwyer, & Hastings, 2003). Thus many researchers include aggressive behaviour within a broader class of antisocial behaviour (Coie & Dodge, 1998), even though this is debatable (see for example: Koops & Orobio de Castro, 2004; Tremblay, 2000). Persistent physical aggressive behaviour in childhood has proven to be a distinct predictor of serious delinquency in adolescence, when oppositional behaviour and hyperactivity has been controlled for (Nagin & Tremblay, 1999).

Thus it becomes important to assess levels of aggression as well as to follow aggressive behaviour over time to examine different patterns of aggressive behaviour. In a longitudinal study four different developmental trajectories of physical aggression among boys from 6 to 15 years old were outlined: one small group who displayed a persistent high level of physical aggression, one group who initially displayed a high level of physical aggression which declined to a moderate level, a group who showed moderate levels of physical aggression in their early years where physical aggression was practically non-existent in adolescence and finally a group who displayed hardly any physical aggression at any time (Nagin & Tremblay, 1999). Recent research has displayed patterns of three to five different trajectories that are consistent with this research (see for instance: Broidy et al., 2003; Campbell, Spieker, Burchinal, & Poe, 2006). The developmental trajectories of physical aggression for girls are similar to those of boys (Broidy et al., 2003; Schaeffer et al., 2006). There are however some inconsistencies between different studies. Whereas Broidy and colleagues (2003) found that the mean level of aggression was consistently lower for girls than for boys, Schaeffer and colleagues (2006) found no differences in the levels and increase in aggression and disruptive behaviour between boys and girls in the group with persistently high levels of aggression and disruptive behaviour. The differences between the studies might be an effect of the inclusion of disruptive behaviour (in addition to aggressive behaviour) in the latter study and characteristics of the different samples. The sample of Broidy and colleagues came mainly

from New Zealand and Canada whereas Shaffer and colleagues' sample came from American urban neighbourhoods characterized by high levels of violent crime. Campbell and colleagues (2006) found that a model with five trajectories best fitted their data. In addition to the trajectories described above they also found a trajectory of persistent aggression at a stable and moderate level. Whereas children of the stable aggression trajectory were at risk of developing antisocial behaviour and poor peer relationships, children of the moderate stable aggression were more at risk of developing inattention and impulsivity behaviour problems rather than oppositional behaviour. It is also noteworthy that while even low levels of persistent aggression might indicate an increased risk of internalizing and externalizing behaviour problems, young children who display moderate levels of aggression that vanishes in the early school ages show no elevated risk for later problems.

The development of disruptive behavior problems is a very complex process involving the interplay between individual factors and those related to the child's immediate and greater environment. Whereas biological models of aggression as the psychoanalytic (Freud, 1980) and the phylogenetic (Lorenz, 1966) emphasize that human aggression is inherited and that children need to learn to control it to prevent self-destruction, advocates of the social learning theory maintain that aggression and antisocial behaviour is learnt from observing and imitating others and from what behaviours become reinforced by the environment (Bandura, 1977). Today there is broad agreement that the development of disruptive behaviour is best understood within a transactional model in which genetic, psychological and social factors interact (Sameroff, 1983, 2006).

Individual factors – The importance of genes in the development of human behaviours like aggression and disruptive behaviour has undergone a transition from a period in the 1950s of extreme environmentalism to a period around 1980 where influences from the environment were considered as practically non-existent to the present view, starting to evolve in the beginning of the 1990s, with an emphasis on the importance of gene-environment interaction (Rutter, Moffitt, & Caspi, 2006). The latter view is based on research which has convincingly demonstrated that most disorders have a multi-factorial etiology and that genetic as well as environmental risk factors are probabilistic rather than deterministic. Besides the notion that genetic effects operate through gene expression, i.e. epigenetic mechanisms, has led researchers to abandon the deterministic perspective of genetic effects (Rutter, Moffitt et al.,

2006). Thus the search for specific genes “for” psychiatric disorders does not, on the whole, seem to be a fruitful path to pursue.

With the concept of gene-environment interplay no fixed level of heritability exists. Rather heritability becomes an expression of how much a genetic factor accounts for the variation of a trait shown in a particular population at a particular point of time (Rutter, Moffitt et al., 2006). While the heritability of antisocial behaviour has been found to be about 50 %, the evidence points in the direction that the main effect comes from gene-environment interplay rather than from a specific genetic risk factor (Rutter, Moffitt et al., 2006). The interplay between genes and environment may influence heritability in several different ways. The environment may trigger or compensate genetic vulnerability. Furthermore, the environment may increase or, by restricting the opportunities of different outcomes, decrease the effect of a genetic influence (Rutter, Moffitt et al., 2006). Besides, the genetic influence may affect a child’s behaviour in a direction that evokes different behaviours from their closest environment. Thus, a child who displays disruptive behaviour may elicit negative behaviours from others. (i.e. parents, peers teachers) that will shape his or her behaviour in an increasingly antisocial direction. Accordingly the child may select environments that expose him or her to greater risk and that reinforce the already existing antisocial behaviours (Nigg, 2006; Rutter, Kim-Cohen, & Maughan, 2006).

The child’s temperament is an aspect that has been addressed in understanding the development of aggression and antisocial behaviours (Farrington, 2005; Nigg, 2006; Webster-Stratton & Taylor, 2001). Temperament and personality have been considered as two different domains where “temperament” has been used to describe constitutionally based behaviours in the child and “personality” has been used to describe the more complex behaviours of adults. However, in recent years these terms have been empirically and conceptually more integrated, and temperament is now frequently regarded as the childhood equivalent of personality (Farrington, 2005; Nigg, 2006). From being very low in the neonatal period the heritability of temperament increases during childhood to moderate levels. Hence, temperamental traits are relatively stable within context but not uninfluenced by environment and as heritable as most measures of psychopathological behaviours (Nigg, 2006). Temperamental traits of special interest with regard to the development of disruptive behaviour are those related to aspects of attention, impulsiveness, and negative emotionality (frustration intolerance and being “hot-tempered”). Impulsiveness has been pointed out as the most important temperamental trait

that predicts antisocial behaviour (Farrington, 2005). As early as the 1950s Stella Chess and Alexander Thomas (Thomas, Chess, Birch, Hertzig, & Korn, 1963) described three different temperament types in young children; the easy (i.e. regular habits, happy, calm sleep), difficult (i.e. irregular habits, often irritable and low adaptability and difficult to console) and slow-to-warm up (i.e. inhibited, vigilant rather than curious in unknown situations). Children with a difficult temperament put higher demands on the parents' parenting skills and abilities to meet the special needs of the child. In their longitudinal study Chess and Thomas (1984) found that difficult temperament was a risk factor for disruptive behaviour. However it has been difficult to replicate this study. One reason is that the definition of "difficult temperament" was not distinct enough (Farrington, 2005; Nigg, 2006). Since this pioneering study, different temperamental models have been developed. Today, a broad agreement is emerging around 3 to 5 factor temperamental models. Nigg (2006) suggests that there are two distinct temperamental pathways to conduct disorders in children. One is accompanied by increased risk of later unsocialized aggressive conduct disorder that follows a route of "low withdrawal" (especially low fear), "low affiliation" (low empathy, low pro-social tendencies), weak reactivity to potential punishment, high aggression and impulsivity. Another route which also may lead to conduct problems follows a temperamental route of "high approach" (willingness to approach possible reward or reinforcement) accompanied with "high negative affect", "average fear" and low "effortful control" (the ability to voluntarily inhibit or initiate behaviour processes and to focus and shift attention). The child who follows this route may be so sensation and reward seeking that he or she infringes social laws and elicits negative behaviours from others and thus constantly engages in negative interplay with others. Interestingly, Nigg also suggests two distinct temperamental pathways to ADHD in children. One pathway that follows a route of "low effortful control", especially in the domain of inattention – disorganization, another that follows a route of "high approach" especially in the domain of hyperactivity-impulsivity. The common temperamental trait of "high approach" between the second types of conduct disorder and ADHD respectively, may contribute to the high co-morbidity between these disorders.

Other individual risk factors are low IQ and school achievement (Farrington, 2005). Children who display disruptive behaviour often lack social skills and exhibit less prosocial behaviour. They also attend to fewer cues from the environment and interpret those cues differently than do non-aggressive children (i.e. overestimate peers' aggressiveness and underestimate their own) (Kendall, 2000). This might in the long run lead to an escalation of aggressive

behaviour. Prenatal exposure to toxins i.e. tobacco, alcohol, lead or narcotics has also been associated with the development of antisocial behaviour (Granic & Patterson, 2006). Finally gender is also a risk factor since to be born a boy increases the risk in itself (Farrington, 2005).

Immediate environment –Attachment theory (Bowlby, 1969/1982) and social learning theory (Bandura, 1977; Granic & Patterson, 2006) are two major theories that have been used to understand the development of DBP. Both theories have illuminated how daily repeated parent-child interactions at a micro-level form patterns of interaction that over time may contribute to the development of DBP, hence both theories emphasize the contribution of transactional as well as developmental aspects (Shaw & Bell, 1993).

In the early 1940's John Bowlby, who would later become one of the originators of attachment theory, concluded that the development of a delinquent character must be understood from genetic, social, economic and psychological perspectives (Bowlby, 1944b). One of the risk factors that he identified, in his pioneering study of forty-four juvenile thieves, was the children's experience of a prolonged separation from a primary care-giver early in life, which Bowlby considered to be an important aetiological factor in the development of an affectionless character (Bowlby, 1944a, 1944b). In his study he made a distinction between a group of delinquent boys who at an early stage in childhood showed an affectionless character and a group who did not display delinquent behaviours until in adolescence. He concluded that while the former group was closely connected to persistent delinquent behaviour, the latter had a more positive prognosis with a limited transient period of delinquent behaviour. This distinction is strikingly similar to the more recent description of "early-starters" and "life course persistent" vs. "late starters" or "adolescence limited antisocial behaviour" (Moffitt, 2003; Patterson, Capaldi, & Bank, 1991).

Research based on attachment theory has focused on the development of internal working models (IWMs) in the child (Bretherton, 1991). From the interaction with early care-givers the child develops generalized expectations on how he or she will be met by others in different situations. Based on these early experiences he or she will construct IWMs of whether or not he or she will be, or even if he or she deserves to be, comforted and taken care of when signalling distress. An insecure attachment does not in itself give rise to disruptive behaviour problems, but it significantly increases the risk (Greenberg, 1999; Greenberg,

Speltz, DeKlyen, & Jones, 2001). An insecure-avoidant attachment pattern has proven to increase the risk that the child follows a trajectory of persistent high disruptive behaviour problems (Keller et al., 2005). Children with insecure-avoidant attachment who have been neglected or rejected by their primary caregivers may have developed IWMs of distrust, anger and resentment, and they do not expect support or comfort from their closest environment. Rather they expect to be met by negative behaviours and thus they judge others' behaviours as hostile which in turn might lead to an aggressive response. This attributional bias in social interactions may lead to a situation where the children get caught in a negative interplay with their closest environment leading to an escalation of disruptive behaviour.

