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Warriors and Worriers

*Development, Protective and Exacerbating Factors
in Children with Behavior Problems. A Study Across
the First Six Years of School*

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Abstract

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Various aspects of elementary school children's behavior problems were investigated in four studies. In Study I, teachers' perceived low control over the classroom situation and a custodial teacher orientation were associated with teachers' (n = 86) preferences for authoritarian strategies (e.g., firm commands) in handling externalizing child behavior problems. Further, perceived high control and a humanistic teacher orientation were associated with non-authoritarian strategies (e.g., reasoning with students). In Study II, the aim was to investigate prospectively teacher-child interactions and teacher-child perceptions of the relationship between children with externalizing (n=26) and internalizing (n=25) behavior problems and unproblematic children (n=44) in the first grade. Children with behavior problems had a higher frequency of negative teacher relationships than unproblematic children. Observed conflictual children-teacher interactions contributed to negative teacher relationships independent of problem status. The moderating effects of social competence were small. In Study III, the principal aim was to investigate whether the children's social competence, relationships with teachers and behavior with peers functioned as protective or exacerbating factors regarding the adaptation of children with behavior problems. Children with externalizing and internalizing behavior problems, in comparison with unproblematic children, were lower in social competence, school achievement and peer acceptance in sixth grade. There were moderating and independent effects of social competence and teacher and peer relationships on outcomes, but these were mainly restricted to those children with internalizing problems. The primary aim of Study IV was to investigate the social and school adjustment of six-grade children experiencing feelings of loneliness and low peer acceptance. Totally, 808 children participated, and 323 of these children had been followed from grade 1 to grade 6. The results indicated that loneliness was most strongly predicted by early internalizing problems, whereas poor acceptance was predicted by early externalizing problems and poor social competence. Associations between loneliness and low peer acceptance and other adjustment difficulties were also observed. In conclusion, children with behavior problems risk negative relationships as well as other adjustment problems. Early interventions are important in strengthening the protective factors.

Keywords: Externalizing behavior problems, Internalizing behavior problems, Social competence, Self-esteem, Teacher-child relationships, Peer relationships, School achievement, Loneliness, Teacher strategies

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List of papers

The present thesis is based on the following studies, which will be referred to in the text by their Roman numerals:

- I Rydell, A-M. & Henricsson, L. (2004). Elementary school teachers' strategies to handle externalizing classroom behavior. A study of relations between perceived control, teacher orientation and strategy preferences. *Scandinavian Journal of Psychology*, 45, 93-102
- II Henricsson L. & Rydell A-M. (2004). Elementary school children with behavior problems: Teacher-child relations and self-perception. A prospective study. *Merrill Palmer Quarterly*, 50, 111-138.
- III Henricsson L. & Rydell A-M. (In press). Children with behavior problems: The influence of social competence and social relations on problem stability, school achievement and peer acceptance across the first six years of school. *Infant and Child Development*.
- IV Henricsson, L., Nyberg, L., & Rydell, A-M. (2006). Self-perceived loneliness and social acceptance by peers: Adjustment and early predictors. Manuscript submitted for publication.

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Contents

| | |
|---|----|
| INTRODUCTION | 9 |
| The present studies | 10 |
| A. Risk, resilience, and protective factors | 11 |
| Risk and exacerbating factors | 11 |
| Protective factors | 12 |
| B. Behavior problems and maladjustment | 14 |
| Externalizing behavior problems | 15 |
| Internalizing behavior problems | 20 |
| Behavior problems and children's self-perceptions | 25 |
| Behavior problems and school adjustment | 27 |
| C. Teacher classroom strategies, teacher relationships, and children behavior problems | 29 |
| Teacher strategies | 29 |
| Teacher-Child Relationships | 31 |
| D. Social competence | 34 |
| E. Peer relationships | 35 |
| Peer acceptance | 36 |
| Loneliness | 39 |
| Summary | 42 |
| Aims of the thesis | 44 |
| THE EMPIRICAL STUDIES | 46 |
| Methods | 46 |
| Participants and procedures | 46 |
| Measures | 51 |
| Teacher orientation | 51 |
| Teacher perceived control | 51 |
| Teacher strategies | 52 |
| Observed teacher behavior | 53 |
| Behavior problems CBQ | 53 |
| Social Competence SCI | 54 |
| Teacher-child relationships | 54 |
| Peer relationships | 55 |
| Self-perception | 56 |
| School adjustment | 57 |

| | |
|--|-----|
| Study I | 59 |
| Background and aims | 59 |
| Results | 60 |
| Conclusions | 62 |
| Study II..... | 63 |
| Background and aims | 63 |
| Statistical analyses..... | 64 |
| Results | 65 |
| Conclusions | 68 |
| Study III | 68 |
| Background and aims | 68 |
| Statistical analyses..... | 69 |
| Results | 69 |
| Conclusions | 73 |
| Study IV | 74 |
| Background and aims | 74 |
| Statistical Analyses..... | 75 |
| Results | 76 |
| Conclusions | 81 |
| GENERAL DISCUSSION | 82 |
| Teacher strategies in handling problem behaviors | 83 |
| What makes a teacher effective? | 84 |
| Behavior problems, relationships, and adjustment..... | 86 |
| Behavior problems and stability | 86 |
| Behavior problems and relationships..... | 87 |
| Behavior problems and self-perceptions..... | 91 |
| Behavior problems and school adjustment | 93 |
| A note on gender differences..... | 94 |
| Risk and protective factors | 95 |
| Risk factors | 95 |
| Protective factors | 97 |
| Interventions in school settings | 99 |
| Methodological issues | 100 |
| Strengths and limitations | 100 |
| Directions for future research..... | 104 |
| Acknowledgements..... | 106 |
| References..... | 107 |

Abbreviations

| | |
|--------|--|
| ANOVA | Analysis of variance |
| APA | American Psychiatric Association |
| BAS | Behavioral activation system |
| BIS | Behavioral inhibition system |
| CBQ | Children behavior questionnaire |
| CD | Conduct disorder |
| DSM IV | Diagnostic and statistical manual of mental disorders, 4 th edition |
| ECF | Executive cognitive functioning |
| GLM | General linear model |
| JTJA | How I am (Jag tycker jag är) |
| LSDQ | Loneliness and social dissatisfaction questionnaire for young children |
| ODD | Oppositional defiant disorder |
| PDI | Parental discipline interview |
| SAS | Statistical analysis system |
| SES | Socioeconomic status |
| SCI | Social competence inventory |
| SIS | Social impact score |
| SLAQ | Liking and avoidance questionnaire |
| SPS | Social status score |
| STRS | Student-teacher relationship scale |
| TLOC | Teacher locus of control |

Children come to school with different mental equipments, abilities and experiences. Some children have already their hearts filled with many hard and heavy experiences and they do not dare to believe that good things will happen to them. Perhaps they enter the school doors with both fear and anger from the very first moment looking for signals that confirm their negative expectations. Small bits of actual frustration might evoke accumulated feelings from earlier negative experiences, and the child's reaction could therefore include them all. They are at risk of becoming warriors. Some other children are perhaps filled with uncertainty and who easily have feelings of distress, continuously asking themselves who likes them or wants to associate with them. Who notices these children's silent messages? Even small signals of hesitation from others may be interpreted negatively, and the child may answer with further withdrawal. They are at risk of becoming worriers. Some children get their first hard and heavy experience of life in school.

The teachers and their colleagues are the most important of the professionals in the schools with responsibilities not only to teach but also to understand and care for the children and to help and support them in their development to become well-behaving, democratic, and good citizens of the world. Children differ from each other: they have different dreams and longings, but every child wants to be accepted, respected, and loved. Furthermore, everyone has the same rights to a good, prosperous, and decent life. Let us therefore work together to understand, encourage, and confirm every single child and to support all the children in the joy of living.

INTRODUCTION

When children enter the school world, they have to face many interpersonal, physical and academic challenges. Moreover, they must adapt to new roles, expectations, and ways to behave in order to adapt successfully to school. The adaptation has many faces: social, relational, emotional, behavioral, and academic. One important expression of this adaptation is well-functioning relations, both to teachers and peers. Interacting with others and building positive interpersonal relations are important developmental tasks for the child who starts school and they are connected to the development of the child's self-perceptions. Positive self-perceptions make it easier to develop good interpersonal relations. Accordingly, when a child has positive relations with teachers and peers, these will strengthen his or her self-esteem. However, there is growing evidence that the number of children with behavior problems is increasing (e.g., Fombonne, 1995; Rutter & Smith, 1995). Research has also shown that most children with ubiquitous disorders in the adolescence period have been identified as having behavior problems already at the preschool age (Loeber, 1990; Quentin, Rutter, Gulliver, 1990; Robins & Price, 1991; Tremblay, Pihl, Vitaro, Dobkin, 1994). Early behavior problems can start vicious circles, where these problems may lead to other problems such as learning difficulties, a lower self-esteem, and relational problems (e.g., Belsky & MacKinnon, 1994; Wentzel, 1994a).

What then matters of the experiences a child makes from first grade in school to the last? From recent research, it is already known that, e.g., children's early relationship experiences with teachers (e.g., Birch & Ladd, 1997; Pianta & Walsh, 1996) and peers (e.g., Ladd & Kochenderfer-Ladd, 2002) influence their adaptation to school, and naturally, these relationships, at least partly, are dependent on the children's own behaviors. Adapted child behaviors, together with good intellectual capacities and positive curiosity for school subjects, make it easier for teachers to relate and teach. Likewise, disturbing, inattentive or angry behavior will likely have the opposite effect. Sometimes it is taken for granted that every child stands in a more or less similar new situation with the same requirements of behaviors and intellectual capacities when he or she first enters school. However, we know that many factors play a role for how the individual child behaves and functions. Children differ from each other and so do their families in genetic, biological, psychological, and social factors. When analyzing children's different be-

havioral styles and their relationships, we have to be conscious of the small part of the children's world and experiences we are able to study at each point in time.

The present studies

During the past two decades, a large amount of research has been conducted, especially about children with externalizing behavior problems and attention deficit/hyperactivity disorders/ADHD (e.g., Barkley, 1998). However, much less is known about children with internalizing behavior problems. Recognition of differences in children's developmental pathways has heightened the importance of identifying factors associated with increased probability for adjustment and maladjustment. However, only a few studies have hitherto focused on this problem over the early elementary grades (Ackerman, Brown, & Izard, 2003).

Four studies provide the empirical basis of this thesis. The focus is on children in elementary school with behavior problems, their teachers and peers. One general aim was to study development and adjustment of children with early externalizing and internalizing behavior problems, and if social competence, teacher-child and peer relationships could be functioning as protective or exacerbating factors for these children. The data were prospectively collected when children progressed from grades 1 to 6. In particular, many teachers experience externalizing children behaviors difficult to handle. Planned strategies are assumed to influence behaviors. Thus, one objective was to investigate how elementary school teachers evaluate their strategy preferences in problematic classroom situations, how possible differences between teachers could be explained, and how strategies and teacher behaviors in the classroom were associated (Study I). Both teachers and children's behaviors might influence not only the quality of the relationships that are developed but also children's later social and emotional adjustment. The following studies were therefore aimed to investigate: teacher-child relations in terms of class-room interactions and perceptions of the relationship; children's self-perception for children who were identified as having externalizing or internalizing behavior problems in first grade as compared with unproblematic children and to each other (Study II); and how teacher relations and peer behaviors were associated with behavior problem stability, school achievement and peer acceptance (Study III). Furthermore, various aspects of concurrent social and school adjustment as well as predictors in terms of early externalizing and, internalizing behaviors were examined in children reporting loneliness or not being well accepted by peers in grade 6. A final important aim was to investigate whether social competence could function as a protective factor in children with early behavior problems with regard to problem stability, social relations, peer acceptance and loneliness, and school achievement (Studies II-IV).

A. Risk, resilience, and protective factors

When studying children's development and adjustment one fruitful way is to clarify the risk and protective factors, as well as what could give resilience for children living in risky environments or performing risky behaviors. Resilience refers to a process in which children develop normally despite exposure to risk factors (e.g., Egeland, Carlson, & Sroufe, 1993; Luthar & Cicchetti, 2000; Rutter, 1990). Some authors have claimed that children can become well adjusted even under extremely difficult conditions (Werner & Smith, 1982), whereas others suggest that the necessary combination of serious risk and high self-competence is rather infrequent (Luthar, Cicchetti, & Becker, 2000). Resilience and *protective factors* are intimately related. Protective factors are those circumstances that reduce the impact of risk factors on adjustment outcomes. Protective factors could function in several ways: for instance, by directly reducing problems, by preventing risky states to develop, or by influencing the effects of risk factors, either in direct interaction with the risk factor or by a change between a risk and a negative outcome (Coie, Watt, West, Hawkins, Asarnow, et al., 1993). Thus, a protective factor might be functioning as a buffer against risk experiences, or a factor that changes the effects of risk exposure from a negative outcome to one that is more positive. Different models or perspectives could be used in explaining why and how, e.g., a child develops a specific behavior. The Diathesis-Stress model proposes that individual and environmental factors are interacting, and that a healthy environment could prevent a negative development despite individual risk factors, while both individual and environmental risk factors may have cumulative effects. From the holistic-interaction perspective, individual traits, experiences, and possibilities as well as environmental circumstances and conditions are stressed (Magnusson, 1999; Stattin & Magnusson, 1996). Thus, when investigating how children develop specific behavior patterns, the bio-psycho-social perspective (i.e. that the contributions of biological and genetic factors in human life in addition to psychological and social factors) are necessary to form a complete picture of all that matters in the child's development.