Bowlby (1944b) has described how a parent and child may be trapped in a vicious circle in which negative interaction between child and parent bring forth an escalation of anger and aggression.

“If a child’s mother is irritable, critical and nagging, the unnecessary interference and frustration which results will in many children call forth excessive anger and aggression. Frustration will also increase greed both for affection and for tokens of affection. In this way aggression and greed can be pathologically stimulated in early childhood, and moreover these antisocial impulses will be directed especially against the frustrating and irritable mother. Thus a vicious circle is set up - the mother being hostile to the child, the child paying his mother back in the same coin and the mother then having further grounds for irritation and anger.” (Bowlby, 1944b, p.114)

Another model that has been proposed to explain the link between disruptive behaviour and attachment is that disruptive behaviour may serve as an attachment strategy by way of getting the parents attention and/or to control the parent’s behaviour. This might work as a tool for the child to regulate the caregivers’ behaviour when no other attachment strategy has proven effective to obtain assuagement when aroused (Greenberg, Speltz, & DeKlyen, 1993).

Disorganised attachment, where the child does not show any organized behavioural strategy in relation to his primary caregiver(s), has predicted persistent DBP in several studies (Greenberg, 1999; Greenberg et al., 2001; Lyons-Ruth, 1996). A child with disorganized attachment may show conflicting, incomplete, and/or apprehensive behaviours towards the

parent(s) since he/she is the child's source of comfort and the source of fear at the same time (Lyons-Ruth & Jacobvitz, 1999).

Keller and colleagues (2005) found no support for the claim that disorganised attachment predicts disruptive behaviour. The authors suggest however that this might be explained by the fact that children in their study were younger (2 to 4.5 yrs) and that disorganized behaviour becomes more salient in the preschool period. Another intriguing explanation suggested by the authors is that children with avoidant attachment may have a low tolerance for stress which may lead to a more pronounced negative response to high risk contexts, a reaction pattern that in part resembles the second pathway to conduct problems suggested by Nigg (2006).

An authoritarian model of parenting, especially if this also features threats and violence is another risk factor (Farrington, 2005; Thompson, Hollis, & Richards, 2003). Even though girls are less exposed to physical punishment than boys, it seems as if the association between this risk factor and disruptive behaviour problems is stronger among girls (Messer et al., 2006). Other parenting styles which constitute increased risk are inconsistent limit-setting, poor monitoring, poor parental responsiveness to the child, lack of warmth, inappropriate developmental expectations and parental reinforcement of disruptive behaviour (Campbell, 2002; Farrington, 2005; Snyder, Cramer, Afrank, & Patterson, 2005; Webster-Stratton & Taylor, 2001). At the Oregon Social Learning Centre, Patterson and colleagues have described child-parent relationships in families where children develop disruptive behaviour problems and developed methods for working with these relationships (Patterson, 1974). A central idea in this theory is the concept of "the coercive circle" (Patterson & Bank, 1989). The term coercion denotes the use of aversive or disruptive behaviours to obtain short-term control over another person. It describes in short a process in which a destructive interplay between the child and his/her parents escalates and is reinforced by the child being given attention when he/she shows defiance and disobedience. The parent and the child get caught in a trap where the child's behaviour is reinforced when the parent gives in or complies, and the parents' behaviour is negatively reinforced when the child brings the aversive behaviour to an end. Whereas the original coercion model was more strictly based on operant principles, thus focusing on unidirectional processes, Patterson and colleagues at the Oregon social learning centre have stressed the bidirectional (circular) nature stemming from a process where the child and parent behaviours become mutually reinforced and thus they both become

trained to be coercive (Granic & Patterson, 2006). They also accentuate how, according to a dynamic systems approach, the reoccurring episodes in real time also affects the cognitive-emotion structures that are the basis for long term development of personality patterns (Granic & Patterson, 2006). Patterson and colleagues (1992) conclude that the child's coercive behaviour is likely to generalize to other social settings, thus it may increase the likelihood of peer rejection and academic failure.

Parental delinquency, antisocial behaviour, substance abuse, as well as parental psychiatric disorder, parental discord and domestic violence all bring about an increased risk for the development of severe disruptive behaviour (Erath, Bierman, & Conduct Problems Prevention Research Group, 2006; Farrington, 2005; Lagerberg & Sundelin, 2000; Scott, 2002). Parental psychiatric disorder is a risk factor if it leads to poor parenting (Rutter & Quinton, 1994). An example could be when a primary caregiver is depressed and thus has lower responsiveness to the child signals. If the child experiences that he or she is not responded to, when signalling distress, she or he may construct IWMs according to which (a) what she or he feels, thinks or does is of no value (for others) and (b) she or he does not expect to be comforted or taken care of when distressed. Thus the child does not seek inter personal assuagement, rather she or he distrusts other people and may attribute their behaviours negatively leading to a propensity to respond with disobedience and aggression. Hence the risk of a negative interaction pattern increases.

Serious parental discord may increase the risk of disruptive behaviour since there is the double risk that the child (a) learns fewer pro-social skills and (b) that the parents become models of antisocial conflict solving strategies. Thus the child learns to respond to intrapersonal conflicts with aggression and this behaviour may generalize to several intrapersonal contexts (i.e. school, peers) (Scott, 2002). Parental separation and single parent families have also been associated with increased risk. However there is evidence to suggest that it is not so much the divorce in itself that is the predictor but the parental conflicts that lead to the separation (Farrington, 2005).

Greater environment - One characteristic of post-modern society is the double socialization of children (Bäck-Wiklund & Bergsten, 1997), which implies that the education and socializing of children and young people is a responsibility shared between the family and the school systems. It is essential that the two primary systems of the double socialization can

co-exist in a way that does not confuse the child too much with too many contradicting messages regarding expectations on his/her behavior. Thus it is important that the adults from the family and school system meet and share their thoughts and expectations. Thus a poor connection between the child's school and her/his family is a risk factor (Webster-Stratton & Taylor, 2001). Other risk factors related to the school situation that have been identified are: low emphasis on promotion of children's social and emotional development, high pupil-teacher rate, teachers exhibiting ineffective classroom managing skills, if the child is rejected by peers, if the child experiences academic failure and spends too much time in company with deviant peers (Webster-Stratton & Reid, 2003, 2004).

Low socioeconomic status and living in a neighbourhood of poverty and danger, high risk of individual exposure to violence or victimization and deviant peers are other risk factors in the child's greater environment (Farrington, 2005; Ingoldsby, 2002). Even if it has not yet been possible to establish whether the neighbourhood has a direct or indirect impact on the development of antisocial behaviour, the evidence of the association between neighbourhood contextual factors and antisocial behaviour is modest but firm (Ingoldsby, 2002). There is also a higher risk of associating with deviant peers in a poor and dangerous neighbourhood. Two developmental processes result in risk exposure. Interaction with peers during the pre- and elementary school ages may establish a pattern of negative interaction and consequently peer-rejection. Later in adolescence affiliation with deviant peers may result in a "deviancy training" process, i.e. talk of deviant topics, learning and imitating deviant behaviours from antisocial peers etc. (Snyder, Schrepferman et al., 2005). Living in a low SES neighbourhood also increases the risk of attending high delinquency schools where there is a palpable mistrust between teachers and students and the students' commitment to school is poor (Farrington, 2005).

A risk factor may in itself be of little importance for the development of disruptive behaviour. However, the more risk factors that are present, the greater the risk for the development of severe disruptive behaviour (Farrington, 2000). The effect of several risk factors is, however not additive but rather accumulative (Keller et al., 2005), especially if there is a combination of different risk factors at different levels (Andershed & Andershed, 2005). Furthermore there seems to be no difference between girls and boys with regard to the effects of exposure to most family and social risk factors, but boys were more exposed to neurodevelopmental risk

and displayed less prosocial behaviour and thus showed more peer problems (Messer et al., 2006).

Resilience and protective factors can work as moderators and mediators of vulnerability and risk. Thus it becomes important in developmental psychopathology to examine the combination of risk and protective factors (Keller et al., 2005). Well developed problem-solving and communication skills, a healthy androgyny, capacity to elicit positive attention from others, a sense of autonomy combined with the ability to ask for help when needed and at least average intelligence are some of the factors that in various studies have been found in resilient children (Werner, 2000). It has been suggested that girls' earlier development of prosocial skills and cognitive maturity serves as a protective factor that may explain some of the differences between boys and girls with regard to prevalence (Messer et al., 2006). The possibility of establishing a stable, close, caring and supporting relationship with at least one person in the first year of life, if not with the parent then with some alternative caregiver such as grandparents or older siblings has also proved to be of importance (Werner, 2000). A secure attachment has consistently proven to be a protective factor, in high- as well as low risk contexts (Keller et al., 2005). A securely attached child is probably more motivated than an insecurely attached child to behave in accordance with the caregiver's rules and requests (Richters & Waters, 1991). The child also displays more pro social behaviours, which also facilitates the socialization process and this is important since most disruptive behaviours include elements of antisocial behaviour which may stem from deficits in the early socialization process. Other protective factors in the child's immediate or greater environment are that their help is required (it is as protective to provide care to a sibling as to receive it), some form of faith that gives a sense of meaning to life, one or more close friends, being appreciated by peers, scholastic achievement in line with their own capacity, a favourite teacher - or other adult (Antonovsky, 1991; Werner, 2000). Again it is important to note the interplay between vulnerability, risk, resilience and protective factors. A protective factor may be of very limited value when no risk is apparent but might be extremely important in a high-risk condition (Keller et al., 2005).

Treatment

Treatment of children with disruptive behaviour follows different lines. Treatment models that have their roots in biological/psychiatric models focus on genetics or ways of learning to

control aggression, whereas sociopsychiatric /psychopedagogical models emphasize the interplay between the child and her/his closer or greater environment. Thus medication can be an important part in the former treatment models whereas the latter models focus on interventions aiming to alter the interplay between the child and others. Although medication has been shown to be an important part of treatment as shown in one of the largest treatment studies (MTA Cooperative Group, 1999), the present thesis focuses on sociopsychiatric and psychopedagogical models of treatment. The main reason for this is that medication is most clearly indicated in the treatment of ADHD, whereas the primary focus of the present thesis is disruptive behaviour disorders (ODD and CD).