Risk and exacerbating factors

Risk factors are characteristics of the individual or environment that place children on trajectories for negative outcomes. A risk factor for a negative behavior is not necessarily a cause of this behavior, but could be a trait or a state, an experience, a situation or a process that enhances the probability or the risk of a negative outcome. When studying risk factors in society, we are able to describe how various factors are associated with each other, but we cannot be sure of which factor is causing the other factor. *Exacerbating factors* are factors that moderate the impact of risk factors, i.e. augment malad-

justment. The cumulative/exponential risk model first proposed by Rutter (1979) assumes that children's developmental outcomes are better predicted by a combination of risk factors than by individual factors (e.g., Webster-Stratton, 1998). There could thus be numerous factors influencing children's adjustment problems. For instance, several studies have indicated that children in families with low socio-economic status (SES) are more likely to experience risk factors (such as higher rates of insecure attachment and other developmental stressors) (Pianta, Egeland, & Sroufe, 1990). Moreover, low SES appears to be one of the strongest and most consistent risk factors for later conduct problems (Bradley & Corwyn, 2002). Some other known risk factors for children's possibilities to a good adjustment include low intelligence, serious behavior problems, or disorders. Low socio-economic status, family problems (Ladd, Birch, & Buhs, 1999), and lower intelligence may also work in conjunction to play an important role in later school adjustment problems and influence children's peer relations negatively (Patterson, Kupersmidt, & Vaden, 1990). Problematic attachment histories and maladaptive interaction patterns between parents and children appear to be important risk factors: for example, hostility between a parent and a child has been associated with internalizing and externalizing behavior problems (Rothbaum & Weisz, 1994), and maternal life stress has predicted lower school achievement (e.g., Teo, Carlsson, Mathieu, Egeland, & Sroufe, 1996). Children's early psycho-emotional history, i.e. the quality of care-giving attachment relationships, the psychological adjustment and psycho-social environment, has been found to predict not only school achievement in early grades but an insecure attachment also appears to be a risk factor in child-teacher conflicts and peer difficulties (Howes & Ritchie, 1999), lower social competence and self-esteem (Cohn, 1990; Sroufe, 1988).

Both exacerbating and protective factors could be analyzed and understood in terms of moderating factors. According to Baron and Kenny (1986), a *moderator* is a variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable. The central premise of a moderator model was demonstrated in one study in which the relationship between frequent television viewing and later aggression applied only to boys (Johnson, Cohen, Smailes, Kasen, & Brook, 2002). The combination of vulnerability and feelings of insecurity may lead to negative self-appraisals in social competence that, in turn, exacerbate withdrawals from peers, and predict *internalizing* problems (e.g., loneliness and depression) (Rubin, 1993).

Protective factors

One protective factor, in adults as well as in children and their families, has been described as the sense of coherence, which involves the tendency of people to see their world as comprehensive, manageable, and meaningful

(e.g., Antonovsky, 1979; Hansson, & Cederblad, 1995). The protective factors in general are a combination of personal and environmental factors (Rutter, 1995), including positive relationships, high self-esteem, good coping skills, school achievement (Buchanan & Flouri, 2001), and personal control and optimism (Major, Richards, Cooper, Cozzarelli, & Zubek, 1998). Some characteristics are particularly important in protecting children from maladjustment (e.g., if they are active, energetic and easy going and can elicit positive responses from others and if they have an easy temperament) (Kim-Cohen, Moffit, Caspi, & Taylor, 2004). Some other factors believed to protect children are autonomy (the ability and desire to accomplish tasks on your own), androgyny (i.e. participating in non-sexed typed activities), social skills and an internal locus of control (i.e. the belief of having control in what happens to you) (Gordon, 1998). Positive self-perceptions and motivation to behave in an adaptive way might also be protective factors (Masten, 2001), as well as an optimistic and positive attribution style (i.e. the view that good things are likely to happen and are due to personal competence and permanent causes, whereas bad things occur because they are isolated causes) (Seligman, Reivich, Jaycox, & Gillham, 1995). Intelligence has also been described as a protective factor and the best predictor of school achievement, social competence and good conduct (Masten, Hubbard, Gest, Tellegen, Garmezy, & Ramirez, 1999). A warm and intimate relationship with parents could function as a protective factor against externalizing and internalizing behavior problems (Dekovic', Buist, & Reitz, 2004). It also predicts higher school achievement (Bates, Bayles, Bennett, Rich, & Brown, 1991; Teo, Carlsson, Mathieu, Egeland, & Sroufe, 1996). A secure attachment both to parents (Howes, Matheson, & Hamilton, 1994; Sroufe, 1983) and to teachers (Pianta & Niemitz, 1994) has also been related to higher social competence and better self-perceptions (Howes, Hamilton & Matheson, 1994). Social competence, in turn, could be a protective factor; in fact, associations have been found between social competence and achievement as well as between perceived peer and teacher support and achievement (Wentzel, 1993; Wentzel, 1998). Social support might buffer a vulnerable child from the emergence of psychopathology by enhancing self-esteem and providing opportunities for adaptation. A recent study of low-economic families indicated that high quality child-care might be protective for children's socio-emotional functioning (Votruba-Drzal, Levine Coley, & Chase-Lansdale, 2004). A warm and positive child-teacher relationship could also have a compensatory effect for children who have experienced difficult life circumstances (Howes & Richie, 1998). A positive peer relationship seems to have a protective function, at least for children with internalizing problems (Dekovic', et al., 2004; Garmezy, Masten, & Tellegen, 1985).

If we already had sufficient information about the causes of children's problems and difficulties, the treatment in general should be to prevent these risks from occurring. If we knew better what promotes health and the protec-

tive factors, then we need to support these factors. Why is it not that easy and why do the levels of children's behavior problems even appear to increase (Fombonne, 1995; Rutter & Smith, 1995)? There are probably many reasons to account for this lack in progress and a long-lasting need for problem elimination on every level from the individual or personal to the political and societal. Anyhow, the necessity of a multi-factorial perspective on children's development, risk, and protective factors in research as well as on all other standards seems evident. In this thesis the child's social competence and social relations were studied as protective and exacerbating factors for children with behavior problems. Consequently, it is important to study risk and protective factors, which the studies of this thesis have emphasized.

B. Behavior problems and maladjustment

Internalizing and externalizing expressions of dysfunction are the two major dimensions of children's behavior problems (e.g., Cicchetti & Toth, 1991; Garber, Qiggle, Panak, & Dodge, 1991; Serbin, Schwartzman, Moskowitz, & Ledingham, 1991). Both types of dysfunction have both behavioral and affective components, as well as cognitive features. Generally expressed, externalizing problems could be characterized by behaviors that are harmful and disruptive to others primarily (that is, externally oriented), whereas internalizing problems such as withdrawal and anxiety could be seen as behaviors that are geared primarily toward the self (that is, internally oriented). There are also children with combinations of externalizing and internalizing problems (e.g., Capaldi, 1992; Messer & Gross, 1994). Several researchers have used the concepts of problems, dysfunctions and disorders interchangeably. Thus, it is important to note that disorders are diagnoses that are clinically based and therefore traditionally considered a disease that could be present or not. Problems, on the other hand, represent some point on a dysfunctional continuum, where a child can have distinct problems and the level can vary depending on various factors. The question of whether the most appropriate classification scheme is categorical or dimensional is not new, and a distinction of whether to quantify aspects of attributes and syndromes or define them according to mutually exclusive categories has been discussed decades ago (Achenbach, 1988; Rutter, 1988). However, this traditional division between problems and disorders has recently been questioned. It now appears that many researchers and clinicians prefer to discuss disorders in terms of a continuum rather than as discrete categories. What still seems to exist is the view that disorders are more severe than problems.

The studies in this thesis are based on community samples of school children and not on clinically diagnosed children: therefore, in this thesis the concept of behavior 'problems' is used instead of disorders. However, when describing the characteristics of different types of behavior problem, the connections to related disorders are included.

Externalizing behavior problems

Aspects of externalizing problems

Children's *externalizing behaviors* are often described as confrontative (e.g., outbursts of anger, hitting and kicking, impulsive behaviors, hostile defiance, anti-social, destructive behavior, and over-activity, or arguing and teasing). However, more non-confrontative forms, such as social exclusion or harming peer's reputation by rumor spreading are also included (Cairns & Cairns, 1994; Willoughby, Kupersmidt, & Bryant, 2001). Developmental theory and research have focused on externalizing behavior problems in terms of four patterns: oppositional behaviors, oppositional/aggressive behaviors, hyperactive/inattentive behaviors and a combination of hyperactive/inattentive and oppositional/aggressive behaviors (Stormshak, Bierman, & CPRG group, 1998). The prevalence rates of externalizing behavior difficulties (defined as disruptive and behaviorally troublesome) range between 12-16% though higher rates have been reported (reported in Wheldall & Beaman, 1998). In some of these studies 4-12% of the boys are identified as having chronic aggressive behaviors (e.g., Broidy, Nagin, Tremblay, Bate, Brame, et al., 2003; Shaw, Gilliom, Ingoldsby, & Nagin, 2003, reported in Petras, Schaffer, Jalongo, et al., 2004). Partly dependent on the severity and partly because of the combination of various symptoms, a problem can develop into a disorder. For instance, the diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) includes such behavior problems as hyperactivity and impulsivity (APA, 1994; Barkley, 1998), but a diagnosis demands that at least six of the symptoms from one of the categories (inattention or hyperactivity/impulsivity) be presented during six months and reduce the function-level in two settings. The diagnosis of conduct disorder children (CD) demands a repeated and persisting pattern of serious norm-violating and aggressive behaviors where the basic rights of others are outraged, and at least three symptoms are demanded during a period of twelve months (aggression to people and animals, destruction of property, deceitfulness or theft, and serious violations of rules). The diagnosis of Oppositional Defiant Disorder (ODD) requires a pattern of negativistic, hostile and defiant behavior lasting at least six months during which four or more symptoms are present.

Development of aggression in children

In a newborn child it is not possible to differentiate anger from other negative expressions; however, when a child is four months old, angry facial expressions are present. Physical discomfort and the need for attention are the most frequent elicitors of aggression during infancy. Furthermore, oppositional behaviors and physical aggression increase during the second year of life, whereas verbal aggression increases between two and four years and stabilizes thereafter. Between six and nine years of age, the aggression level

normally declines (Tremblay & Nagin, 2005), but at the same time, it becomes more person-oriented and hostile. Most children learn to inhibit physical aggression already during the preschool ages. However, those children who develop externalizing problems early appear at greater risk not to learn to inhibit aggressive behaviors. “Life-course persistent/Early starters” are more likely to persist in these behaviors through adolescence and young adulthood (Moffitt, 1993; Brame, Nagin, & Tremblay, 2001). In addition, evidence suggests that individual differences become even more pronounced during adolescence (Pulkkinen, 2001).

Gender differences

Gender differences in aggression appear already during preschool age, with boys being more forceful both physically and verbally. This difference seems to increase during middle childhood up to 11 years of age when gender differences in aggressive strategies emerge with girls displaying more relational aggression (e.g., excluding others) and boys more physical aggression (e.g., fighting, name-calling, and rough-housing) (Lagerspetz & Björkqvist, 1994; Zimmer-Gembeck, Geiger, & Crick, 2005). In a community-based large sample study, more boys than girls demonstrated externalizing behavior problems, at least of the more confrontative type. The study suggests that the difference in aggressive behavior between boys and girls is likely to have arisen before age 4 years (Bongers, Koot, van der Ende, & Verhulst, 2004). Other studies have not found gender differences in opposition (e.g., disobeying, temper tantrums) and status violations (e.g., runs away from home, truancy), while aggression and property violence were more common among boys (Lahey, Schwab-Stone, Goodman, et al., 2000). During the past decades, antisocial behaviors among adolescent girls have increased from a gender ratio (girls/boys) of 1:10 to a ratio of 1:4 (Rutter, Giller, & Hagell, 1998). Moreover, conduct disorder in girls appears on the rise, and is associated with serious outcomes such as antisocial personality disorder and early pregnancy (Keenan, Loeber, & Green, 1999).