The treatment of children with disruptive behaviour problems dates back to the beginning of the 20-th century at least. As a consequence of industrialism there were large social changes in most Western societies. People moved from rural areas to towns and cities and with this followed the breakdown of social networks. In many families both parents had to work and since their natural support system no longer was available, children were left on their own. As a consequence poverty, vagrancy and delinquency among children and adolescents became a growing problem (Eresund, 1999). These social changes coincided with a growing concern among the liberal middle class about the children of the poor. Ideas that not only the parents, but society at large had a responsibility in the socialization of children started to spread, and the psychoanalytic theory gave a rationale for how the children should be handled and treated (Eresund, 1999). During the 1920's and 30's pioneering counselling services concerning the upbringing and psychiatric treatment of children were started in Sweden. The target groups of these services were the deprived and delinquent children. Bowlby (1944a) described how delinquent children and youths, in England, were referred to a Child Guidance Clinic from schools, parents, probation officers and courts. Also in the USA Child Guidance Clinics had started as a response to the needs of local social authorities (Eresund, 1999). Thus the origins of the child and adolescent psychiatric services to a large extent can be found in this socio-psychiatric tradition. In the beginning the services offered were mainly counselling and parental support (Carlberg, 1997). Psychoanalysis offered a theory and method for the treatment of children. Child psychotherapy became the intervention of choice for children who displayed disruptive behaviour problems (Lundahl et al., 2006). Individual treatment, based on the ideas of Margaret Lowenfeld, Anna Freud and Melanie Klein, became more common in Sweden during the 40's and 50' (Eresund, 1999). However, several therapists experienced the treatment of the children with severe behavioural problems to be difficult and

non-successful (Carlberg, 1997; Eresund, 1999) Bowlby, concluded that the major shortcoming of the psychoanalytic approach was that the child was thought of almost as a closed psychological system and that therapists did not take the child's environment into consideration (van Dijken, 1998). These experiences, in combination with the fact that parents of children with emotional rather than behavioural problems began to seek help, seem to have contributed to a new policy in the child and adolescent care services. As a result of this these services came to work more with anxiety and other neurotic disorders and less with children with severe DBP (Eresund, 1999).

In 1947 a treatment home for psychopathic children called Skå opened in Stockholm, Sweden (Jonsson, 1973). It should be remembered that the term psychopath had a different meaning in the 40's than today (Eresund, 1999). Besides, the term psychopathic was never accepted by the employees at Skå (Jonsson, 1973). The aim was that Skå should be a treatment home for the children who were the most difficult to handle and to treat in other settings. However even in the preliminary plans, before the clinic was opened, Gustav Jonsson concluded that to be successful, treatment of the child had to involve the parents too (Jonsson, 1973). First of all the parents might need treatment of their own, secondly there was a need for "parent education". The parent education at Skå involved several elements such as:

- *pedagogical* – learning how to help the children with their homework, how to play with the children and how to get appropriate toys
- *practical home care* – cooking, practical advice on how to take care of children
- *connecting* – one aim was to make the parents take a more active part in hobbies, travelling, and to attend various courses to break the families' isolation
- *problem solving* – helping the parents to handle problems and conflicts with neighbours, relatives, school personnel, and different authorities more effectively

One fundamental principle in the parent treatment/education was that the parents should be treated and considered as fellow workers, not as clients or patients. This implicated that the staff had to look for the resources of the parents and to empower them in their parenting, rather than to look for their deficits and short-comings (Jonsson, 1973).

Within the child and adolescent psychiatric services there was also a growing concern that parents should be involved when working with children. Bowlby addressed the importance of

meeting the child's both parents in the preparatory interview as early as in the late 40's (van Dijken, 1998). Bowlby also accentuated the utility of "family interviews" in which the family members were interviewed together so that tensions between family members could be discussed and managed openly, thus facilitating a process of a reorientation in the family (van Dijken, 1998). It's interesting to note that Bowlby published a paper on this approach as early as 1949 (Bowlby, 1949). However the time was not ripe for this major shift in approach, and consequently the paper "sank without a trace" (van Dijken, 1998).

In the early years, from the 40's, the treatment in Sweden was probably most influenced by the therapeutic methods of Anna Freud (Eresund, 1999). Anna Freud, in contrast to Melanie Klein, emphasized the need for involving the parents in the treatment. However this meant that the parents had counselling and therapeutic session with a therapist (often a social worker) parallel to the child-therapy.

In the 60's and 70's direct interventions with parents became more common within the social and child and adolescent services (Lundahl et al., 2006). In Sweden, like in many other countries, this was also the time when family-therapy made its entry into the world of child and adolescent psychiatric treatment (Hansson, 2001). The pioneering family therapists: Virginia Satir, Salvador Minuchin, Martin Kerchenbaum among others came from the USA and held courses and gave workshops in Family therapy in Sweden. Several Swedish therapists also went to London and took part in the training of Tony Manocchio and colleagues (i.e Bill Petitt, Ingegerd Wirtberg). Today family therapy has become one of the most common treatment methods in the child and adolescent psychiatric services (Carlberg, 1997). From having its roots in communication and general systems theory (Watzlawick, Beavin Bavelas, & Jackson, 1967) the early family therapists where more influenced by the structural (Minnuchin, Montalvo, Guerny, Rossman, & Schumer, 1967) and strategic (Haley & Hoffman, 1967) approaches. In the last two decades methods based on the "second order cybernetics", with its roots in social constructivism has emerged (Hoffman, 1981). In the Language systems approaches the narratives of the individuals are emphasized (Andersen, 1995; Anderson & Goolishian, 1992; White & Epston, 1990). Change is brought about by therapeutic conversations that broaden the narratives of the individuals and thus enable the person to experience different feelings and thoughts, and to gain new knowledge.

When a child is described as having disruptive behaviour a problem-affirmative system of communicative behaviour often develops around the child. The Marte Meo method is a treatment method that has been created in order to help children and adults to restore and build a supportive dialogue when their communication has been marked by perturbation and disturbances. *Marte meo* (MM) was developed in the Netherlands by Maria Aarts (Aarts, 1996, 2000) in the 1980s and has become widely used in Scandinavia, Germany and Switzerland (Hedenbro & Wirtberg, 2000; Øvreeide & Hafstad, 1996). MM is based on the idea that children develop and grow in interaction with supportive adults. The assumption is that there is a prototype for developmental supportive dialogue which provides the child with relevant information and support needed in different stages of the child's development (Aarts, 2000; Øvreeide & Hafstad, 1996). Using a short (five to ten minute) video recording of the child interacting with his/her parent or teacher the MM-therapist analyses the interplay of a number of developmental principles inherent in the model. The therapist then chooses some video sequences to review and discuss with the adult. The aim of the discussion is to help the adult to see the supportive needs of the child thereby stimulating him/her to modify his/her behaviour in a way that will promote the child's development. Finally the adult is given the task to practice these new behaviours in daily situations. During the next recording and reviewing, feedback is obtained regarding whether the previous intervention has been helpful and is leading towards the desired goal. Despite the fact that MM is very popular, no studies of its effectiveness as a treatment for conduct problems have been published (based on a search for "Marte meo" in databases "Pub Med" (www.ncbi.nlm.nih.gov/PubMed/) and "PsycInfo" (www.apa.org/psycinfo)). One study using a similar method (The Orion method) has however shown promising results (Weiner, Kuppermintz, & Guttman, 1994).

To protect children and promote health, interventions should target many different domains of the children's lives (Chronis, Chacko, Fabiano, Wymbs, & Pelham, 2004; Leffert et al., 1998; Webster-Stratton & Taylor, 2001). A consequence of the double socialization of children is that it becomes important to develop school based interventions as a complement to the interventions delivered in clinical contexts (Scott, 2002). Besides, school-based interventions offer a chance to help children with disruptive problems that will not come in contact with ordinary social and psychiatric services. However, when developing school-based interventions the link between home and school should be addressed (Christensen & Conoley, 1992; Christensen & Sheridan, 2001; Walker, Colvin, & Ramsey, 1995). It is essential that the two primary systems of the double socialization can co-exist in a way that do not confuse

the child too much because of contradicting messages about expectations regarding his/her behaviour. Thus it is important that the adults from the family and school system meet and share their thoughts and expectations. This collaborative problem-solving, involving parent(s), teachers and school psychologists, has been shown to be effective both for the child's academic performance and for the child's social and behavioural progress (Christensen & Sheridan, 2001). The use of Coordination meetings (CM) is a way of addressing this issue (Wirtberg & Axberg, 2006). In CM contextual markers (Petitt & Olson, 1992) are used to clarify the context in which the interventions takes place. To explore parents' and teachers' different "stories" about the child, and to co-construct new stories approaches permitted by post-modern constructivist theories and methods such as "reflecting" process (Andersen, 1987, 1995; Wirtberg & Axberg, 2006) and "open dialogue" (Seikkula, 1996; Seikkula, Arnkil, & Eriksson, 2003; Wirtberg & Axberg, 2006), can be utilized.

In general, evaluation of treatment effects was, for many decades rare (Kazdin, 1994). The first publication of evaluations of child and adolescent psychotherapy occurred at the end of the 1950's and the first results indicated that there were no differences between children who had received therapy and those who had not (Kazdin, 1994). During the following years however more studies were published which questioned the results of the initial study and demonstrated that psychotherapy seemed to be better than no therapy, and that the results for children and adolescents were well in line with the those for adults (Kazdin, 1994). Even though more studies were published, the evaluation of treatment effects regarding disruptive behaviour problems continued to be meagre and the results were poor. Bowlby, for example published a paper in as early as 1944 in which he described the difficulties in treating juvenile thieves. He concluded that for the affectionless character diagnosis and treatment should be carried out preferably before the child was three years old, and at least before he or she was five, to optimize the chances of a successful treatment (Bowlby, 1944b). Pessimism about the possibility to reach and treat children with disruptive behaviour was widespread among researchers and clinicians (Rutter et al., 1998). During the last two decades, however, pessimism has been turned into cautious optimism since more studies have been published showing promising results (Rutter et al., 1998). Literature reviews and meta-analyses have shown that structured parent-training programmes are the most effective way of treating young children with disruptive behaviour problems (Brestan & Eyberg, 1998; Kazdin, 1997; Scott, 2002). Several of the parent training programmes are delivered in the group format. However in a recent meta-analysis Lundahl and colleagues (Lundahl et al., 2006) found that

families with low SES benefited more from individually delivered parent training programmes. For older children and adolescents Functional Family therapy (FFT: Alexander, 1998) and Multidimensional Treatment Foster Care (MTFC: Chamberlain & Reid, 1991) have proven to be effective and even met the high standards of the Blueprint programme (Elliott, 1999). Multi Systemic Therapy (MST: Henggeler, Schoenwald, M, Rowland, & Cunningham, 1998) is also a Blueprint programme, but there is an ongoing debate as to whether there is evidence for the conclusion that MST is superior to other interventions (Litell, 2005; Litell, Popa, & Forsythe, 2005).

Even though some of the results of the various meta-analyses of treatment of children who display disruptive behaviour problems are impressive, practitioners may still remain sceptical about these findings and the manual-based models. The evaluation of a treatment in a research-oriented context is often quite different from the evaluation of the same model in clinical practice (van de Wiel, Matthys, Cohen-Kettenis, & van Engeland, 2002). Studies of models developed and evaluated in research-oriented contexts are called efficacy studies. When such models are put into practice and evaluated in clinical contexts the results sometimes decrease drastically (Weisz, Weiss, Donenberg, & Han, 1995). Studies that are carried out in clinical contexts are referred to as effectiveness studies. The conditions for efficacy and effectiveness studies differ for instance in that the interventions in clinical contexts are carried out by clinicians with a broad focus, large caseloads of clinic-referred heterogeneous groups with many different symptoms and limited resources for supervision. In research-oriented contexts the researchers as a rule need to gain control over as many variables as possible, hence the treatment is more structured and distraction-free, and it is often performed by therapists specially trained and supervised in only one specific method. The therapists' case-loads are often smaller and the treatment groups are homogenous. The evidence of treatment benefits are limited when interventions developed in research-oriented contexts, are carried out in ordinary clinical contexts (Weisz & Jensen, 2001). However, in a recent study of two samples of clinically referred children who met criteria for ODD or CD Kazdin and Whitley (2006) challenge the notion of comorbidity and case complexity. Comorbidity did not affect treatment outcome, in fact the opposite held true - the children that displayed the highest comorbidity seemed to have benefited the most from treatment. Neither did case complexity (i.e. scope of dysfunction, low SES, parent and family functioning) influence treatment outcome. The only domain which significantly affected outcome was barriers associated with treatment participation (e.g. obstacles that interfere with coming to

and participating in treatment, especially difficult issues, demands and perceived relevance of treatment and parent-therapist relationship)

While practitioners may still be sceptical to evidence based treatment it has been suggested that researchers and clinicians should meet as early as possible in the process of developing a treatment method to “bridge the gap” (Weisz, 2000). This may increase the clinicians’ interest in the method and contribute to increase trust in a model as useful. In conclusion, novel treatments need to be tested in terms of both efficacy and effectiveness (Flay et al., 2005).

A vast amount of research has exposed the association between the genesis, progression and maintenance of childhood disruptive behaviours and parental practices (Lundahl et al., 2006). Thus, intervention aiming to develop and alter parents’ understanding and perceptions of the child, communication styles and parenting practices has evolved. During the last decade several parent-training programmes have been introduced in Sweden, such as *The International Child Development Programmes* [ICDP] (Hundeide, 1991, 2002), *The Community Parent Education Program* [COPE] (Cunningham, Brenner, & Boyle, 1995; Cunningham, Brenner, & Second, 1997), *Barkley’s Parent Training Programme* (Barkley, 1997), *The Incredible Years Series* [IYS] (Webster-Stratton, 2000) and KOMET (Sundell, Kling, Livheim, & Mautner, 2005). Most of these programmes are based on the work of Gerald Patterson and his co-workers at the Oregon Social Learning Center (OSLC), who has shown that one way of breaking "The Coercive Circle" is parent education, where the parent learns about this process, and is trained in meeting the child in a way that reinforces positive development in the child, and thus breaks the destructive pattern (Patterson et al., 1992). The differences between the programmes are mainly consequences of the type of parents each programme targets, with regard to influences from other theories, group size, number of sessions, and the themes each method focuses most on. *ICDP* mainly focuses on primary prevention among ordinary parents who do not necessarily have any identified problems in their parent-child relationship. The main aim of *ICDP* is to strengthen the interplay between the child and parent in a way that will promote the child’s development. *ICDP* has been introduced in several countries (Angola, Ethiopia, Italy, Brasil, Colombia, Russia, Denmark) to increase parents’ as well as professionals’ awareness of the child as a unique individual, who has feelings and needs similar to that of the adult, i.e. to promote a perspective of the child as a “subject” not as an “object” (Hundeide, 2002). In a controlled study in Bergen,

Norway, parents who had received ICDP displayed more supportive and positive interaction in terms of confirming and following the child's initiative, giving the child rewards and communicating more with their child, compared to the controls (Hundeide, 2002). *COPE* is a community oriented group model, which could be characterised as secondarily preventive in that it focuses on children who already display disruptive behaviour problems. *COPE* aims to prevent the child from developing more severe and long-lasting problems. In clinical settings it is offered to parents whose children exhibit challenging behaviour. However, it is more widely used as a community based primary prevention intervention that is also open for parents who want to develop their parenting skills even though their children might not show disruptive behaviour problems (Eresund, 2002). In a study of children in junior kindergartens in Hamilton, Canada, parents of the community parent-training groups reported a greater decrease in children's disruptive behaviour problems compared to the parents who received clinic-based parent training and a waiting-list control group. The community-based intervention was more cost-effective than the individual clinic-based programme (Cunningham et al., 1995). *Barkley's Parent Training Programme* is more clearly preventive at a secondary and tertiary level, aiming to help parents of children with not only ADHD, but also CD or ODD (Barkley, 1997). The programme has proven to be an effective treatment for ADHD in various studies (Chronis et al., 2004). In the beginning of the present millennium a group at the "Forsknings- och utvecklingsenheten" (R&D unit) in Stockholm started to develop a parent and teacher training program based on research and other programs as The Incredible Years Series (IYS) and the Parent Managing Training program developed at the Oregon social learning center (PMTO) (Forster, Sundell, Melin, Morris, & Karlberg, 2005; Sundell et al., 2005). In an uncontrolled study of 185 families with children aged 3 to 10 years, two thirds of the children whose parents had participated in KOMET showed symptom reduction after the group training and only 12 percent dropped out (Sundell et al., 2005).

The *IYS* is a manual-based model that can be characterised as secondary preventive in that it is offered to parents whose children already display rather severe BMP, but by doing so its aim is to prevent the child from developing more severe and long-lasting problems. The programme has gained the status of "exemplary programme" from the American government, which means that in several well-controlled, randomised studies it has been shown to have a good effect (Webster-Stratton & Spitzer, 1996; Webster-Stratton, 2000). The *IYS* build on social learning theory, but also contains features from humanistic and systemic psychotherapy theory as well as from the family therapy field (Webster-Stratton, 2000). A number of

independent replication and evaluation studies with similar results have also been conducted outside the USA, i.e. in England, Canada and Norway (Mørch et al., 2004; Scott, Spender, Doolan, Jacobs, & Aspland, 2001; Taylor, Schmidt, Pepler, & Hodgins, 1998). The different studies have shown a clinically significant decrease in symptoms for 60-70% of the children whose parents have participated in IYS parent-training groups, an increase in positive parenting behaviour, and a reduction of harsh discipline. Of the parent training programmes described above the IYS has the most well documented empirical support and meets the high standards of the Blueprint programmes (Elliott, 1999).

Concluding remark

Despite all the research there are still many questions to answer. In several studies parent training programmes have been shown to be effective. For the most part, however, these programmes were developed and evaluated within an American cultural with norms that are somewhat different from Swedish norms and styles with regard to parenting. In Sweden there is an ongoing debate as to whether parent-training programmes developed in the USA, are suited for parents in Sweden (see for instance: Bremberg, 2004; Hylander, 2004). Thus it is important to investigate if these parent programmes work in Sweden too, and how they are received by Swedish parents. Even though parent training programmes are effective, studies have found children's behaviour to be related to context, and that improved behaviour at home is not necessarily followed by improvement in other contexts as in school (Scott, 2002; Webster-Stratton & Taylor, 2001). Besides, several children who display disruptive behaviour do not engage in treatment in the social and psychiatric services. Thus treatment of disruptive children needs to address several domains of children's life and to coordinate interventions from different community services. The development of such interventions models is still a challenge for future research (Greenberg, 2004). Another issue is the age of the children who are in focus for various interventions. Age of onset of DBP has proven to be of importance (Moffitt, 1993) and so has the possibility to deliver interventions early. If interventions can be delivered before children's eighth's birthday the chances to reduce crystallization of aggressive tendencies in children increase (Webster-Stratton & Taylor, 2001). Besides, when the child reaches early adolescence interests outside school and home become more salient and the same goes for school failure and/or peer rejection. Thus interventions become more complicated and often need to target more domains of the child's life. The effectiveness of interventions delivered to older children and youths, when the behaviour problems have become more manifest, is disappointing (Andershed & Andershed, 2005; Patterson et al.,

1993). Hence it has been recommended to offer interventions as early as possible, at least before the child reaches adolescence. Interventions that (i) are offered before or during the child's early school years, (ii) focus on the promotion of the child's pro-social skills, control of aggressive behaviour and positive parent-child relationship also increase the child's capacity to develop positive relationships with peer and teachers (Webster-Stratton & Taylor, 2001). This may enhance the child's interest in school which might serve as a protective factor. Thus, the child's entrance into preschool or elementary school is a strategic and important time to introduce interventions since it might be a stressful period for children and parents. A main interest in the present thesis therefore has been to focus on treatment and assessment of children aged three to twelve years (in the intervention studies I and II ages 4 to 12 and 3 to 10 respectively, in assessment studies III and IV 3 to 10).

In study I the development of a systemic school-based model that aimed to coordinate professionals from different organizations as well as to develop better cooperation between parents and the school personnel is examined. The treatment model is Marte Meo, and Study I is the first study using the Marte Meo model for this purpose. Study II is the first evaluation of the IYS in Sweden. In both studies the intervention is carried out by the professionals who are supposed to utilize it in the future in their ordinary settings. Thus the studies add valuable information about the effectiveness of the methods.

Parent rating scales

As described above, children who display severe disruptive behaviour early in life are at increased risk of developing externalizing as well as internalizing problems later in life. The earlier it is possible to deliver interventions the greater are the chances for a positive result. It is also probably much more cost effective to deliver interventions early (Hill et al., 2004). It thus becomes important to (a) identify and deliver proper interventions to young children at risk (b) to develop proper measures for the evaluation of treatment effect and for research.

Different informants (i.e. parents, teachers, siblings the child) differ from each other with regard to how they rate children's emotions and behaviours on various measures. The finding of low to moderate correspondence between different informants is consistent between studies (de Los Reyes & Kazdin, 2004; Duhig, Renk, Epstein, & Phares, 2000; Gross, Fogg, Gravey, & Julion, 2004; Treutler & Epkins, 2003; Waaktaar, Borge, Christie, & Torgensen, 2005). In

general the highest mean correlations are found among raters who have similar relationship to the child, as between parents, compared to parents and teachers (Waaktaar et al., 2005). The correlation between parents' and children's ratings is consistently low to moderate in different studies (de Los Reyes & Kazdin, 2004; Seiffge-Krenke & Kollmar, 1998). An interesting inconsistency in the findings is that Achenbach and colleagues found that the correlation between parents' ratings were higher for children than for adolescents (Achenbach, McConaughy, & Howell, 1987), whereas the opposite was found in the more recent meta-analysis by Duhig et al (2000). There seems to be a higher agreement between different informants concerning problems related to overt behaviours such as aggression, truancy etc. (externalizing) than covert behaviours such as worries, loneliness and sadness (internalizing) (Duhig et al., 2000; Myers & Winters, 2002; Waaktaar et al., 2005; Youngstrom, Loeber, & Stouthamer-Loeber, 2000).