Etiology

a. Genetic and neurological base

Genetic factors have been found to account for 55% of the externalizing problems, whereas shared environmental influences, including various environmental aspects, account for 37% of the stability in the externalizing problems (van der Valk, van den Oord, Edwin, Verhulst, & Boomsma, 2003). Twin studies of ADHD have suggested a strong genetic component (White, 1999). Specific genes (e.g., monoamine oxidase-A) or combinations of genes have been proposed to have relevance in the development of conduct problems. Exposure to toxic or a diseased prenatal environment (e.g., such as when mothers use opiates or alcohol during pregnancy) heighten the risk for the occurrence of conduct problems (Dodge & Pettit, 2003). Aggressive

children have been found to have lower intelligence test scores as compared with a control group (Serbin et al., 1991), and low intelligence is proposed to be a precursor of disruptive behavior disorders (DBD), but these results have been questioned (Burke, Loeber, & Birhamer, 2002). There are different theories about how anger or aggression originates and develops. Today, a large body of research suggests that impaired executive cognitive functioning (ECF) may play a role not only in ADHD (Barkley, 1998) but also in the etiology of aggression and violent behaviors in general (Paschall & Fishbein, 2002). Other authors have also suggested biogenetic origins of aggressive disorders (in Rubin, Bream, & Rose-Krasnor, 1991). ADHD is seen as a risk factor for early onset of conduct disorder (Loeber, Green, Keenan, Lahey, 1995). Surprisingly, little is known about the situation for girls. However, early hyperactivity predicted externalizing problems in girls, whereas problems with attention and impulse control predicted externalizing problems in boys (Bates, et al., 1991). There is a model of neurological motivational systems proposing a behavioral approach system (BAS) to be related both to a positive approach and to frustration, anger, and impulsivity (Gray, 1994).

b. Temperament

Temperament is broadly defined as an individual's emotional and behavioral style that is stable across time and situations and that has a biological basis, though the environment can modify it (Rothbart & Bates, 1998). More specifically, temperament is rooted in neurobiological tendencies to react to the surroundings (reactivity or emotionality), motor activity, attention, and in regulating mechanisms (self-regulation). These reactions influence behavioral styles. Emotion regulation refers to mechanisms that operate in controlling or modulating reactivity, and includes such phenomena as changes in attention, behavioral approach and avoidance, and efforts at self-soothing (Rubin, Coplan, Fox, & Calkins, 1995). Lack of self-regulation has been shown to predict externalizing behavior problems and psychopathology (Caspi, 2000; Eisenberg, Fabes, Guthrie et al., 1996; Rubin et al., 1995) already at the age of two years (Eisenberg, Guthrie, Fabes, Shepard, & Losoya, et al., 2000). High anger emotionality and low regulation, even of positive emotions, appear to predict externalizing problem behaviors (Rydell, Berlin, & Bohlin, 2003). Externalizing problems have, at least in boys, consistently been related to high levels of general activity and early difficulty as well as resistance to control (Bates et al., 1991; Mesman & Koot, 2000; Lohr, Teglasi, & French, 2003). Difficulty is defined as a tendency to negative emotionality, which is thought to be directly related to later oppositional and aggressive behavior. Attention seeking may be a direct precursor of disruptive problems (Shaw, Gilliom, & Giovannelli, 2000). Infants who respond to goal frustration with intense and prolonged anger may be at elevated risk for aggressive behavior problems (Zahn-Waxler, Iannotti, Cummings, & Denham, 1990).

c. Parents and environment

Aggression is also believed to be a learned phenomenon that is reinforced directly or indirectly by parents, peers, the media, and others in the child's social environment (e.g., Denham, Workman, Cole, Weissbrod, Kendziora, & Zahn-Waxler, C., 2000; Goldstein, Glick, & Gibbs, 1998). In externalizing adolescents, for instance, 80% declared that their families encouraged them to hit if they felt provoked by someone (Goldstein & Conoley, 1997). Certain social conditions may serve to evoke aggressive displays. Among the most risky is when an intolerable degree of frustration is evoked because when left unchecked it could lead to aggression (e.g., Johnson & Fennell, 1992). Insecure attachment has been related to externalizing problems and aggressive behaviors (Moss, Parent, Gosselin, & St-Laurent, 1996; Lyons-Ruth, 1996; Shaw, Owens, Vondra, Keenan, & Winslow, 1996) and dysfunctional, non-responsive parenting is related to oppositional child behaviors (Stormshak, et al., 1998). Maltreated and physically abused children have been shown to demonstrate reactive aggression, attention deficits, and problems with emotion regulation (Shields & Cicchetti, 1998). Parent-child interactions featuring high levels of coercion, control, hostility, low levels of affection (e.g., Campbell, 1994), and harsh parental treatment together with other stressful life circumstances have been related to aggression in children (Renken, Egeland, Marvinney, Mangelsdorf, & Sroufe, 1989) as well as low SES (Côté, Vaillancourt, LeBlanc, Nagin, & Tremblay, 2006). Children with hyperactivity and inattention problems are more likely to develop, e.g., conduct disorder if there were many family conflicts and the parents' were harsh and punitive (Ackerman, et al., 2003; Webster-Stratton, 1988; 1990; 1993). Difficulties to develop good relations outside the home or experiences of relational failures could enhance the feelings of frustration, probably also evoking aggressive and other problem behaviors. One common frustration for aggressiveness in school might be when the child does not understand what really happens (e.g., in the classroom when the teacher is giving instructions or teaching the class, or in the schoolyard when classmates are constructing and communicating about some new play rules or denying the child to participate). However, researchers have questioned whether children behave aggressively because of their social affiliations, or whether they become aggressive because they have been alienated, rejected or neglected by their peers and others (Cairns & Cairns, 1991), or if the processes works in both directions.

d. Social cognition

Aggression may be a result of deficits and breakdowns in the way that children process information in their social environment (in Rubin, et al., 1991). For instance, highly aggressive children have been found to interpret peer intentions as hostile, especially in ambiguous situations (Dodge, 1980; 1983;

Dodge, Pettit, McClaskey, & Brown, 1986; Dodge, Price, Bachorowski, & Newman, 1990). There is rather convincing evidence that children with behavior problems fail to process social information correctly; besides the hostile attribution biases, they also fail in intention cue accuracy, in finding adaptive responses and in evaluating these responses correctly (Crick & Dodge, 1994). Researchers have also identified rather common cognitive distortions in aggressive adolescents, such as self-centered thinking, which is defined as ascribing their own opinion, expectations, needs, rights, immediate feelings, and wishes so important that others' are put aside (Gibbs, Potter, & Goldstein, 1995). Many children thus appear to be proud of their own "toughness" and therefore favor aggressive behaviors. Nevertheless, these behaviors could be a reflection of past negative experiences of hostility or rejection and current negative feedback from peers (Rudolph & Clark, 2001; Zakriski & Coie, 1996). In such a case "the errors" in social information processing might actually be a more 'correct' interpretation of the situation. Whether all this is about a distortion of the present or an extension of past experiences in similar settings needs more clarification (Cairns & Cairns, 1991).

Stability

Earlier research has repeatedly confirmed high stability in externalizing behavior problems (e.g., Loeber, 1990; Eron & Huesman, 1990; Moskowitz, Schwartzman, & Ledingham, 1985; Olweus, 1979), and that earlier externalizing types of behavior problem predicted later externalizing problems in both boys and girls (Bates, et al., 1991; Goldstein, Davis-Kean, & Eccles, 2005). Others, studying developmental trajectories of disruptive behaviors, have found the linkages of physical aggression and later offending against or breaking of the law or rule to be especially persistent among boys (Broidy, et al., 2003). Recent research has also demonstrated that disruptive behaviors are evident in some children as early as the toddler and preschool years. Those children who are hard to manage during these early years have a high probability of continuing with these behavior problems (Campbell, 1995). Problem behaviors tend to increase with age regardless of gender (Deater-Deckard, Dodge, Bates, & Pettit, 1998); what is more, about one third to one half of the children with deviant behaviors remained deviant after two to six years. However, important to note is that many children change over time, i.e. according to the same data between one half and two thirds (Koot, 1995).

Externalizing behaviors as risk factors for negative outcomes

Externalizing behavior problems are of major concern to both education and mental health professionals. Such problems comprise the most common referrals for children and adolescents to mental health services (Kazdin, 1987). These disruptive behaviors influence relationships with parents, teachers, peers, and others in the children's environment. These behaviors are also

known to be associated with low school achievement and poor self-esteem. Children with more general externalizing *problems* early in life seem to be at risk in the later development of externalizing *disorders* such as ADHD, ODD or CD. From the level of being just a problem, the negative processes can thus develop into a disorder. Even more alarming is the real possibility that children with one kind of externalizing problem are at high risk for developing other kinds of externalizing problems as well (e.g., Bird, Gould, & Staghezza, 1993). Childhood aggressive behavior is widely recognized as a precursor for antisocial behaviors, delinquent, and drug use in adolescence and adulthood. Externalizing problems have been associated with school failure, adult unemployment and criminality, especially in boys with high levels of early aggressiveness (Campbell, Pierce, March, Ewing, & Szumowski, 1994; Krohn, Thornberry, Rivera, & LeBlanc, 2001; Kokko & Pulkkinen, 2000; Kupersmidt & Coie, 1990; Hymel, Rubin, Rowden, & LeMare, 1990; Overbeek, Vollebergh, Meeus, Engels, & Luijpers, 2001; Stattin & Magnusson, 1989). Externalizing problems have also been associated with psychopathology in adulthood (Robins & Price, 1991; Visser, van der Ende, Koot, & Verhulst, 2000). Although early onset of aggression appears to be linked to chronic and pervasive antisocial patterns (Loeber, 1990; Tolan, & Gorman-Smith, 1998), it does not seem to be known for sure if the children with externalizing problems lack concern for others already early in life or if their sensitivity is reduced over time. However, there is also research indicating that at least physically aggressive behaviors in childhood and adolescence tend to be transitory, and for most individuals largely resolved when they reach adulthood (Bongers, et al., 2004).

Internalizing behavior problems

Aspects of internalizing problems

Internalizing behavior problems are characterized by feelings of self-consciousness, anxiety, worries, unhappiness, withdrawal, shyness, and somatic complaints (e.g., Achenbach, 1991; Quay & LaGreca, 1986; Rutter, Tizard, & Whitmore, 1970). Internalizing disorders are also defined by core disturbances in self-harming emotions and moods such as sorrow, guilt, fear, and worry (Zahn-Waxler, Klimes-Doughan, & Slattery, 2000). Several researchers have claimed that children and others' internalizing behaviors are associated with four kinds of problems: behavioral (they are passive, indecisive, and helpless), emotional (sadness), somatic (food consumption and sleep is disturbed) and cognitive (thinking life is worth less) (Seligman et al., 1995). The prevalence rate indicating internalizing behavior problems was 12% when the children behavior checklist (CBCL) was used. The same result was obtained for depression using the children depression inventory (CDI) in a non-clinical school sample of 9-13-year-old children (Pace, Mullins, Beesley, Hill & Carson, 1999).

Social withdrawal

Social withdrawal is often seen as one of the important characteristics of internalizing behavior problems or disorders. This concept is not fully clear and easy to interpret, however. When studied in a clinical sample, withdrawal has frequently been viewed as a behavioral reflection of internalizing problems, often aggregated with isolation. Some researchers have distinguished between active isolation and passive withdrawal (Rubin & Mills, 1991), while others discuss the possibility of different forms during different ages (e.g., Ladd & Profilet, 1996).

Anxiety

Fear and anxiety have followed human beings throughout recorded history in every culture and at every age and stage and are therefore considered as naturally occurring phenomena. However, excessively high levels of anxiety can be detrimental (Reed, Carter, & Miller, 1992). Anxiety is a complex construct, involving affective, behavioral, physiological, and cognitive components. The concept of worry is viewed as one of the cognitive components of anxiety, which involves thoughts and images that relate to possible negative or threatening outcomes (Silverman, LaGreca, & Wasserstein, 1995). Fear is the physiological response to threatening stimuli. Anxiety, defined as the dysphoric, aversive feeling similar to fear that arises without an obvious external threat, is included in the concept of internalizing problems.

Low mood and depression

Low mood or sadness is often included in the description of internalizing problems. Sadness or depressed affect as a single symptom should be distinguished from depression as a syndrome, which is a complex of symptoms involving changes in affect, motivation, physical and motor functioning, and cognition (Wenar, 1994). The criteria for children and adults' depressive disorders are nearly identical (DSM IV). The term 'depressive feeling' is also frequently used in these contexts and experienced by more than 40% of adolescents reporting substantial feelings of misery (Wenar, 1994, p.193), and probably by most people sometimes. Clinical researchers have investigated the question of whether it is valid or useful to make distinctions between anxiety and depressive disorders (Brady & Kendall, 1992). One view is that, despite considerable overlap, the two constructs are separate entities. Another position is that they overlap to such an extent that a common disorder exists, and that both anxiety and depression could be seen as part of a larger, more general category of what could be called neuroticism, general psychological distress, or internalizing syndrome.