Duhig and colleagues (2000) found in a meta-analysis of 60 different studies that mothers' and fathers' ratings of children's emotional and behavioural problem were moderately correlated for internalizing problems (mean $r = .46$) but highly correlated for externalizing problems (mean $r = .66$). The differences may result from the unique experiences that different informants have from interacting with the child in different contexts (Treutler & Epkins, 2003) but also from the psychometric properties of the different measures (de Los Reyes & Kazdin, 2004; Gross et al., 2004). For instance the fact that mothers generally spend more time with their children can make them more sensitive to the child's internalizing problems, which can explain some of the differences in mothers' and fathers' ratings of internalizing problems (Treutler & Epkins, 2003). Mothers also tend to report more behaviour problems than fathers (Duhig et al., 2000; Myers & Winters, 2002). Besides the explanation of mothers generally spending more time with their children, another explanation may be that children actually exhibit more disobedience towards their mothers than towards their fathers (Duhig et al., 2000). Although there are discrepancies in mothers' and fathers' ratings, the correlation is still at a level that makes it possible to obtain reasonably valid information from only one parent if necessary (Duhig et al., 2000).

When measuring outcome it is desirable to use multiple measures (rating scales, observations diagnostic interviews) and multiple informants: children, parents, teachers and clinicians (Flay et al., 2005). Different approaches have been used regarding discrepancies among different raters. While some researchers emphasize the fact that different informants' ratings

are useful in differential predictions of outcome, thus recommending keeping different informants' ratings separate, others have constructed cross informant syndromes to synthesise information from different raters (Hay et al., 1999). Among the different informants, parents have been proposed as the most important source of information when evaluating children's emotional and behavioural problems (Achenbach et al., 1987). Parents have in general proven to be the better reporters of externalizing behaviours and they also provide the most comprehensive knowledge since they observe their children in different contexts and thus can observe variation in behaviours (Myers & Winters, 2002). Since teachers meet children in the normalized setting of school they are, in general the best at noticing deviation from peers (Myers & Winters, 2002). Finally, youths have been better raters of internalizing symptoms in self-reports (Myers & Winters, 2002). Thus, parent rating scales with sound psychometric properties are indispensable tools in assessing children's strengths and difficulties. Since they are reasonably easy to distribute, the process of obtaining normative data is facilitated and a variety of problems can be measured and compared to normative data. Another advantage of parent rating scales is that they are well suited for repeated measures which make them useful in the evaluation of treatment programs (Eyberg & Pincus, 1999). Besides, since parents in general are those who (i) initiate referral, (ii) provide feedback during treatment, (iii) determine what will be done about their children's problems, and (iv) are most familiar with the youth, they also are the primary informants (Mash & Terdal, 1997).

It should, however be remembered that rating scales do not deliver the "truth" about a given construct. It is an attempt to measure a construct of a phenomenon (as different behaviours or feelings), by systematically assigning a number to a variable that represents this construct. Thus to determine the usefulness of a rating scale it is important to obtain information on the scale's validity (whether the scale actually assesses the construct that it is intended to measure) and reliability (whether the scale's different items measure the same construct, and whether that construct is measured every time the scale is used). There are different estimates for reliability, one of these is internal consistency (the homogeneity of the scale) and another is the stability over time (test-retest reliability). The internal consistency is expected to be above .80 (Collett et al., 2003). Also the test-retest reliability over two weeks is expected to exceed .80. However, if the time between the two occasions when the test is distributed is more than one months a test-retest above .60 is acceptable (Collett et al., 2003). There are also different measures of validity. Convergent validity measures whether the scale correlates reasonably with some theoretically relevant variable with which it should correlate (i.e. with

another scale). The estimates of validity are expected to be significant but lower than for reliability. A correlation above .40 (sometimes even lower) between the different scales is considered as acceptable (Collett et al., 2003). On the contrary a correlation above .90 indicates that the two scales are too similar and that the new scale do not contribute to the already existing scale (Collett et al., 2003). Discriminant validity measures whether the scale discriminates between different groups (i.e children who display problems that exceed a clinically relevant level and children who do not). In general the comparison is made between a group that is known to have the problem under investigation and one known not to have the problem, thus the discriminant validity is sometimes termed known-groups validity (Myers & Winters, 2002).

In research, comparisons are usually made between different samples within the same study (i.e. intervention group vs. treatment-as-usual, or waiting-list groups) not between study group children and children in general. The main interest has been in children's functioning (i.e. do the children display less symptoms after an intervention than before) rather than to a reference group (i.e. do children in one group have a larger symptom loads than children of a normative sample: Mash & Terdal, 1997). Researchers therefore normally do not have strong enough reasons to set aside time for the standardization of different measures. As a consequence lack of normative data is a shortcoming with many rating scales, despite the fact that they in general are well suited for standardization (Myers & Winters, 2002). Clinicians, on the other hand, do not have a comparison group if the measure is not normed in the culture in which the clinician works. Inventories are therefore all too often used clinically (and also in research), without proper norms, resulting in a situation where one has to rely on norms from other countries or cultures, if available (Mash & Terdal, 1997).

Normative comparisons can be used for the identification of children who perform significantly better or worse than expected and it also facilitates intermediate treatment aims and long-term goals. Normative comparison may also reveal if the expectations of a child's behaviour differ too much from existing norms and whether a problem is transitory or common at a certain age (Mash & Terdal, 1997). Normative data also helps to determine whether treatment outcome is clinically significant or not (Mash & Terdal, 1997). All too often inventories are used (clinically as well as in research) without proper norms, and the clinicians or researcher have to rely on norms from other countries or cultures, if available. This can however be misleading. In a comparison of the total problem score on the CBCL

between 30 different cultures it was shown that Northern European cultures (e.g. Sweden, Norway and Germany) as well as Japan and China scored more than one standard deviation below the omnicultural mean (Rescorla et al., In review). Thus it is important to obtain normative data in the context where the measure will be used.

Parent rating scales may serve several different purposes: screening, epidemiologic research or treatment outcome studies. Generic broad-band scales are useful in that they give a broad picture of psychopathology and assess psychopathology in terms of profiles. However, as a consequence of their larger scope the number of behaviours or symptoms covered for each construct (e.g., aggression) must be limited. Thus in general they provide less information for understanding a specific behaviour pattern and are less sensitive to treatment effects (Collett et al., 2003). Specific narrow-band scales are more limited in scope, but may instead be more sensitive to change over time. They may also offer greater opportunity to understand variability in behaviours or symptoms within a given construct, which is especially valuable in treatment outcome research (Collett et al., 2003).

The Child Behaviour Checklist (CBCL) – is a part of the ASEBA (Achenbach System of Empirically Based Assessment) family of instruments (Achenbach, 1991; Achenbach & Rescorla, 2001). The CBCL is probably the most used measure in research on children's behaviour. It has shown excellent psychometric properties in various studies (Achenbach, 1991; Achenbach & Rescorla, 2001) It consists of 20 items that assess social competence and 118 items that assess behaviour problems. The 118 items are scored from 0 (not true) to 2 (very often true). A high score indicates more psychiatric problems. Beside a total score, eight narrow band syndrome scales scores (withdrawn, somatic complaints, anxious/ depressed, social problems, thought problems, attention problems, rule-breaking behavior and aggressive behavior) can be calculated. From these scales two dimensions can also be calculated. The internalizing dimension consist of the subscales; withdrawn, somatic complaints and anxiety/depressed and the externalizing dimension consists of the rule-breaking and aggressive scales. The CBCL has been translated into Swedish and normative Swedish data has been published (Larsson & Frisk, 1999). Even if CBCL operates in a dimensional domain it has proven to be reliable in predicting clinical caseness. In a Danish study a total behaviour-problem score ≥ 35 turned out to be a sensitive cut-off score for clinical caseness (Bilenberg, Petersen, Hoerder, & Gillberg, 2005). In addition, DSM-oriented scales of the CBCL have also been developed (Achenbach et al., 2003).

The Strengths and Difficulties Questionnaire (SDQ) – is a brief broad-band questionnaire which is used to assess prosocial behaviour and psychological problems in children and youths aged 3 to 16 (Goodman, 2001). It has become widely spread and used by clinicians and researchers (Malmberg, Rydell, & Smedje, 2003). The SDQ consists of 25 statements, some positive and some negative and the respondents check the boxes for “Not true”, “Somewhat true” or “Certainly true”. As well as a total difficulties and a prosocial score, four narrow-band syndrome scales can be calculated: emotional symptoms, conduct, hyperactivity-inattention and peer problems. In addition to the one-page questionnaire there is also an extended version including an impact supplement where the respondent rates overall distress, social impairment, burden and chronicity (Goodman, 1999). An impact score can be calculated from the ratings of social impairment and distress. The SDQ has shown strong psychometric properties, with an internal consistency on the total difficulties and impact scores of .80 or greater (Goodman, 2001). A Swedish version of the SDQ also exists that has proven to work well, and normative data as well as clinical cut-off points have been published (Malmberg et al., 2003; Smedje, Broman, Hetta, & von Knorring, 1999). The SDQ and the CBCL have been shown to be highly correlated when compared (Bettge et al., 2002; Goodman & Scott, 1999). The SDQ has also proven to be reliable and useful in predicting diagnostic categories, (Goodman, Ford, Simmons, Gatward, & Meltzer, 2000; Goodman, Renfrew et al., 2000; Mathai, Anderson, & Bourne, 2004).

The Eyberg Child Behavior Inventory (ECBI) is a narrow band 36-item one-dimensional parent rating scale that is constructed to measure disruptive behaviour problems in children between 2 and 16 years. It has become widely used in research as well as in clinical practice (Burns & Patterson, 2000; Eyberg & Pincus, 1999; Gross et al., 2004). The ECBI contains two scales, the “Intensity scale” (IS) and the “Problem scale” (PS). On the IS the parents rate the frequency of the behaviour problem from “never happens” (1) to “always happens” (7), thus the IS can range from 36 to 252. On the PS the parents also report whether they perceive the specific behaviour as a problem or not (yes or no). The number of “yes-answers” is summed and constitutes “the problem index” ranging from 0 to 36. While the IS measures the severity of the child’s behaviour, the PS reflects the parents’ tolerance of the behaviour. McMahon and Estes (1997) have suggested that discrepancies between ratings on the intensity and problem scales may be a sign of parents’ reluctance to admit that the behaviour is a problem, or of intolerance, permissiveness or disengagement. The inventory was

developed in the late 1970's and it was first standardised for children in 1980 and for adolescents in 1983 (Eyberg & Robinson, 1983; Robinson, Eyberg, & Ross, 1980). It was re-standardized for both children and adolescents in 1999 (Colvin, Eyberg, & Adams, 1999). The ECBI has been shown to have good psychometric properties with an internal consistency of .95 (IS) and .93 (PS) (Eyberg & Pincus, 1999). It has also shown strong internal consistency within gender and age as well as among diverse ethnic groups (Colvin et al., 1999). The test – retest reliability (within a three week interval) was .86 (IS) and .88 (PS). In addition, moderate to strong cross – informant consistency between mothers' and fathers' ratings has been reported (.69 (IS), .61(PS)) (Eyberg & Pincus, 1999). In a study aiming to establish the concurrent validity of the ECBI the Child behaviour Check List (CBCL) was used as the criterion measure (Boggs, Eyberg, & Reynolds, 1990). The Spearman correlation coefficient between the ECBI IS and the CBCL internalizing and externalizing problem scales were .41 and .75. The authors found support for the validity of the ECBI, in that it showed a significantly higher correlation with the externalizing than with the internalizing scale. The high correlation between the latter scale and the ECBI might be an effect of the overlap between the two subscales of the CBCL. The discriminative validity of the ECBI has been demonstrated in various studies showing significant differences between non-referred, conduct problem, neglected and other clinic-referred children (Funderburk, Eyberg, Rich, & Behar, 2003).