Gender differences

Girls have reported more worries than boys. Worry has been significantly associated with anxiety, which would support a link between these two constructs. One kind of internalizing problem may therefore exacerbate the development of another internalizing problem (Silverman et al., 1995). However, no clear gender differences concerning anxiety and mood disorders in childhood have been found (e.g., the rates of depressive disorders appear to be similar in boys and girls) (Nottelman & Jensen, 1995). During early adolescence, more girls than boys show symptoms of anxiety and mood disorders (Zahn-Waxler, 1993), and twice as high rates of depression has been reported for girls than for boys (Angold & Rutter, 1992; Koenig, Isaacs, & Schwartz, 2002). During late adolescence, however, the rates become more similar (Cohen, Cohen, Kasen, Velez, & Hartmark, 1993). This pattern appears to change once more, with the rates in girls increasing when progressing from adolescence into adulthood, resulting in females being twice as likely as males of becoming anxious or depressed (Angold & Rutter, 1992).

Etiology

Genetic and neurological base

Twin and adoptions studies indicate that heritable factors play some role in the development of internalizing problems and disorders. Further, the prevalence has been found to increase in first-degree relatives (Zahn-Waxler, et al., 2000). Genetic factors accounted for 66% of the stability in internalizing problems such as anxiety and withdrawal, while shared environmental influences accounted for 23% (van der Valk, et al., 2003). Children of depressed adults appear to be at considerable risk for developing depression (Wenar, 1994; Essau, 2004). At the same time, no special genetic mechanism has been identified. Biochemical research with adults indicates that hormonal imbalance involving hyper-secretion of the hormone cortisol could play a role in the development of internalizing problems (Wenar, 1994). The right frontal lobe also seems to be involved in withdrawal behaviors and the emotions of sadness and depression (Zahn-Waxler et al., 2000). Gray has proposed a neurophysiologic model of anxiety focusing on the patterns of approach and withdrawal, i.e. the fight-flight systems. Increased right frontal EEG activation has been associated with negative emotions and has been observed in children who are socially inhibited/withdrawn. It has been proposed that anxiety and fear are reflected in increased activity in the behavioral inhibition system (BIS) as a response to threat of punishment, the omission of anticipated reward, or to extreme novelty. Anxiety and activity in the BIS seem to be much of the same thing, and once threat or novelty is detected, the outputs of BIS must be operated on in turn, providing a general facilitation of motor behavior (Gray, 1995).

Temperament

Temperamental traits may be early indicators of fearfulness and anxiety. Shyness is defined as a temperamental trait associated with internalizing problems and is the social part of behavioral inhibition. Behavioral inhibition has been defined as a tendency to react with restraint, avoidance, and timidity when confronted with strangers and unfamiliar situations (Kagan, Reznik, Clarke, & Snidman, & Garcia-Coll, 1984). Research has indicated that infant shyness could predict enhanced risks for adolescent anxiety problems (e.g., Prior, Smart, Sanson, & Oberklaid, 2000). Furthermore, an inhibited temperament and parental insensitivity and over-control could predict *internalizing* problems such as loneliness and depression (Rubin, LeMare, & Lollis, 1993). Over-control alone could lead to internalizing problems (Lengua, 2003). Behavioral inhibition has also been associated with increased risk of anxiety disorders (Turner, Beidel, & Wolff, 1996). Several researchers have proposed three principal ways in which temperamental vulnerability, in conjunction with environmental factors, could lead to depressive feelings (Compas, Connor-Smith, & Jaser, 2004; Rothbart & Bates, 1998; Sanson, Hemphill, & Smart, 2004). The first potential way describes an ‘Additive or direct effect model’. Here, a difficult temperament and a poor relationship with parents or peers constitute additive risk factors, which directly and independently increase the risk of depressive feelings. The second potential way refers to a ‘Mediational Process’ in which a difficult temperament leads to a negative reaction from parents and peers, which, in turn, fosters depressive feelings. The third pathway, which corresponds to the ‘Diathesis-Stress model’, describes an interaction effect in which a difficult temperament amplifies the effect of a problematic relation with parents or peers regarding depressive feelings (Brendgen, Wanner, Morin, & Vitaro, 2005). However, other results have indicated that temperament does not seem to be a strong predictor of internalizing problems (Bates et al., 1991).

Behavioral and cognitive theories

Classical conditioning models have been used to explain the development of internalizing disorders, i.e. experiencing a fearful stimulus condition evokes fear in the individual the next time the person faces the same situation (Zahn-Waxler, et al., 2000). Others have proposed more cognitively oriented learning theories. Here, an increased or biased attention to dangerous or threatening situations leads to anxiety, or a cognitive triad of worthlessness; “I am no good”, helplessness; “There is nothing I can do about myself”, and hopelessness; “I will always be like this” (Wenar, 1994).

Parent and environment

Parental internalizing psychopathology and early single parenthood (for girls) have correlated with internalizing problems (Mesman & Koot, 2000).

Caregivers or others could learn anxiety in the children's environment (e.g., through modeling or specific child-rearing and discipline practices) inducing fear in children by threats or harm (Zahn-Waxler et al., 2000). Lacks of family cohesion, difficulties in parenting and marital discord or divorce have been found to cause depression in children and adolescents (e.g., Reinherz, Paradis, Giaconia, Stashwick, & Fitzmaurice, 2003). Insecure attachment may have negative consequences for social relations (Erikson, Sroufe, & Egeland, 1985). Anxious/resistant attachment has been associated with higher rates of social withdrawal, especially among boys, and with loneliness and submissiveness with peers (e.g., Berlin, Cassidy, & Belsky, 1995; Renken, et al., 1989; Rubin 1993). Depressed adolescents have been found to perceive their quality of attachment as more insecure and to have mothers with elevated depression levels, indicating familial impact in addition to genetic ones (Essau, 2004). Loneliness and peer rejection could also result in internalizing behavior problems and depression (e.g. Burks, Dodge, & Price, 1995; Panak, & Garber, 1992).

Stability

In some studies the *internalizing* behavior problems were neither stable nor a predictor of negative outcomes (e.g., Ladd & Burgess, 1999; Serbin et al., 1991). Other studies, however, have reported considerable stability as well as a relation to later anxiety disorders (Dekovic, et al., 2004; Gest, 1997; Hymel, et al., 1990; Rubin, Hymel, & Mills, 1989; Vargo, 1991). Somewhat different conceptualizations of internalizing problems may account for the inconsistency in results; for instance, whether social withdrawal is stressed (e.g., Serbin et al., 1991), behavioral inhibition (Gest, 1997), or a combination of withdrawal and anxiety (Rubin et al., 1989), where the latter seems to be a relatively stable phenomenon (Rubin, Hymel, Mills, & Rose-Krasnor, 1991). Researchers have concluded that little research attention has been given to the life course outcomes for children with early internalizing behavior problems (Goodwin, Ferguson, & Horwood, 2004). Thus, knowledge about the consequences of internalizing problems seems less conclusive as compared with externalizing problems.

Internalizing problems as risk factors for negative outcomes

Several studies on children with internalizing behavior problems or disorders have been contradictory concerning long-lasting consequences. Some researchers claim that not very much distinguishes withdrawn adolescents from the unproblematic one when it comes to behavior problems or referrals to psychiatric services, but admit that the withdrawn adolescents seem more vulnerable to pessimistic self-evaluations, which could lead to anxiety and depression in adulthood (Serbin et al., 1991). Other researchers have proposed that withdrawn children were at even greater risk for long-lasting problems than aggressive children, and that internalizing problems of anxi-

ety and depression often follow each other (e.g., Vargo, 1991). In one study anxious/withdrawn behavior in childhood was associated with elevated rates of anxiety disorders and major depression, even after adjustment for social, family, and childhood factors such as exposure to abuse and adverse family events (Goodwin, et al., 2004).

Internalizing problems are often associated with peer relational difficulties and loneliness (Fordham & Stevenson-Hinde, 1999; Rubin, et al., 1990) and low self-perceived academic competence (Weiss, Süsser, & Catron, 1998). Anxiety disordered children have reported more negative social expectations and lower self-competence than controls, to have a poorer social functioning, to receive less support from classmates, and to be less accepted (Chansky & Kendall, 1997; LaGreca & Lopez, 1998). Social anxiety, withdrawal, and silence seem to be related. For instance, silent students have described themselves as shy and anxious, and to use their silence in such a way that makes them more isolated and withdrawn (Jones & Gerig, 1994). Although the results about stability of internalizing problems seem contradictory, research indicates links between internalizing problems and lower self-perceived competences, peer relational difficulties, and loneliness. However, lack of a conceptual framework and agreement on which behaviors and problems to be included and how they should be measured likely hamper the study of internalizing difficulties. There seems to be a need for more valid classification of subtypes (Zahn-Waxler, et al., 2000). Perhaps this accounts for the limited developmental significance of internalizing behavior problems thus far reported.

Behavior problems and children's self-perceptions

The concept of self provides a way to organize and integrate one's life experiences and involves cognitive, affective, and behavioral aspects of the self. The 'self' has been viewed as a global self-worth and as a profile across domains. Global self-worth or self-esteem has been defined as "the overall value that one places on the self as a person in contrast to domain-specific evaluations of one's competence or adequacy" (Harter, 1990, p. 97). This suggests that judgments or perceptions of competence in specific domains are separate from an overall sense of self-worth but contributing to the level of self-worth. The term 'self-perception' could include perceptions of competences in various domains, and the different domains often used in a research context are behavioral conduct, physical appearance, and scholastic and athletic competency (Harter, 1986). Other measures have also included psychological well-being and social and family relations as indicators of self-esteem (Ouvinen-Birgerstam, 1985). The development of the self-concept starts at an early age and becomes increasingly more complex through cognitive development and social interactions. Research has un-

masked the complexity of the concept, where the self-concept is viewed from both a multidimensional and a lifespan perspective.

Self-esteem has been predicted from perceived social support across relational contexts such as classroom, friends, and families (Harter, 1996; Harter, Bresnick, Bouchey, & Whitesell, 1997). Associations have also been indicated between higher self-esteem and secure attachment (e.g., Sroufe, 1988; Vershueren, Marcoen, & Scoefs, 1996), and a higher self-esteem and an internal locus of control, i.e. an attribution of success to internal causes (Wang, Kick, Fraser, & Burns, 1999). Self-esteem has predicted later educational and occupational attainment (Wang, et al., 1999). It is also thought to play a critical role in motivating behavior, which is important for school adjustment and achievement (Harter, 1986; Bandura, 1986). Self-esteem has also been found to be mediating between social support and reduced levels of behavior problems among young adolescents (Moran & DuBois, 2002). However, little empirical work has been done from a developmental perspective in disordered populations or with younger children (Harter, 1986; Cicchetti, Beeghly, Carlson & Toth, 1990). Yet, during the past decade, the situation appears to be changing, where some recent studies have focused also on younger children, especially regarding externalizing and aggressive behaviors.

Low global self-esteem has been related to externalizing problems, aggression, and anti-social behavior, even after controlling for self-ratings of poor peer relations (Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005; Fergusson & Horwood, 2002). It has also been suggested that the most aggressive children, in comparison with non-aggressive children, have polarized and rigid self-systems (i.e. globally positive or negative). In yet another study it was found that those who overestimate their competence and their relationships are at greater risk for increased behavior problems (Edens, 1999). Others have claimed that bullies generally do not have a lowered self-esteem (e.g., Olweus, 1986) and even that continued deviant behaviors could actually elevate self-esteem (Cairns & Cairns, 1994). High self-esteem could lead to aggression when it is threatened or disputed by others (Baumeister, Bushman, & Campbell, 2000; Brendgen, Vitaro, Turgeon & Poulin, 2002; Bushman & Baumeister, 1998; van Boxtel, Orobio de Castro, & Goossens, 2004). A high or unrealistically inflated sense of self-esteem and pride, 'egotism' or narcissism is thought to be related to aggressive behaviors in both children and adolescents (Baumeister, Campbell, Krueger, & Vohs, 2003; Baumeister, Smart, & Boden, 1996; Hughes, Cavell & Grossman, 1997; Hymel, Bowker, & Woody, 1993; Rudolph & Clark, 2001). Because of cognitive distortions (and probably a threatened self-esteem), children with externalizing behavior problems are hypothesized to easily interpret (and misinterpret) others being hostile, leading them to behave aggressively (Dodge, et al., 1986).

How do children develop inflated self-perceptions from the beginning? One explanation is that early experiences of harsh and insensitive parenting, associated with an insecure attachment, can lead to a selective filtering of negative information (defensive exclusion), especially in children with externalizing problems. This filtering process is first used in relation to the parents and later in contact with peers, which might eventually increase social interaction difficulties (Hughes, et al., 1997; Hughes, Cavell, & Prasad-Gaur, 2001). Many children are nowadays great consumers of medial violence in television, movies and computer games, where they repeatedly experience the power of violence. These imaginary, idealized, and omnipotent identification models might not be contained and harmoniously integrated (Barbosa, 1996), especially in a vulnerable child. One can speculate that such medial 'power of violence' could influence vulnerable children to evaluate violence positively, which might function elevating their self-esteem. One indication of this might be that bullies have been found to demonstrate a need to dominate over other children (Olweus, 1986). However, it has also been questioned whether an optimistic view of one's competence is always maladaptive: it may enable children to persevere in a situation of failure (Bjorklund & Green, 1992).