The ECBI has been translated into several different languages including Chinese, German, Japanese, Korean, Norwegian, Russian, Spanish and now Swedish. Some normative studies of the ECBI have been published with some variations in the mean scores of the Intensity and Problem scales, e.g. in the USA (IS total mean 98.5 and PS total mean 6.7; Eyberg & Pincus 1999), Spain (96.8 and 3.9 respectively; Garcia-Tornel Florensa et al, 1998) and Norway (89.9 and 3.1, respectively (Reedtz et al., Submitted). However, Swedish normative data is still lacking.

The creators of the ECBI consider it a uni-dimensional measure of DBP (Colvin et al., 1999; Eyberg & Pincus, 1999). This has however been questioned (Burns & Patterson, 1991; 2000; McMahon & Estes, 1997). McMahon and Estes (1997) suggested that since the ECBI includes items that are indicative not only of ODD and CD, but also of ADHD, only items indicative of ODD and CD should be scored to obtain more homogenous samples of children. Burns and Patterson (2000) carried out an exploratory factor analysis (EFA) in an American

sample of 2 527 children. They found support for a four-factor model, including three clinically meaningful dimensions (Oppositional Defiant Behaviour Towards Adults (ODBTA), Inattentive Behaviour (InattB) and Conduct Problem Behaviour (CPB)) and a fourth unnamed factor that did not represent a meaningful dimension according to the authors. Afterwards they conducted a confirmatory factor analysis (CFA) to determine whether a three factor model represented a good fit. The fourth unnamed factor was excluded since it did not represent a clinically meaningful dimension. The usefulness of a three factor model based on 22 items was confirmed. Furthermore they proposed that the subscale Oppositional defiant behaviours towards adults was a better choice than the whole ECBI for identifying children who could benefit from parent training intervention and as a measure of children's compliance in parent-child interaction, an important outcome of parent training programmes. The Conduct problems scale was considered as particularly useful in determining the severity of the child's problem behaviour. Besides, the shorter 22-item version might be a practicable alternative to the 36-items version when the desired method of utilizing multiple measures of the same construct is carried out. However, the CFA of the 22-item version has not been replicated.

In sum, the ECBI has proven to be a useful measure for evaluating treatment outcome and for identification of disruptive behaviour problems. It has however not been standardised in Sweden and Swedish norms are lacking. This issue is addressed in Study III. In Study IV the confirmatory factor analysis of the 22-item version is replicated and, psychometric properties and Swedish norms are calculated.

Empirical studies

Study I

Aim

The aim of the first study was to develop and evaluate the effectiveness of the Collaboration model, which combines the specific treatment method Marte Meo with coordination meetings based on systemic theory and practice, as a tool for early detection and intervention in 4 to 12 year-old children with externalizing behaviour problems at school.

Method

One goal was to coordinate the work of professionals from various organizations who were involved in trying to help children who displayed Behaviour Management Problems (BMP) and their family. Thus the intervention was a collaborative systemic school-based model. The *Marte Meo* (MM) method was selected as the treatment model of choice in combination with “*coordination meetings*” (CM). A quasi-experimental design, with a non randomized comparison group was used for the evaluation of the Collaboration model. Treatment effects in the group who had received the intervention were compared with a group who had received treatment-as-usual in their ordinary school setting. Assessments were carried out before and two years after the intervention. The children (aged 4 to 12) all came from municipal-schools (intervention grup N=33, comparison group N=16). The questionnaires that were used to measure possible changes in children’s symptoms were *The Child Behaviour Checklist* (CBCL), *The Teacher’s Report Form* (TRF), *Conners’ 10 item Parents Rating Scale* (CPRS) and *Conners’ teacher rating scale* (CTRS). The CBCL and TRF are both parts of the ASEBA family of instruments (Achenbach & Rescorla, 2001). The CPRS and CTRS are two widely used versions of the ratings scales developed by Conners and colleagues (Barkley, 1988; Conners, 1969, 1973; Conners, Sitarenios, Parker, & Epstein, 1997; Goyette, Conners, & Ulrich, 1978). The 10 item version of the CPRS is an abbreviated version of the original 93-item version that consists of the ten most checked items by parents of hyperactive children. It overlaps with the 39-item teacher and has been proven reliable for the identification of hyperactive children (Kadesjö & Gillberg, 1998; Kadesjö, Kadesjö, Hägglöf, & Gillberg, 2001; Landgren, Pettersson, Kjellman, & Gillberg, 1996).

The questionnaires that were used to measure the parents’ experience of their psycho-social situation were the *Symptom Check List* (SCL-90) and *Sense of coherence* (SoC). These instruments are not included in the results but are brought up in the general discussion. The SCL-90 is a self report instrument of psychological and emotional symptoms in adults. (Derogatis, Lipman, & Covi, 1973). SCL-90 which has been translated to Swedish (Malling Andersen & Johansson, 1998) and normative Swedish data has been published (Fridell, Cesarec, Johansson, & Malling Andersen, 2002). The SoC is a self report that measures salutogenic factors that influence a person’s location on a health ease/disease continuum (Antonovsky, 1991, 1993).

Results

There was a significant decrease in symptoms closely related to antisocial behavior, in the intervention group but not in the comparison group. Furthermore there was no difference between parents' and teachers' ratings of boys vs. girls. The pre-post test effect sizes for the differences between the intervention and comparison groups were .50 on the CBCL total scores, .52 for CBCL internalizing, .37 for CBCL externalizing and .50 on the CPRS. There was a clinically significant decrease of symptoms in 50-54 % of the children in the intervention group compared to 23-33 % in the comparison group. In addition the effect sizes of the parent ratings were in the medium range in the intervention group but close to zero in the comparison group. The teachers of the intervention group reported a clinically significant decrease of symptoms of around 50 %, and effect sizes ranged from medium to large.

Discussion

The pre and post-test effect sizes indicate a rather strong result for a school-based intervention carried out in the children's ordinary school setting, when compared to other school-based interventions (Wilson, 2003). The fact that there were no drop-outs once the intervention had begun is important. The significant decrease in symptoms at home as well as in school is noteworthy, since children's behaviour is related to context, and the generalization of improvements in one context is not necessarily followed by improvement in another. The systemic approach in the coordination meetings may have contributed to this result. It is also possible that the combination of a more relative approach (CM) with a more normative one (MM) contributed to the fact that there were no drop outs. The normative approach was of great value to the staff who carried out the intervention at school, working directly with the child and his development, whilst the non-normative approach was more appropriate in the collaboration meetings, helpful in balancing and supporting the development of a constructive dialogue between parents, teachers and other helpers. Study I also shows that it is possible to work across the community institutional structures of school, social and psychiatric services, something that continues to be a challenge in school-based prevention research (Greenberg, 2004). It also demonstrates that co-operation between researchers and clinicians can be fruitful. The fact that both groups combined to work directly in the field, in order to meet a very real challenge, that of anti-social behavior in children, may have encouraged and supported the creative element in the development of the Collaboration model.

Study II

Aim

The aim of the second study was to evaluate the IYS Basic parenting groups, when first introduced in Sweden, using an open trial approach in diverse clinical settings. The evaluation was done with regard to the effects on (1) children's behaviour management problems (BMP) (2) children's psychiatric symptoms more generally (3) participating parents' psychiatric symptoms and general well-being. Since this is the first study of IYS in Sweden, an additional objective was to evaluate "consumer satisfaction", that is, how the programme was received by the participating parents.

Method

After the training in IYS Basic, conducted by a certified trainer, the participating teams undertook an assignment to follow the IYS Basic manual and participate in group-supervision. Parents (109 mothers and 48 fathers) of 113 children (37 girls and 76 boys) aged 3-9 years were recruited to the parent training groups through the group leader's ordinary services, i.e. social welfare agencies and child- and adolescent psychiatric services. Ten different sites participated in the study. Data was collected before the onset of the parent-training group (pre), and immediately after the completion of the programme (post). The inclusion criteria were: (a) the parents agreed to participate in the study, (b) the professionals at the various sites made a clinical judgement that the children displayed behaviour management problems and (c) the parents understood the Swedish language enough to complete the forms. In addition to the inventories that were used in Study I (CBCL, CPRS, SCL-90) the *Ladder of life* which assesses past, present and expected future ratings of overall life satisfaction was used (Wiklund et al., 1992). The 13-item version of *Sense of coherence* was used in Study II. Swedish normative data has been published (Olsson & Hwang, 2002). The *Incredible Years Parent Program Satisfaction Questionnaire BASIC Parent Program* (Webster-Stratton, 2001) was used to evaluate "consumer satisfaction".

Results

There were statistically significant changes in fathers' as well as mothers' CBCL ratings on Internalizing, Externalizing, and total problems as well as on CPRS. The effect sizes ranged from .34 to .69. The clinically significant improvement ranged between 40 % and 60 %. There was no difference in outcome between boys and girls or between the different age-

groups (3-5, 6-7, 8-9 yrs) in terms of symptom reduction. Also when an Intent To Treat (ITT) design was used the solid statistically significant difference between pre and post remained. There was a significant change, for the better, in mothers' and fathers' ratings on SCL-90 as well as on SoC-13. The parents also expressed more optimism about their future overall life situation in the post ratings. The better the mothers experienced their psychological health and or their sense of coherence the better the outcome in terms of children's symptom reduction. No such significant correlation was found between the fathers' ratings and these outcome measures. Ninety-seven per cent of the parents had a "positive" (31%) or "very positive" (66%) overall rating of the treatment programme for their child and family and 88 % of the parents had experienced that the major problems that had prompted them to begin treatment for their child had "improved" (40%) or "greatly improved" (44%).