Nevertheless, studies on self-esteem in younger children with internalizing problems are scarce. Shyness or behavioral inhibition, sometimes interpreted as one forerunner to internalizing problems, has been found to be correlated with a low global self-worth. This, in turn, suggests a possible buffering effect of positive self-worth capable of reducing the negative effects of shyness. Passive-withdrawn behaviors have been found to predict low self-esteem (Fordham & Stevenson-Hinde, 1999; Rubin, et al., 1990). Internalizing behavior problems in 8-11-year-old children have been reported to be negatively correlated to some of the domains included in the child's self-perception (Usher, 1997). Anxiety disordered children and depressed adolescents (12-19 years) have demonstrated lower self-esteem (Chansky & Kendall, 1997; Koenig, 1988). Depression was found to be associated with negative conceptions of the self, beyond what would be expected given their social status; in addition, these children appear to have biased patterns of interpersonal information processing (Rudolph & Clark, 2001), although working somewhat differently than in children with externalizing problems. Thus, while adolescents with externalizing problems demonstrate more varying self-perceptions, adolescents with internalizing problems are less ambiguous but negative (Hymel et al., 1990; Hymel et al., 1993).

Behavior problems and school adjustment

The term 'school adjustment', which refers to various aspects of children's academic and social functioning, has been used unclearly in the literature.

Confusions may therefore easily arise over the meaning of the construct, making 'school' adjustment difficult to discriminate from other forms of adjustment during childhood. Ladd (1989) defined school adjustment as the child's success in coping with the tasks/demands of the school environment. The author further proposed that school adjustment could be defined in terms of how well children feel socially and emotionally, and how well they perform their schoolwork. School liking has been defined as the degree to which children profess to like or dislike their school and is intimately related to school achievement (Ladd, Buhs, & Seid, 2000). *School adjustment* was therefore defined both in terms of school liking and school achievement, a definition also used in other studies (Buhs & Ladd, 2001). Feeling safe and comfortable in school environments has been associated with children's emotional and academic adjustment (Goodenow, 1993a, b; Resnick et al., 1997 reported in Murray & Greenberg, 2000). Moreover, higher school liking has been associated with supporting friendships and lower school liking with friendship conflicts (Murray & Greenberg, 2000, Ladd, Kochenderfer, & Coleman, 1996). Children with positive school perceptions tend to receive higher academic competence ratings from their teachers during the primary years than those with less positive perceptions. However, much remains unknown about the association between school liking and children's educational progress (Ladd, et al., 2000). Increasing evidence suggests that various aspects of children's learning in relation to social skills contribute to early school performance and adjustment (e.g., Diel, Lemerise, Caverly, Ramsay, & Roberts, 1998; Ladd, 1990).

Not much work has been done concerning studying the associations between school liking and behavior problems. Yet, in one study school liking was found to be negatively related to internalizing and externalizing behaviors (Murray and Greenberg, 2000). In another study, children's aggression predicted decreases in school liking which could be mediated by perceptions of teacher support (Gest, Welsh, & Domitrovich, 2005). Withdrawn behaviors have predicted lower affective engagement in the classroom and socially negative behaviors have predicted maladaptive learning behaviors (Fantuzzo, Bulotsky-Shearer, Fusco, & McWayne, 2005). School achievement in grade 6 has been found to be negatively related to problem behaviors in grade 1 (Jimerson, Egeland, Sroufe, & Carlson, 2000), and associations have been found between achievement and children's behavior styles as early as the first three years of life (Teo, et al., 1996). Peer nominations of academic capability have been observed to moderate the associations between children's achievement and classroom engagement and peer liking, in that peers accepted children with lower ability to a lesser degree (Hughes & Zhang, 2006). Socio-emotional problems have been found to be related to poor working skills, which, in turn, predict lower academic outcomes (McLelland, Morrison, & Holmes, 2000), and an association has been noted between school drop outs and behavior problems (e.g. Cairns & Cairns, 1994). In a

study that followed children for 20 years, findings indicated that early externalizing problems continue to undermine academic competence in adolescence, even showing a negative effect on internalizing problems in young adulthood (Masten, Roisman, Long, Burt, Obradovic, Riley, Boelcke, & Tellegen, 2005). During childhood, inattention and hyperactivity have been found to be stronger correlates to achievement problems than aggressive behaviors; during adolescence, however, the stronger correlates to low achievement are found in antisocial behaviors and delinquency (Hinshaw, 1992).

C. Teacher classroom strategies, teacher relationships, and children behavior problems

What happens in the school between teachers and children could have great importance for children's development and school adjustment. Therefore, it is crucial to know more about the strategies teachers develop and use to handle disturbing and otherwise problematic behaviors in the classroom and how they work helping the withdrawn child. Some decades ago, the teachers' dilemma was described as, "the teacher's actual power of direct coercion in modern society is very limited. The kids heavily outnumber the teachers and sanctions can be run through with frightening rapidity (Willis, 1977, p.63)". More recently, researchers have proposed that earlier teachers were able to maintain moral authority and therefore power in the classroom, but now students are less inclined to accept this traditional moral authority regarding teachers making educational decisions. Furthermore, there is a tendency for these problems to arise in very young children (Cothran & Ennis, 1997). In contrast to exclusive adult authority, the necessity of early learning and the rights of students to participate in a democratic decision process together with adults are stressed in the Swedish school curriculum (Lpo94).

Teacher strategies

The teacher plays many roles, being an instructor, a socialization agent, a caregiver, a mediator in peer conflicts, and an organizer of daily activities. Teachers' *strategies* to handle what happens in the classroom are therefore an important aspect of these teacher roles. When the classroom climate is comfortable and children are positive toward schoolwork, and the relationships are positive, various strategies will function well. When the teachers have to confront the teaching mission with children with problematic behaviors, their employment of strategies are greatly weakened. To develop conscious strategies for dealing with problematic child behaviors should there-

fore be an important task in the daily work in most classrooms. A general finding has been that externalizing problems, such as aggressive and disruptive behaviors, are especially disturbing to teachers (e.g., Coleman & Gilliam, 1983; Mullen & Wood, 1986; Stephenson, Lindfoot, & Martin, 2000). Consequently, the choices of strategies dealing with these behaviors are probably most precarious. About 20% of the teachers were found to lack confidence in their ability to handle children's problematic behaviors (Stephenson, et al., 2000). However, knowledge about teacher beliefs and factors that may influence teacher's strategies and their relation to children's behavioral development is scarce (e.g., Vartuli, 1999). Little is known about interpersonal and school variables associated with teacher strategies to handle conflicts constructively (Morris-Rothschild & Brassard, 2006).

Teachers' disciplinary methods have been studied for the past two decades. Early pioneers have studied, e.g., school adjustment and problems regarding class management techniques (Kounin, 1970). Praise or rewards for good behavior, and the use of reprimands and punitive sanctions have repeatedly been described over the years (e.g., Mayer, 1999; Short & Short, 1989; Tulley & Chiu, 1998). There is accordance among many researchers that efficient teacher management is an important prerequisite for effective classroom teaching and learning (Opdenakker & van Damme, 2006; Wheldall & Beman, 1998). However, it is important to understand what lies behind individual differences in classroom management or disciplinary strategies. To date, the subject has not been extensively studied and there are few conceptualizations of why individuals differ in the strategies they prefer.

A frame of reference to understand influences on teacher strategies is Ajzen's theory of planned behavior. This theory suggests that individuals' behavior is determined by their intention to perform the behavior and that this intention is a function of their attitude toward the behavior and their subjective norm. The best predictor of behavior is intention to act in specific situations and is seen as the motivational factors underlying behavior. Two of the postulated determinants are attitudes towards the behavior and perceived control. *Attitudes* are defined as the individual's positive or negative evaluation of objects or behavior. According to the theory, attitudes are thought to influence behavioral choice (Ajzen, 1991; 2002; Ajzen & Fishbein, 1980; Eagly & Chaiken, 1992). *Teacher orientation* is a concept related to teacher attitude and has been widely used to describe teachers' desired behaviors and practices in the classroom. A custodial orientation implies controlling attitudes, a focus on the maintenance of order, the teachers favoring punitive sanctions, and impersonal teacher-student relationships. In contrast, teachers with a humanistic orientation, favor a classroom climate of open interaction and communication, close teacher-student relationships, student initiatives and flexibility of rules. Students are considered responsible and able to exert self-discipline (Lunenburg & Schmidt, 1989; Schmidt & Jacobson, 1990). Congruence between teacher orientation and student

reports of teacher's actual classroom practices has been found (e.g., Deci, Schwarz, Sheinman & Ryan, 1981; Lunenburg & Schmidt, 1989). In parenting research two strategies have been defined, i.e. an authoritarian style favoring conformity and obedience on the part of the child in which forceful and punitive ways of handling different situations are enforced. In contrast, the authoritative parenting could be firm, but at the same time sensitive to the child's views, welcoming child initiatives, using a democratic approach towards the child (Hinshaw, Zupan, Simmel, Nigg, & Melnick, 1997). Even if the parallel to teacher orientation is not carried to the extreme, there appear to be similarities between a custodial orientation and the authoritarian style and between humanistic orientation and authoritative style.

Perceived control refers to a person's perceptions of his/her ability to perform a behavior in a given situation, where perceptions of high control increase the likelihood that a person will perform a behavior or course of action. This view is compatible with Bandura's efficacy concept (Bandura, 1989). Among teachers, high control has been associated with markers of professional competence and engagement, less disciplinary decrees, and a more positive classroom climate (e.g., Agne, Greenwood & Miller, 1994; Schmidt & Jacobson, 1990; Wandenplas-Holper, 1996). Which strategies then seem to be effective? Generally, a non-authoritarian, democratically oriented adult style seems to have positive effects (Rothbaum & Weisz, 1994). Preventive, "authoritative" strategies, combining positive interventions with punitive strategies, are especially characteristic of effective teachers (Brophy, 1996; Kounin 1970). Research has also demonstrated that coercive sanctions have often proved to be ineffective (Cothran & Ennis, 1997). Further, autonomy support, one aspect of a humanistic teacher orientation, has been found to enhance student motivation and self-perception, as well as to reduce children's externalizing behaviors (Deci et al., 1981; Skinner & Belmont, 1993; Vitaro, Tremblay & Gagnon, 1995). Thus, already when teachers plan their teaching strategy and make their orientation choice, this might become a part of the protective or exacerbating factors influencing the child and the development of the teacher-child relationship.

Teacher-Child Relationships

Another aspect of the teacher's importance in relation to children is *the relationships* formed in the classroom. These relationships between teachers and children have not often been studied in terms of socio-emotional interactions. Although there are numerous studies on the topic, the focus has been mostly on instruction, rather than on the social-emotional qualities of the relationships (Pianta, 1999). The best predictor of behavior is intention to act in specific situations (Ajzen, 1991; 2002; Ajzen & Fishbein, 1980; Eagly & Chaiken, 1992). Intentions to act are motivational factors underlying behavior. Attachment relationships are characterized by long-lasting affective

bonds between a child and a specific caregiver. There seem to be similarities between a close teacher-child relationship and attachment relationships, and the possibility of developing attachment-like relationships is enhanced in preschool and school systems where the same teacher relates to the child for longer periods. Children who experience sensitive and responsive teachers could develop secure attachments (e.g., Howes & Smith, 1995). One frequently used measure has been the student-teacher relationship scale (STRS). This scale captures three features of the teacher-child relationship. A *close* relationship is represented by warmth and open communication between the teacher and the child; a *dependent* relationship is described as a communication with a possessive and “clingy” child; and a *conflicted* teacher-child relationship is characterized by discordant interactions and a lack of rapport (Birch & Ladd, 1998; Pianta, 1996).

Relationships and behavior problems

Research on teacher and child ratings of the perceived relationship indicates that children with externalizing and internalizing behavior problems often develop relationships with their teachers in which conflict and dependency prevail (Birch & Ladd, 1998). Conflict-like relationships are normally the most stable across time, having the most consistent effects on school adjustment (Hamre & Pianta, 2001; Howes, Phillipsen, & Peisner-Feinberg, 2000; Pianta, Steinberg, & Rollins, 1995). Results from one of the few observation studies indicate that deterioration in teachers’ interactions with problematic children is noticeable over time. In addition, these children receive more negative affect and less supporting feedback from their teachers (Fry, 1983). Teacher ratings of personal rejection towards children were found to correlate with externalizing problems (Pace et al., 1999). Problematic students receive more criticism, and antisocial or externalizing behavioral style in kindergarten children has been associated with negative teacher relationships (Ladd, et al., 1999; Medway, 1979). However, even if withdrawn children have more conflict and dependent relationships with teachers compared with unproblematic children, their relationships appear to improve and become more like the normative group with the passage of time.