Discussion

The results indicate that IYS is an effective method for treating children's BMP in a Swedish clinical context. The decrease in children's symptoms is highly significant. There is also a significant change for the better in the well-being of the parents, which is in line with the finding that the short-term psychosocial health of mothers seems be promoted by participating in the parent-training programme (Barlow & Coren, 2003). Parents were also more optimistic about the future which is of importance, since general expectations about the future have proven to be of significance for how well people can cope with different stressors (Ey et al., 2005). The parents reported that the parent training groups were helpful and that they were very satisfied with the content as well as the manner in which the training had been carried out.

Study III

Aim

As part of an ongoing evaluation study of the Incredible Years Parent Training Program in the county of Skaraborg in Sweden a normative study of the ECBI was carried out. The aim of the study was to examine the Swedish version of the ECBI with regard to: (a) validity and reliability (b) norms in a Swedish sample (c) correspondence between mothers' and fathers' ratings and (d) test-retest reliability.

Method

After translation and back translation of the ECBI it was sent to 1500 randomly selected custodians of children aged 3 to 10 together with the SDQ and a Background form. Ten days after the first call, a reminder was sent out. Finally, in the last call two months after the first call, a new letter was sent with the ECBI and the background form. The ECBI was again sent to the 120 first parents who had responded to the initial letter in order to be able to estimate the test-retest reliability. The response rate on the ECBI IS was 56 % (N = 841) and on the PS (52%) (N = 783). The sample was broadly representative of the total population in the county of Skaraborg, except for educational level which seemed to somewhat higher in the sample. *The Strengths and Difficulties Questionnaire* (SDQ) was used for the validation of the ECBI.

Results

The internal consistency of the Intensity scale (Cronbach's alpha) was .94 and of the problem scales .92. The item-total correlations were in general within the "large range" (>.50). However, item 36 ("wets in bed") and 21 ("steals") display small item-total correlations (.23 and .26 respectively). The test-retest correlations were .88 on the Intensity scale (Pearson r) and .67 on the Problem scale (Spearman's rho). The correlations between mother and father's ratings were highly significant. There was no statistically significant difference between mother's and father's ratings on the Intensity scale. However, there was a statistically significant difference on the Problem scale with fathers rating children's behaviour as less problematic. The ECBI was significantly better at identifying children with problems in the conduct and hyperactivity-inattentiveness areas than emotional problems. The correlation between the ECBI Intensity scale and a combination of the SDQ "Conduct problems" and "Hyperactivity-inattention" scales was .72 (N = 442, $p < .001$) whereas the correlation with the emotional problem scale was .38. (N = 442, $p < .001$). The mean score of the ECBI II was 88.2 (N = 841, SD = 26.0) and PS 3.1 (N = 783, SD = 5.03). Preschoolers scored higher on the IS ($t = -2.76$, $p < .01$) as well as on the PS ($U = 67407.000$, $p < .01$) than school aged children. Preschool boys scored higher than girls on the IS ($t = -2.76$, $p < .01$). The most common behaviours were "gets angry when doesn't get own way" (12), "verbally fights sisters and brothers" (25), "slow in getting ready for bed" (6), "dawdles in getting dressed" (1), whereas the behaviours that the parents considered most problematic when present were "hits parents" (18), "steals" (21), "wets in bed" (36), "refuses to obey until threatened with punishment" (9). The ECBI IS score was not related to any of the background variables. Some statistically significant differences were however, found on the problem scale. Parents of

children who did not live with both their biological parents or children whose parents were born outside Sweden, or parents with a lower educational level perceived more problems ($U = 5579, p < .01$; $U = 18640.5, p < .001$; $U = 34499.5, p = .01$ respectively).

Discussion

The ECBI also seems to work well in a Swedish context. Three items, however, raise some questions. It is suggested that the Swedish version of the ECBI may benefit from excluding item 36 and to compensate for low scores on items 25 and 27 if the child does not have siblings. The Swedish ECBI IS total mean was significantly lower than the American ($t = 6.20, p < .01$), but not compared to the Norwegian, which is consistent with findings from other studies (Rescorla et al., In review). The sample seems to be acceptably representative of the county of Skaraborg. When compared to the whole country of Sweden the scores might be slightly too low since Skaraborg is a geographical area with no large cities

Some of the most common behaviours are rated as not very problematic while some of the behaviours that are very rare are considered very problematic which might indicate the usefulness of an algorithm that takes the scores on the IS as well as on the PS into account to predict possible psychiatric symptoms. No differences were found on the IS with regard to the background variables. However, parents of children who did not live with both their biological parents or children whose parents were born outside Sweden, or parents with a lower educational level perceived more problems. This might indicate the existence of underlying mediating factors that affect whether behaviour is perceived as a problem or not (for example social support).

Study IV

Aim

The aim of the fourth study was to (a) test a previously published three factor solution of the 22-item version of the ECBI in a Swedish sample, using a confirmatory factor analysis (CFA), (b) present preliminary Swedish norms of the 22-item version and (c) perform a preliminary validation of the 22-item version.

Method

In study IV the same sample ($N = 841$) and measures (ECBI, SDQ and Background form) as in study III were used. However, from the original 36 item version of ECBI a three-factor model based on 22 items suggested by Burns and Patterson (2000) was used. The three clinically meaningful dimensions in this model were Oppositional Defiant Behaviour Towards Adults (ODBTA; 10 items), Inattentive Behaviour (InattB; 4 items) and Conduct Problem Behaviour (CPB; 8 items). A Confirmatory Factor Analysis (CFA) was carried out on the 22-item version of ECBI. Different indices were used to evaluate the model fit: the normed chi-square (normed χ^2), comparative fit index (CFI) and the root mean square error of approximation (RMSEA). Indications of an acceptable fit between the observed data and the model are for the normed χ^2 values over 1.0 but below 5.0 (Byström, Johansson Hanse, & Kjellberg, 2004; Kline, 2005), CFI higher than .90 and RMSEA below .08 (Kline, 2005). The Modification Index (MI) has been used for detection of feasible improvements of the model. MI has been used to measure the reduction of the χ^2 when a specific change in the model is applied.

Results

The internal consistency was high on the ECBI Intensity scale total score (Cronbach alpha = .92,) as well as on the subscales ODBTA and InattB (alpha = .91, and .92 respectively.), but somewhat lower on the CPB scale (.73). The different model fit indices indicated an acceptable fit ($\chi^2 = 961.02$; $DF=204$; $p < .001$; Normed $\chi^2 = 4.71$, RMSEA = .066; CFI = .92) in the second run of the CFA in which the model was respecified for two correlated errors. All the paths (factor loadings) in the measurement models were statistically significant. The correlations between the total intensity scales of the 36 version and 22 items total, oppositional defiant, inattentive, conduct problems behaviour scores were .97, .90, .75 and .73 respectively. The IS-22 mean total score was 51.5 (SD =16.7), ODBTA 26.0 (9.7), InattB 9.8 (4.8) and CPB 15.6 (5.1). Preschoolers displayed significantly higher scores than children in their early school years on the total ($t = 3.90$, $p < .001$), ODBTA ($t = 4.74$, $p < .001$), and CPB scales ($t = 2.32$, $p < .05$). There was also a clear difference between girls and boys (3-10 years, girls lower scores) on the total ($t = -3.38$, $p < .01$) InattB ($t = -3.01$, $p < .01$) and CPB scales ($t = 5.04$, $p < .001$). The correlation (Pearson r) between the total ECBI-22 score and a combination of the SDQ “conduct problems” and “hyperactivity-inattention” scales was .73 ($N=442$, $p < .001$), but only .34 ($N=442$, $p < .001$) between the ECBI-22 and the

emotional problems scale. The difference between the correlation coefficients was highly significant ($Z = 8.51$ $p < .001$).

Discussion

The 22-item version of the ECBI shows good psychometric properties in the Swedish sample. There are some striking similarities between the American and Swedish models. The model fit indices of the American and Swedish samples are almost identical. Furthermore, the significant improvements of the model, indicated by the MI, were identical to those of Burns and Patterson (2000). There was a very high correlation between the total scores of the different versions of the ECBI (36 and 22 items) and the validity seems to be at least as good for the ECBI-22 as for the ECBI-36 when compared to the SDQ.

In conclusion the shorter version of the ECBI seems to be a robust and useful alternative for measuring treatment outcome, unless one wants to compare with other studies where the ECBI-36 has been used

General discussion

Early identification and proper interventions for children who display disruptive behaviour problems are important issues. Besides reducing suffering and future problems for the child and people in her /his environment, early interventions also offer the possibility of large economic savings for society. Utilizing a socio-economic model it was calculated, in the report "Tänk långsiktigt", that 3.400 - 6.900 (depending on the discount costs) sets of parents could receive supportive parent training for the cost of one case of substance abuse in adult life (Tänk långsiktigt [Think long term], The Swedish National Agency of education, The National Board of Health and Welfare, Swedish National Institute of Public Health, 2004).

The Eyberg child behaviour inventory (ECBI) is a widely spread measure for treatment evaluation as well as in research. It has also proven to be useful in identification of children with disruptive behaviour disorders. In the present thesis it was demonstrated that the ECBI, the full original version as well as the abbreviated 22-item version, seem to be robust and useful instruments with sound psychometric properties in a Swedish context too. Some modifications are however suggested. The same sample was used in Study III and IV. A limitation of these studies is that the response rate was only 56 %. This raises a question of

how representative the sample is. In the last decades there has been an increase in subjects who do not respond to surveys of this kind which increases the risk of non-response bias (Gerrits, van den Oord, & Voogt, 2001). It has for example been argued that even with a high participation rate the prevalence of psychiatric problems is much higher among non-participants (Posserud, Lundervold, & Gillberg, 2006). To reach a scientifically acceptable level, a minimum response rate of 50 % has been suggested (Mangione, 1995), and in the present study we passed that limit. Gerrits and colleagues (2001) argue however, that this guideline lacks empirical support. When the group of non-respondents is large, it probably include groups with systematic (i.e. participants with more psychiatric problems) as well as non-systematic (e.g. participants who don't like to fill in questionnaires, forgets, have not enough time etc) bias. Thus, the group of nonresponders becomes more heterogeneous and may on the whole resemble the group of responders. Hence, the systematic bias of non-responders on the results might actually be smaller with a lower response rate. As a consequence other measures of representativeness are suggested. When compared to the population of Skaraborg, the sample seems to be broadly representative, except for educational level where the parents of the present sample seem to have a somewhat higher level of education than the wider population of Skaraborg. When respondents to the first wave of letters were compared to those who responded only to the final wave, no difference was found which also indicates that the sample is broadly representative of the local population. The Swedish norms of the ECBI were significantly lower than the American but did not differ from the Norwegian norm which is in line with previous studies.