Positive teacher-child relationships

A close relationship with the teacher has been associated with more socially competent behaviors with peers, a higher self-esteem, and greater social acceptance (Howes & Hamilton, 1992; Howes, et al., 1994; Pianta, 1994). Young children also appear better in attending to and learning from adults with whom they have a close and secure relationship (Burchinal, Peisner-Feinberg, Howes, 1999; Pianta, 1999; Peisner-Feinberg & Burchinal, 1997). Prosocial child behaviors already in preschool have been found to be positively related to teacher-child closeness in first grade. Those children who developed a close, warm, and communicative relationship with their teachers

were better adjusted and had a better relationship with their second grade teachers (Birch & Ladd, 1998; Pianta et. al, 1995). Positive bonds to school have been related to less dissatisfaction with the teacher (Murray and Greenberg, 2000).

Research indicates that positive teacher-child relationship, and warm and supportive teachers tend to reduce risky outcomes (e.g., Birch & Ladd, 1997). There are also indications that secure relationships with secondary caregivers (such as teachers) might compensate for insecure attachment relationships with parents in children who have been maltreated by their parents (Lynch & Cicchetti, 1992; van IJzendoorn & Travecchio, 1987, reported in Kesner, 2000). This makes it likely that a close relationship with the teacher may have a similar protective function. However, not all close relationships are necessarily attachment relationships, even if conceptualizations of these relationships are commonly based on attachment theory (e.g., Howes & Hamilton, 1992; Pianta & Niemitz, 1991). A close and supportive teacher-child relationship may also serve as a buffer against different risk factors, as well as predict better peer acceptance for behaviorally children at risk (Hughes, Cavell, & Jackson, 2001; Ladd, et al., 1999; Ladd, & Burgess, 2001; Meehan, Hughes, & Cavell, 2003; Pianta, et al., 1995). Teachers' positive evaluations of children's competence and behavior are thought to be important for positive self-perceptions (Cole, 1991). The child's relationship to the teacher might therefore influence children's self-perceptions. Positive teacher-child relationships also appear to predict academic performance and positive school involvement (Birch & Ladd, 1997). However, other researchers have proposed that classroom and teacher variables are relatively unimportant for children's school achievement (van den Oord & van Rossem, 2002). Still, there are indications of a protective effect of a warm and close teacher-child relationship. Consequently, it should be easier for a socially competent child to develop a close relationship with a teacher than a child who lacks social skills.

Poor teacher-child relationships

In a longitudinal study of children 4-8 years of age Howes (2000) found that elementary school children's aggression was best predicted by low teacher-child closeness. A few studies have indicated that teacher criticism and children's feelings of stress and helplessness have been associated with children's negative self-judgments (Heyman, Dweck & Cain, 1992; Kontos & Wilcox-Herzog, 1997). Teacher-child negativity has been found to predict poorer academic outcomes (Hamre & Pianta, 2001). One interesting question is how the daily child-teacher interactions in a classroom mold their relationship. Although there are many recent studies on teacher-child relationships, most have been performed only with younger pre-school aged children, few have been longitudinal, and there are not many that have studied how these relationships function in vivo in the classroom. Furthermore, it is not clear

whether these relationships could moderate children's behavior problems. Studies II and III of the present thesis addressed these questions.

D. Social competence

Social competence is a construct with various definitions: for example, researchers have defined it as “effectiveness in interaction” (Rose-Krasnor in Denham, Blair, DeMulder, Levitas, & Sayer, et al., 2003), and “the competent individual is one who is able to make use of environmental and personal resources to achieve a good developmental outcome (Waters & Sroufe, 1983, p. 81)”. Social competence and social skills are two words referring to the same concept. Two relevant aspects of social competence are often described as prosocial behavior, defined as the ability and willingness to help, share, and cooperate, and social participation, including responding to another's social overtures and taking initiatives (e.g., Rydell, Hagekull, & Bohlin, 1997). Attachment security in infancy has been related to social competence in elementary school (Bohlin, Hagekull, & Andersson, 2005; Sroufe, Egeland, & Kreuzer, 1990), while mother hostility and punitive parenting, and depression been related to lower social competence (Diener, & Kim, 2004; Romano, Tremblay, Boulerice, & Swisher, 2005). Emotion knowledge and regulation in preschool children have also been found predictive of later social competence (Denham, et al., 2003).

Behavior problems and social competence

An important issue concerns whether children with externalizing and internalizing problems have different kinds of competence deficits. Aggressive children often lack empathy and have deficits in social skills. Furthermore, aggressive/withdrawn youths perceive themselves to have lower social competence as compared with unproblematic controls (Klimes-Doughan & Kistner, 1990; Serbin et al., 1991; Zahn-Waxler, Cole, Welsh, & Fox, 1995). Other studies of preschool children with externalizing behavior problems, however, have shown that these children are able to demonstrate similar concerns for peers and pro-social behaviors as compared with non-problematic children. They, however, seemed to be unable to show positively caring emotions in response to the distress of others (Zahn-Waxler, Cole, et al., 1995). Low social competence is associated with peer rejection (Patterson, Kupersmidt, & Griesler, 1990), and social skill deficits aggravate the peer relation problems of aggressive children (e.g., Bierman & Wago, 1995). There are few studies on social competence and social deficits concerning children with internalizing behavior problems. Further, only some aspects of the internalizing spectra have been studied. One exception is a study in which low social competence was associated with internalizing problems (Weiss, et al., 1998). Results have demonstrated that withdrawn

pre-school children take less social initiatives than their non-withdrawn counterparts and they also take fewer managerial roles in play situations, and when middle school-aged the withdrawn children view themselves as deficient in social competence (Rubin, 1993). Children with anxiety disorders have been rated less socially competent than a control group, both by themselves and by their parents and teachers (Chansky & Kendall, 1997).

Protective role of social skills

One important issue regards the positive role of social skills. In one study prosocial child behaviors predicted both peer and teacher acceptance (Wentzel, 1994b). Recent research has demonstrated that social competence characterizes healthy relationships and is associated with successful school adaptation and achievement, as well as positive teacher and peer relationships (Howes, 2000; Ladd, 1999; Pianta, et al., 1995; Wentzel, 1991; 1993). Social competence has also been reciprocally related to academic achievement (Welsh, Parke, Widaman, & Neil, 2001). Children with perceived social competence have reported more active, coping-oriented behaviors in relation to stress (Reijntjes, Stegge, & Terwogt, 2006). Prosocial behaviors appear to prevent children from depression and problem behaviors (Bandura, Caprara, & Pastorelli, 1996) and reduce loneliness (Stormhak & Webster-Stratton, 1999). Children who were prosocial had more positive self-perceptions than other children (Cheng, 2003). However, there exist contradictory findings. Recently, social efficacy, defined as children's perceptions of their own social capability, failed to predict peer acceptance, school achievement or behavior problems (Caprara, Barbaranelli, Pastorelli, & Cervone, 2003). Nevertheless, social skills may still be an important protecting factor. The question, then, is if and how social competence moderates the negative associations between early problem behaviors and later maladjustment. Dodge & Crick (1990) suggest that social competence moderates the link between children's problem behaviors and relationships. If social competence is an important factor in developing and maintaining good relationships, social skill deficits might be functioning in the opposite direction.

E. Peer relationships

Children's peer relationships are very important in their social functioning, and are even more important as the child approaches adolescence. By middle childhood, more than 30% of children's social interactions involve peers. Social position, i.e., standing in the peer group, is mainly defined by the extent to which a child is accepted by and seen as an attractive partner to those around him or her. The other aspect is the child's satisfaction with his or her situation with peers - that he or she does not feel lonely but experiences social fulfillment in daily life. The nature of children's relationships

with peers can also have an impact on their behavioral and school adjustment, and both poor peer acceptance and self-perceived loneliness could be assumed to be negatively associated with well-being and other aspects of social adjustment. Loneliness and peer acceptance express the child's peer relationships as seen from the inside and from the outside and the possible differentiation of these two phenomena would probably extend our understanding of children's social world. An important question is how children's relations can have a moderating role on later behavior problems and social and school adjustment. This issue has been addressed in Study III.

Peer acceptance

At the level of the group, children's peer relationships are often characterized by social acceptance (popular vs. neglected or rejected), by visibility in the group, the connection to the other members (network centrality) or of dominance and reputation (Grifford-Smith & Brownell, 2003). At the most general level, peer acceptance or socio-metric status refers to the degree to which children are liked or disliked by their peers. A frequently cited procedure to measure socio-metric status is by using peer nominations, where children are asked to nominate classmates they like and dislike (Ladd, 1999b; Coie & Dodge, 1983). Peer preference and impact are combined to receive five peer status categories: popular, rejected, neglected, controversial, and average. One other method is to let children rate all the peers in the class on likeability only. However, the use of a single rating puts greater demands on children when they have to evaluate all classmates; moreover, no control is possible with a single question. A methodological advantage would be the use of both peer liking and disliking measures and combine them with peer nominations of different child behaviors (e.g., aggressive, helpful, and shy) and then to compare these ratings with children's self-reports to get a more comprehensive measure of child-peer relationships (see Study IV).

What then relates to peer acceptance? A secure attachment has been related to active peer interactions and to popularity among peers (e.g., Bohlin, et al., 2000; Sroufe, 1988; Vershueren, et al., 1996). If the child's caregiver has been available and responsive, this would enhance the positive social expectations in the child; if the child is involved in a mutually ongoing relationship with an empathic caregiver, the child will learn what reciprocity and empathy means; and responsive care will have positive significance for the child's self-worth (Elicker, Englund, & Sroufe, 1992). Peer acceptance has been shown to be related to self-esteem, with highly accepted and popular children generally showing high self-perceptions (Boivin & Begin, 1989; Patterson, et al., 1990).

Low peer acceptance and behavior problems

General patterns of linkages have been found from early behavior problems to later peer rejection, and further to psychological adjustment problems in terms of problem behaviors and loneliness (e.g., early aggressive behaviors have thus been related to peer rejection and later problem behaviors and disorders) (e.g., Coie, Lochman, Terry, & Hyman, 1992; Ladd & Troop-Gordon, 2003). Peer rejection, together with aggression, predicted the early onset of conduct problems (Miller-Johnson, Coie, Maumary-Gremaud, Bierman, et al., 2002). However, children with externalizing behavior problems differ on the level of aggression they exhibit. In addition, only about half of all children identified as aggressive have been rejected by their peers (Coie, Dodge, Ferry, & Wright, 1991). An important question has been whether children are aggressive because they have been alienated and rejected or whether they behave aggressively because of deficits in social skills or other problems and therefore become rejected, or if these processes are mutually ongoing ones. In an effort to answer this question, researchers have proposed a conceptual model of how social rejection leads to later aggression, postulating that initial processing biases and deficits lead to social rejection, which subsequently leads to exacerbated processes, biases, and deficits. This chain, then, results in aggressive behaviors (Dodge, Lanford, Salzer-Burks, Bates, Pettit, Fontaine, & Price, 2003). Rejection and aggression thus seem to follow each other and will probably be working in both directions, but also non-aggressive children with internalizing behavior problems have been found to be rejected by their peers (Burks, Dodge, & Price, 1995).

Studies demonstrating that not all aggressive children were rejected prompted researchers consider the importance of a more fine-grained analysis of different types of aggression. There are several definitions of aggression. For instance, it has been defined as *reactive*, involving emotional reactivity as a response to perceived threat, and *instrumental or pro-active*, i.e. a non-emotional aggression oriented toward attaining resources or peer control and unprovoked. Findings in a lab-based playgroup study indicated that only instrumental aggression had an impact on peer rejection for seven-year-old children, whereas *all* types of aggression were associated with peer rejection in nine-year-old children (Coie, et al., 1991). However, a high correlation is normally found between reactive and pro-active aggression. Most studies on aggression have been performed with boys, although some research results point to more non-physical kinds of aggression in girls, including negative gossip and verbal threats (Underwood, Galenand, & Paquette, 2001). Lower peer acceptance has been related to higher levels of anti-social behavior, academic problems, and hyperactivity/inattention.

Low peer acceptance has also predicted internalizing problems (Hymel, et al., 1990), and negative social self-perceptions have been associated with heightened depressive symptoms even in the absence of actual peer rejection

(Kistner, Balthazor, Risi, & Burton, 1999). Children's self-reports in perceiving a lack of peer acceptance has also been related to increased depression levels (Pardini, Barry, Barth, Lochman, & Wells, 2006). Deviant peer associations mediate contributions of low general self-esteem and increased levels of externalizing and delinquent behaviors during early adolescence (DuBois & Silverthorn, 2002).

Pathways to low peer acceptance

Researchers have hypothesized that there are two pathways leading to difficulties in peer relations during childhood (e.g., Parkhurst & Asher, 1992; Rubin, LeMare, & Lollis, 1990). The first pathway is a linkage between externalizing behaviors and low peer acceptance. Externalizing behaviors have been associated with negative peer status in several studies (Campbell, Pierce, March, Ewing, & Szumowski, 1994; Hymel, et al., 1990; Kupersmidt, et al., 1990; Ladd & Kochenderfer-Ladd, 2002). The second pathway is the association between internalizing behaviors and poor peer acceptance. However, concerning the second pathway, the results are unclear and the evidence regarding long-term peer problems are contradictory (e.g., Ladd & Burgess, 1999; Rubin, et al., 1989). Some studies have indicated internalizing behavior to be predictive of poor acceptance or rejection during the elementary school years (e.g., Asher & Parker, 1989; Rubin, Bukowski, & Parker, 1998). Nonetheless, in a longitudinal study early withdrawn children reached nearly the same levels of later peer acceptance and low levels of loneliness as the unproblematic group (Ladd & Burgess, 1999). However, there exist few developmental studies on the role of internalizing behaviors in later peer acceptance.

Protection and risk on peer acceptance

One attempt to clarify how peer relations and behavior problems influence each other is by formulating and testing moderator models. For children with behavior problems, positive peer relations might function in a protecting way, whereas negative peer relations could exacerbate their problems; for instance, children with strong friendships had a greater increase in self-esteem than other children, even when experiencing maltreatment (Bolger, Patterson, & Kupersmidt, 1998). A protective effect of positive relationship with peers was found in that behavior problems increased more slowly, but this effect applied only to adolescents with internalizing behavior problems (Dekovic, et al., 2004). Thus, the situation could be more risky for children with externalizing problems. One hypothesis is that aggressive children are perceived as more responsible for their behavior and therefore eliciting greater feelings of anger from the classmates, while withdrawn children are more likely to elicit greater feelings of pity (Goossens, Bokhorst, & Bruisna, 2002).

Although no direct causal link from peer acceptance to the onset of psychopathology has been found, lack of peer acceptance might play a moderating role in that development. Children who are rejected by their peers tend to express more under-controlled or impulsive behaviors: if they become angry and resentful, this could lead to more continuous externalizing behavior problems (Kupersmidt, et al., 1990). Low peer acceptance or rejection appears to engender feelings of isolation, with eventual risk for anxiety and depression (Burks, et al., 1995). It may also have been associated with unfavorable views of the self and with aggression (Cassidy & Asher, 1992; Guerra, Asher, & DeRosier, 2004; Ladd & Troop-Gordon, 2003). Furthermore, the situation appears most problematic in children who were both aggressive and not well accepted (Ollendick, Weist, Borden, & Greene, 1992; DeRosier, Kupersmidt, & Patterson, 1994; Ladd, 1990; Vitaro, Tremblay, & Gagnon, 1992; Wentzel, 1991; Wentzel & Asher, 1995).

Peer acceptance has also been found to be related to both attitudes toward school and school achievement (Diel, Lemerise, Caverly, Ramsay, & Roberts, 1998; Ladd, 1990; Ladd & Price, 1987; Wentzel & Asher, 1995; Wentzel & Caldwell, 1997). Negative peer treatment has been proposed to mediate between peer rejection and classroom participation, as well as mediate between achievement and adjustment (Buhs & Ladd, 2001). Moreover, peer rejection mediates between child behaviors and later behavior problems, school achievement, and loneliness (Ladd, et al., 1999; Ladd & Troop-Gordon, 2003). Peer acceptance is thus an important aspect of children being able to adjust. Low peer acceptance could be a particular risk factor for developmental problems. Although peer relationship problems have been extensively studied during the past few decades, there are only a few longitudinal studies, especially regarding the examination of peer relationships in terms of linkages to school adjustment and positive self-perceptions. Could social skills be a buffering factor for positive peer relationships and prevent children from later problem behaviors and loneliness? Would this hold true even for children with early behavioral problems? These two questions were addressed in this thesis.

Loneliness

Aspects of loneliness

Loneliness in children, which has been shown to be negatively associated with peer acceptance, is one aspect of peer relations (e.g., Buhs & Ladd, 2001; Ladd & Burgess, 1999; Renshaw & Brown, 1993). However, loneliness is neither easily defined nor interpreted. Thus far, loneliness does not seem to have any universally accepted definition. Some researchers consider loneliness as a one-dimensional construct and define it simply as a discrepancy between desired and obtained social contacts. Other researchers, how-

ever, see loneliness as multidimensional with several individual and relational aspects (Dill & Anderson, 1999). Loneliness could also be defined as *being* lonely, i.e. being socially isolated or lacking social contacts, and as *feeling* lonely, i.e. with the emotional aspects deriving from an absence of close relationships and primarily referring to something children feel and experience both in relation to others and themselves. Recently, researchers have questioned if *loneliness* in terms of children's genuine feelings of being lonely has actually been measured in the studies conducted to date or if these studies have been measuring a lack of social contact (Qualter & Munn, 2002). It should be useful therefore to include both aspects of loneliness in order to extend knowledge about this phenomenon. The concept of loneliness is rather prevalent, with 10% being reported in 5-7-year-olds and 10% in children in grades 3-6 (Asher, Hymel, & Renshaw, 1984; Cassidy & Asher, 1992). In one study it was shown that between 20-50% of adolescents felt loneliness to some degree (reported in Inderbitzen, Pizaruk, Clark, & Solano, 1992). Some gender differences have also been found with males reporting significantly higher loneliness (Wieseman et al., reported in Cheng & Furnham, 2003).

Loneliness and adaptation

Loneliness in younger children has not been studied extensively (Hawker & Boulton, 2000). However, loneliness has been linked to high levels of self-criticism and low self-esteem (Besser, Gordon, Flett, & Davis, 2003; Fordham & Stevenson-Hinde, 1999; Ginter & Dwinell, 1994; Parker & Asher, 1993). In a study on the consequences of loneliness on future orientation for teenagers, lonely children scored lower than socially active children on relational variables, but not on instrumental variables such as education and work. These results held after controlling for probable effects of depressive experiences (Seginer & Lilach, 2004). These results indicate that the most detrimental effects of loneliness have to do with social and not school adjustment. Loneliness has been found to be concurrently related to internalizing problems and to be predicted by social withdrawal (Renshaw & Brown, 1993), as well as to mediate between peer difficulties and internalizing behavior (Ladd & Troop-Gordon, 2003). The correlations between loneliness and depression have ranged from moderate to high (Boivin, Hymel & Bukowski, 1995). Loneliness has also been linked to anorexia nervosa and even suicide (Ernst & Cacioppo, 1999). Several researchers interpret loneliness and depression as highly interrelated problems, partly because of common etiological, preventive, and treatment models, and partly because they consider these constructs causally related to each other (Dill & Anderson, 1999). Others authors stress that loneliness and depressed affect, although highly related, are separable constructs. When lonely young people reach young adulthood, they are e.g. higher in anxiety, negative mood, fear of negative evaluation and anger, and lower in optimism, social skills, social support,

(Cacioppo, Hawkley, Ernst, Burleson, Berntson, Nouriani, & Spiegel, 2005). This indicates that many developmental and health risks, especially of the internalizing kind, are associated with loneliness. Self-reported loneliness has been found to mediate subsequent depressive moods associated with withdrawal and negative peer experiences (Boivin, et al., 1995). Developmental studies on the role of internalizing behaviors in later peer acceptance are scarce, however. Most research links loneliness to internalizing behavior problems, but children with co-morbid aggressive/withdrawn problems or only aggressive problems were found to be lonelier than both normative and withdrawn children (Buhs & Ladd, 2001; Ladd & Burgess, 1999; Ladd & Troop-Gordon, 2003).

Pathways to loneliness

Concerning developmental pathways to loneliness, different trajectories are probable. Researchers have proposed two sub-types of isolation, i.e. passive withdrawal and active-immature isolation, and obtained indices that passive withdrawal was stable predicting both loneliness and later depression, while the immature form more often was associated with aggression and externalizing difficulties and not predictive of later loneliness or depression (Rubin, & Mills, 1988). On the one hand, loneliness is therefore an outcome in a trajectory from early internalizing problems and it is possible that feelings of loneliness are part of a broad spectrum of internalizing problems. On the other hand, loneliness may also result from externalizing problems in that these types of problem are often associated with poor interpersonal skills and poor peer acceptance. Loneliness is a heterogeneous construct, as well as the pathways to loneliness, some of which may have to do with the lonely person's interpersonal failures. Thus, the pathways to loneliness are not clearly delineated and studies focusing on a broad spectrum of predictors are needed to disentangle these relations.

Loneliness and peer acceptance

Self-perceived loneliness in children has been shown to be negatively associated with peer acceptance (e.g., Buhs & Ladd, 2001; Ladd & Burgess, 1999) and positively related to rejection (e.g., Asher, Parkhurst, Hymel & Williams, 1990; Asher & Wheeler, 1985; Cassidy & Asher, 1992; Crick & Ladd, 1993; Ladd & Troop-Gordon, 2003; Parker & Asher, 1993). Children were lonelier later in life if they were initially experiencing poor peer acceptance or receding in peer status. The contribution of initial withdrawal to predict subsequent loneliness is explained by its association with peer acceptance (Boivin, et al., 1995). However, the concepts of loneliness and peer acceptance are not interchangeable. There also seems to be differences even within the low accepted or rejected group, i.e. those who were rejected by their peers because of their submissiveness were found more likely to be lonely than the children who were rejected because of their aggressiveness

(Parkhurst & Asher, 1992). Children who were lonely and rejected became even more rejected later (Asher & Wheeler, 1985; Crick & Ladd, 1993; Parker & Asher, 1987; 1993). In addition, loneliness has been found to be one of the strongest predictors of peer victimization (Hawker & Boulton, 2000). The high prevalence rates and the risk of severe emotional problems make loneliness an important topic for further study. Aside from peer acceptance and problem behaviors, adjustment in terms of, e.g., social competence, psychological well-being, and self-esteem are important aspects to study, as is school achievement and school-liking (cf. Buhs & Ladd, 2001). Studies with broad assessments on larger community samples are lacking. These topics were addressed in Study IV.

Summary

Children with behavior problems

During the past few decades, children with behavior problems, and especially children with externalizing problems, have been extensively studied. The results from this research indicates that these problems place the children at risk for negative consequences in terms of conflict in teacher-child relationships and peer rejection, lower self perceptions, social skill deficits, and lower school achievement. The externalizing problems also seem to be stable, with early problems being good predictors of later problems. Children with internalizing behavior problems are studied to a much less extent than children with externalizing behavior problems. The developmental consequences have been more difficult to interpret, although they mostly point to a smaller risk for detrimental outcomes in comparison with externalizing problems. According to recent researchers, few if any have examined the longitudinal relations between internalizing problems or nonsocial behaviors and self-perceptions (Nelson, Rubin, & Fox, 2005). However, there are some reports indicating that these children also appear to be at risk for developing problematic teacher and peer relations, as well as problems with loneliness. The internalizing behavior problems, however, appear to be less stable than the externalizing problems, even if there are results pointing in the opposite direction. The studies included in this thesis investigated developmental, protective, and exacerbating factors in children with externalizing *and* internalizing behavior problems.

Behavior problems, teacher strategies, and teacher-child relationships

Teacher strategies have mostly been studied from a pedagogical point of view: studies involving psychological aspects are much less frequent. Earlier research has identified a variety of strategies that teacher's use to handle deviant behavior of pupils. Strategies for dealing with problematic behavior of pupils are an important part of a teacher's role, especially since several

studies have reported that teachers perceive that 15% or more of the children in elementary school exhibit high levels of problem behaviors (Wheldall & Beaman, 1998). However, little research is available on factors that may influence teachers' strategies when they face problematic classroom behavior. Therefore, the main objective of the first study was to investigate some of the determinants of teachers' intentions to act, their attitudes, and strategy preferences for handling externalizing child behaviors.

Children's social relationships are very important for their development and adjustment. During the past decade, teacher-child relationships have been studied, with particular focus on the social-emotional aspects of the relationships. The results of these efforts have indicated associations between harmonious relationships and good school adjustment and between conflict-related or dependent relationships and poor adjustment outcomes. At the same time, these studies have not clearly been aimed to investigate these relationships in terms of possible protective or exacerbating factors. Furthermore, only a few studies on teacher-child relationships have been performed using a longitudinal design during middle childhood and in natural classroom settings. Further, investigations to determine whether such relationships could moderate problem development or adjustment are lacking. Studies II and III aimed to address these topics.

Behavior problems and peer relationships

Children's peer relations are especially important in social functioning and one of the most vital developmental outcomes as children approach adolescence. Both poor peer acceptance and self-perceived loneliness have been found to be negatively associated with well-being and other aspects of social adjustment. Peer acceptance has been extensively studied during the past few decades, but studies on loneliness and adjustment in children are not very frequent. Many researchers have proposed that the best approach for understanding the link between early problems and later adjustment problems or psychopathology is comprehensive longitudinal studies of community samples (e.g., Ladd, 1989; Renken, et al., 1989). Studies III and IV used longitudinal community approach to study the protective or exacerbating role of peer relations to later adjustment, as well as potential predictors of peer relationships.

Behavior problems, social competence, and adjustment

Social competence in children is a contributing factor in development. Research has indicated that good prosocial skills are important for children's ability to form positive peer relationships. However, there are only a few studies on social competence and social deficits in relation to children with behavior problems, especially children with internalizing problems. Social competence in a problem child could compensate for the negative behaviors regarding teacher relationships, but this possibility has not been investigated. It seems that social competence could serve as an important moderating fac-

tor for children with early problem behaviors concerning poor peer acceptance and loneliness. These possibilities have been addressed in the studies of this thesis.