Since parents seem to be more reluctant to respond to surveys nowadays it is important to decrease the amount of items to be answered, and thus the time-load for the respondent, without losing crucial information. Besides the advantages of being shorter than the 36-item version, the 22-item version also seems to be more distinct in examining disruptive behaviours. In their exploratory factor analysis Burns and Patterson (2000) found a latent variable which they considered not to represent a meaningful dimension. It is possible that some of the items that are excluded from the 22-item version loaded on emotional problems, which might explain the more salient difference between girls and boys in the 22-item version compared to the 36-item version. This ought to be examined in a study with a clinical sample. In addition, the original hypothesis of Burns and Patterson (2000) that the subscale ODBTA indicates who might benefit from parent training, whereas the subscale CPB indicates severity of problems should be put under trial in a clinical sample.

Even if early detection and intervention are important there are also some concerns about the screening process. One question regards sensitivity vs. specificity, that is to balance between as many true positives (people who do have problems) as possible and at the same time as few false positives (people who do not have problems) as possible in the screening process. Will many people who are actually not in need of help receive the intervention? Is there any risk of stigmatization? Not much research has been done about potential stigmatization effects of parent training programs (Hill et al., 2004). Aggressive, disruptive behaviour is common among two year olds. However, at about four years of age it declines and thus it becomes possible to identify children “with” different developmental trajectories. This illustrates that the timing of screening is important (Gross et al., 2004). Different studies have shown a higher accuracy in screening children in their early school years than of preschool children (Bennett & Offord, 2001; Hill et al., 2004). Teacher ratings alone have shown to have high predictive value of later externalizing and delinquent behaviour (Hill et al., 2004). However, multiple-rater (teacher *and* parent) methods have proven to be even better.

The next question is which interventions can be offered after the screening? Are appropriate resources available to help and support the child and family, if the screening shows that the child is at risk for later problems? There might also be a risk that the child’s behaviour becomes worse if she or he is a “false positive” and receives inappropriate interventions (Hill et al., 2004).

Among interventions for children with DBP, there is evidence that parent training programmes are effective for children aged 3 - 12 years, and especially for children below 10 years of age (Brestan & Eyberg, 1998; Chronis et al., 2004; Scott, 2002; Weisz & Jensen, 2001). For children below three, parent training also seem to be an effective intervention, but only a few studies have been carried out and more studies are needed to confirm the results (Barlow & Parsons, 2005). Today there are different parent training programmes, of which the best evaluated is the Incredible Years. The different programmes differ in scope, however (i.e. primary, secondary and tertiary preventive or treatment), and it would be of great use if the various programmes were evaluated in the specific contexts where they are supposed to be carried out. Even though the results of the parent training groups are impressive, it is also evident that for a rather large group of children additional interventions are needed. The IYS include two such additions: the *The Dinosaur School*, (a group treatment for children aged 4

– 8) and *The Teacher Classroom Management Training program* (Webster-Stratton, 2000; Webster-Stratton & Hammond, 1997). In the Dinosaur programme the children are trained in social skills, anger control, and problem-solving as well as social perspective-taking techniques. The Dinosaur School is based partly on video recorded elements, where children look at different video-clips of conflict situations together with the group leaders, and then discuss and role play different ways to solve these situations. An important ingredient in the method is the use of two large hand puppets that are used to express thoughts and emotions which children can find it difficult to describe. The Dinosaur programme is adapted for use in both a clinical and a class-room setting. Besides the fact that some children need training on their own as a complement to their parents participating in the parent training programmes, the Dinosaur School also offers a possibility to help children whose parents or foster parents do not engage in parent training. The teacher training programme aims at strengthening teachers' classroom management strategies, to promote children's pro-social behaviour and school readiness and to strengthen the link between home and school (Webster-Stratton & Reid, 2002). The programme is not directed towards working with a specific child, but rather to enhance teachers' ability to deal with children's BMP more generally. When the parent training programs are combined with children and/or teacher training the results in terms of symptom reduction improve (Webster-Stratton & Taylor, 2001). In Study I the development of a systemic school based intervention was examined. Besides the benefits and need of developing interventions that can be delivered outside the traditional clinical settings for children who do not come in contact with social and psychiatric services, school interventions, when effective, can be very cost effective. Teachers, who increase their skills managing DBP in the classroom, do of course use these skills not only in regard to the child in focus but also to other children in the present or future classes. An increase in the teachers' capacity to promote social and emotional development in a disrupted child is also likely to generalize with regard to other children. A comment from some of teachers who were involved in study II was that the Marte Meo intervention was some of the best advanced training they had received.

The results of Study I and II are promising and may contribute to the "cautious optimism" that has grown among researchers and clinicians in the last two decades. They have indicated that it is possible to promote sizable changes in a substantial subgroup of children who are described as hard to reach and treat. Rutter (1998) however concluded that even though it is possible to reduce delinquent behaviour by various interventions there is reason not to have

too high expectations, since the reduction of delinquency in successful interventions has only been around 12%.

Even if formal diagnostic criteria were not used, the children's psychiatric symptoms score were within the clinical range on the dimensional scales used in both studies. The direction of the change is clear through the fact that considerably more of the children are within the "normal range" in their post-ratings, but still a large number of children are rated at a clinical level in their post-ratings which calls for the need of additional interventions. Neither of the intervention studies in the present thesis was conducted in a randomized controlled trial format which implies that the results should be taken cautiously. The first study uses a quasi-experimental design with a non-randomized control group. The second has a pre-experimental design with pre and post-treatment ratings of different groups that have participated in the IYS Basic parenting training groups. There was no control group in the second study, thus the first study has a higher level of evidence than the second (See for instance: Geddes, 1999; Singh & Oswald, 2004). It can even be questioned if it is appropriate to use the term "evaluation" in study II. However, a benefit of both studies is that the interventions were carried out in the context where they are supposed to be used in the future, which might help to bridge the gap between research and clinical practice. This might also help professional to find them more useful. Both studies share more of the characteristics of what Weisz and colleagues describe as Clinical Therapy Research in comparison to Research Therapy (Weisz et al., 1995). An overview of the modal Characteristics of Research and Clinical Therapy and Study I and II are displayed in Table 1.

Table 1, Characteristics of Research and Clinic Therapy Research and Study I & II

	Research therapy	Clinic therapy	Study I	Study II
Subjects	Recruited	Clinic-referred	Referred	Referred
Group	Homogenous	Heterogeneous	Heterogeneous	Heterogeneous
Problem focus	Narrow	Broad	Broad (DBP)	Broad (DBP)
Research context	Laboratory	Clinics or hospitals	Preschool/ primary school	Psychiatric and/or social services
Treatment by	Researchers-assistants	Clinicians	Clinicians/ Teachers	Clinicians
Therapist case load	Small	Large	Large	Large
Pre treatment preparation	Exhaustive	Limited	Exhaustive(MM)/ Limited (CM)	Limited
Number of session	Fixed	Fewer limits	No limits	Fixed
Treatment method	Single focus	Multimethod, eclectic	Multimethod (MM and CM)	Singel (IYS)
Type of Intervention	Behavioural	Nonbehavioural	Behavioural (MM)/Non-behavioural (CM)	Behavioural

Weisz and colleagues showed that whereas studies in research-oriented contexts display a typical effect size of .07, the effect size of studies in a clinical context are commonly less than .02 (Weisz et al., 1995). Thus it is important to evaluate effectiveness as well as efficacy when new models are developed. It is certainly questionable if a trial should be done when the group leaders are not yet fully trained and certified in the model, as was the case in Study II, since it might be a threat to the model fidelity, which is an important factor in implementing and practicing manualized evidence based treatments. However the trial resembles the conditions in which the model probably will be used in various clinical contexts most closely, and hence it is an appropriate complement to more stringent studies conducted in an academic research environment. Comparisons of Study II and other IYS studies should also be made cautiously since the children in the present study have been selected based on a clinical assessment that they display disruptive behaviour problems and not on explicit diagnostic criteria of CD or ODD. Their total scores on CBCL were however high, indicating large symptom loads. In addition eighty-one per cent of the children fulfilled the criterion of clinical caseness as suggested by Bilenberg and colleagues (2005). In study II the parents reported significant decreases in problems. However, little is known about generalisations of these improvements, and research suggests that the generalisation effects between different contexts are limited. In light of this, the parents' and teachers' reports of significant decreases

in symptoms at home as well as in school in Study I is noteworthy. We can only speculate about whether this was a result of the fact that there is more of a generalizing effect from an intervention at school on behavior at home than vice versa or whether it was an effect of the systemic work conducted at the coordination meetings.

The need for the development of school-based models has become more evident in recent research. It is also noteworthy that the children in Study I have been rated as having symptom loads on CBCL and CPRS quite comparable with various clinical groups (Botella, Hansen, Janzén, & Thunman, 1995; Kadesjö, 2000) though they were recruited for the intervention at school. This strengthens the argument in favor of the need for school-based interventions as a complement to the clinical services, and urges us to continue to develop treatment models that can be practiced in various settings. Another argument (that is not reported) is that in Study I the mothers rated themselves within the normal range on SCL-90 and SoC while mothers of children attending the child- and adolescent psychiatric services in general have lower ratings on SoC than a normal group (Hansson & Olsson, 2001), and higher ratings on SCL-90 (Botella et al., 1995). It seems as if it has been possible to treat children with heavy symptom loads, whose parents do not themselves feel too worn out or loaded with symptoms, within their normal setting. It is probably much more favourable to promote change under these circumstances. In addition the results also raise an interesting question regarding the children who attend the psychiatric child- and youth services. Maybe becoming a child psychiatric patient is not so much a question of the child's symptom load, as a question of the caregivers' psycho-social situation.

There are some obvious limitations to the intervention studies. First, they were non-randomized, which implies that the results should be taken cautiously. Second, only paper - and - pen measures have been used, which is not fully adequate for exploring and validating such complex interventions. There was, for example a discrepancy between the measures being used in study II and one of the aims of the treatment model. One aim was to promote a more positive parenting behaviour but the paper and pen measures that were used focused largely on symptom change. Observation of parent-child interaction might be a valuable addition to the measures used. In spite of these limitations the intervention studies show that it is possible to promote sizable changes in a substantial subgroup of children who are described as hard to reach and treat.

Finally, it is also interesting to note that many of the guiding principles that are used in the parent training were already spelled out in the thinking of the staff at Skå (i.e. a collaborative approach, building on parents' resources, pedagogical elements, learning how to help the children with their homework, how to play with the children, practical advices on how to take care of children, breaking the isolation of the families, and giving the parents practical problem solving skills). Maybe the difference is not *what* to do, but *how* to do it. Today there is a broad agreement that putting children and adolescents with various degrees of DBP together leads to so called deviancy training and thereby increase the risk of iatrogenic effects (Dodge, Dishion, & Lansford, 2006; Snyder, Schrepferman et al., 2005). Thus, the progress that has been made in understanding the complexity of the development of DBP in the past decades has indeed paved the way for tailoring more stringent measures and developing more effective interventions. This is especially true for interventions directed towards the child's environment (parents, teachers and others interacting with children with DBP) in order not to reinforce problematic behaviours.

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