Thus, even if studies on children's relationships with teachers and peers are relatively extensive, additional studies are needed to extend our knowledge about the long-term impact of different relationships on behaviorally problematic children's psychosocial and school adjustment. Of special interest is to determine if and how positive or negative teacher-child and peer relationships and children's own competencies may protect against or exacerbate the risks for later behavior problems. This could give important information for prevention efforts, concurrent support, and future treatment interventions.

Aims of the thesis

The overall aim of the thesis is to extend knowledge about the development and adjustment of children with early externalizing and internalizing behavior problems and to study if social competence, teacher-child relationships and various aspects of peer relationships could function as protective or exacerbating factors for children with behavior problems. Another aim was to extend our understanding of inner and outer peer relationships, i.e. loneliness and peer acceptance.

The specific aims were as follows:

1. To investigate how elementary school teachers evaluate their strategy preferences in problematic classroom situations and to identify possible explanations regarding differences in strategy preferences. More precisely, the first study aimed to focus on the relations between teachers' perceived control, teacher orientation and teachers' strategy preferences when confronted with hypothetical incidents of externalizing child behaviors (Study I).
2. To study teacher-child relations and children's self-perception in the second and third years of school in children identified as problematic in grade one. An important issue was to examine the role of actual teacher-child interactions for children and teacher's perceptions of the relationships and to study children's self-perception (Study II).
3. To study the extent to which teacher relationships and behavior with peers moderated later problems, school performance, and peer acceptance in children with externalizing and internalizing problems. A further aim was to study the protective effects of close teacher relationships and positive behavior with peers, and potential exacerbating effects of conflicted or dependent teacher relationships, as well as aggressive and withdrawn behaviors with peers. A final aim was to investigate the im-

portance of these phenomena in terms of independent relationships to later outcomes when early problem behaviors were taken into account. (Study III).

4. To obtain a broader understanding of the social, emotional and school adjustment of children who experience loneliness. A further aim was to study early problem behaviors and social competence as possible predictors of loneliness and degree of peer acceptance (Study IV).
5. To study whether social competence functions as a buffer or protective factor in children with early behavior problems regarding social relations, problem stability, and school achievement (Studies II-IV).

THE EMPIRICAL STUDIES

Methods

Participants and procedures

Study I

In the fall term all first grade teachers in a middle-sized Swedish city received a questionnaire about their control perceptions, teaching preferences, and ways of handling disturbing behaviors in the classroom. Eighty-six or 91 % (85 females and 1 male) of the teachers accepted to participate in the study. All participating teachers had many years of professional experience ($M = 21$ years, $SD = 8$). All had a formal teacher training and one fourth had additional schooling.

Longitudinal Studies II and III

Six months later, in the spring of first grade and after parental consent, these teachers rated 524 students (or 40%) of all first-graders concerning externalizing and internalizing behavior problems as well as social competences. The classes were selected through a randomized stratified procedure to guarantee that all types of residential area would be represented in the city's central and suburban areas. The *selection of participants* in a longitudinal study (Studies II-III) was based on Rutter scale scores (see measures). Two problem groups and one unproblematic group were selected from the sample of 524 children. The aim was to construct problem groups that contained decidedly problematic children and therefore a cut-off of ≥ 3 was used (from a five-step scale). One other aim was to obtain "pure" groups. Thus, children with both externalizing and internalizing problems were excluded. Each problem group scored close to 1.5 *SD* above the mean of the recruitment sample on their respective problem scale.

- The externalizing problem group was defined as children with ≥ 3 on the Externalizing Problem Scale and ≤ 2 on the Internalizing Problem Scale (20 boys and 6 girls).
- The internalizing problem group consisted of 25 children (8 boys and 17 girls) of the 44 children with ≥ 3 on the Internalizing Problem Scale and ≤ 2 on the Externalizing Problem Scale.

- The unproblematic group consisted of 44 children (21 boys and 23 girls) with ≤ 1.70 on both problem scales, selected from classes with same-sex problem children.

As is often done in clinical studies, the unproblematic group was made larger in order to increase statistical power. As an indication of the validity of this procedure, the groups differed substantially in problem levels. In the externalizing group the mean for externalizing problems was 3.49 ($SD = .42$), while the mean for internalizing problems was 1.51 ($SD = .43$). In the internalizing group the mean for internalizing problems was 3.53 ($SD = .44$) and 1.28 ($SD = .31$) for externalizing problems. In the unproblematic group, the means for the two problem scales were 1.13 for externalizing problems and 1.14 for internalizing problems ($SD = .21$ for both scales).

One hundred children had been selected to participate in the longitudinal study. Five parents did not give permission for their child to participate in the study. The participating 95 children (52% boys) were from 23 classes from 20 schools, representing all the city's school districts. At inclusion, the children were 7 years old ($M = 7.5$ years, $SD = 3$ months). Two children moved from the city between the second and third grade and two children moved during third grade. In grade 6, two children had returned, and they participated once more. However, two parents did not allow their children to participate in the follow-up study, probably because their children were now diagnosed as learning disabled. Thus, the final sample was 91 children that participated in grade 6.

Ten percent of the mothers and 7% of the fathers had compulsory school (9 years of schooling) as their only education; 42% of the mothers and 48% of fathers had vocational training, or had completed secondary school (12 years of schooling); and 48% of the mothers and 45% of the fathers had a college or university degree. In grade six all children had new teachers.

Twenty-three elementary school teachers (22 females and 1 male) participated in grade 1, all with many years of professional experience ($M = 21$ years, $SD = 8$). All classes but three had the same teacher through the three years.

Longitudinal Study IV

Totally, 323 children (51% boys, 49% girls) were included in the longitudinal sample. The children were included based on having complete data, including both teacher measures in grades 1 and 6 and self-ratings and peer ratings in grade 6. Before excluding children with incomplete data, the longitudinal sample consisted of 80% or 410 children of the first graders included in an original sample of 524 children. This new sample consisted of 52% boys and 48% girls from 32 schools and 37 classes, representing all 13 of the town's school districts. The attrition between grade 1 and 6 (20%) was due to several families moving out of the area ($n = 45$), teachers in three classes

declining participation ($n = 57$), and few families that did not consent to further participation ($n = 12$). There were no differences at the start of the study between the children who remained and those who dropped out on gender, $\chi^2(524, 1) = 3.77$, externalizing or internalizing problems or social competence, $t_s < 1.15$, ns. In grade 6, 95% of the classmates ($n = 485$) of these 323 children participated as well. For 5% ($n = 28$) of the classmates, parents did not consent to the child's participation in the study. Thus, 808 children in 56 classes from 37 schools (50% boys) participated in the children's self-nominations and peer nominations. However, their teachers, because of logistic reasons, rated only 653 of these children.

In grade 1, the children in the present longitudinal sample were 7 years old ($M = 7$ years, 10 months; $SD = 3.6$ months) and the participating sixth-graders were 12 years old ($M = 12$ years, 1 month; $SD = 4$ months). In grade 6, 84% of the children had parents from a Nordic country and 16% had a non-Nordic background.

Table 1. Design of the studies

| Study I | Study II | Study III | Study IV |
|--|--|---|--|
| <p>First grade teachers: n= 86</p> <p>Disciplinary strategy preferences</p> <p>Perceived control</p> <p>Teacher orientation</p> <p>Observed teacher behaviors (n=16)</p> | <p>Grade 1: n=524 children (M = 7 years, 6 months, SD=3)</p> <p><i>Grade 1: n=95:</i> Teachers' ratings of children's problems and competency</p> <p><i>Grade 2: n=95:</i> Observations in classrooms of teacher-child and child-peer behaviors</p> <p><i>Grade 3: n= 91-93:</i> Child reports of self-perception and child-teacher relationships</p> <p>Teacher ratings of teacher-child relationships and children's problems and competency</p> | <p>Grade 1, 2, 3 and 6: n= 91-95</p> <p><i>Grade 1, 3, 6:</i> Teachers' ratings of children's problems and competency</p> <p><i>Grade 2:</i> Observations in classrooms of child-peer behaviors,</p> <p><i>Grade 3:</i> Teacher ratings of teacher-child relationships</p> <p><i>Grade 6:</i> Peer nominations of peer acceptance and behaviors</p> <p><i>Grade 6:</i> Teachers ratings of school achievement</p> | <p>Grade 1 and 6: n=323 children</p> <p>Grade 6: n= 808 children, ≈ 12 years old</p> <p><i>Grade 1, 6:</i> Teacher ratings of children's problems and competency</p> <p><i>Grade 6:</i> Teachers ratings of school achievement</p> <p><i>Grade 6:</i> Child's reports of self-perception, school liking, loneliness</p> <p><i>Grade 6:</i> Peer nominations of peer acceptance and behaviors</p> |

In the spring term of the *second grade*, the author in natural classroom settings observed the teacher-child interactions, teacher's behaviors towards the children, and the child's behavior towards teacher and peers. The observational protocol was developed after pilot observations in other classrooms with same-aged children. During the pilot observations, all children and teacher behaviors were written down as they occurred. The items in the observational protocol were developed from these behaviors, resulting in a recording sheet with 31 items for child behaviors and 29 items for teacher behaviors (see measures). There was one sheet for each five-minute observation period. Each item was defined by descriptions of specific behaviors. After several training sessions in classes outside the study, the author made all the observations. Each child was observed for 10-20 five-minute periods ($M = 13$ periods) of ordinary classroom activities during 3-5 ($M = 4$ days) school days. The teacher was naive with respect to the target child while the observer was blind to the classification (problematic or not) of the child. The target children in each class were scheduled and observed in a predetermined random order. During each five-minute observation, the observer focused her attention on the target child, discreetly shifting her position in the room. Every 7.5 seconds during each five-minute observational period, the child and the teacher's ongoing behavior were recorded in the appropriate slot on the recording sheet. The intervals were marked by a beep in the observer's ear from a tape recorder. The observations thus captured simultaneous ongoing child and teacher behaviors. The children were used to having visitors in the classroom (e.g., student teachers and remedial teachers) and thus did not pay much attention to the observer.

In the fall of the *third grade*, the children were interviewed individually about their self-perceptions and their relationship with their class teacher. The teacher's responded to questionnaires about their perception of their relationship with each child. Teacher ratings were also collected for the two children who had moved. During the spring term of *third grade*, the teacher again rated the children regarding behavior problems and social competence. Information about parental education was collected and the parents were asked to rate the children's behavior problems and competency (Rudquist, 1999).

During the spring term of *sixth grade*, the teachers rated problem behaviors, social competency, and school achievement in four subjects, Swedish, Mathematics, English, and Social Science. The children gave self-ratings of self-esteem, psychological well-being, loneliness and school liking. The self-ratings were performed during ordinary lessons and conducted by the author or a school psychologist. Peer nominations were conducted at the same time as the self-ratings and included measures of peer acceptance and positive, aggressive, and shy peer behaviors.

Measures

Teacher orientation

Two measures of teacher orientation were used: attitudes to classroom practices and teacher characteristics. Teacher orientation was reflected by a personal or impersonal relationship to the children and by teacher control. *Eight pairs of statements measured teacher attitudes* with one of the pairs representing a custodial style and the other a humanistic style. The personal vs. impersonal aspect was covered by four statements, which reflected the personal-impersonal relationship and teacher control and student participation aspects of teacher attitudes (e.g., “stay objective and in control” vs. “be personal with students”; “touch a child once in a while” vs. “always maintain a verbal, matter-of-fact contact”; “express feelings when angry and irritated” vs. “keep feelings of anger and irritation back”; “give more attention and support to children who need more” vs. “all children should be treated the same”). The aspect of teacher control vs. student’s initiative/participation was covered by four statements; “let students try out ideas even if I think other solutions are better” vs. “plan and direct all classroom activities based on my professional expertise”; “point to mistakes to teach students what is wrong” vs. “praise students for what they do right”; “students should learn from adults” vs. “students must be allowed to try their own solutions”; “students should be taught what they are not allowed, i.e. limits”, vs. “students should be taught what they are allowed to do, i.e., liberties”. Respondents were instructed to endorse the statement in each pair that was most in accord with their view. A bipolar *custodian-humanistic teacher orientation measure* was created by subtracting the number of endorsements of custodial orientation from the humanistic ones. High values reflected a humanistic orientation and low values reflected a custodial orientation. Indications of teacher orientation were measured by having teachers rate 21 descriptive items (Granström, 1996) on a seven-step scale, where most of them captured the personal-impersonal aspect of teacher orientation (e. g. “warm”, “keeping one’s distance”). Two scales could be constructed after factor analysis: *Involvement*, which included 11 items, $\alpha = .76$ and *Self-restraint*, which included 6 items, $\alpha = .74$. High involvement and low self-restraint scores indicate a humanistic orientation, whereas low involvement and high self-restraint reflect a custodial orientation.

Teacher perceived control

Teachers’ perceived control was measured with 10 items ($\alpha = .72$, e.g., “I always feel in control of my students”, “Some students do things I can’t handle”-R), from a Swedish translation and application to pre-school teachers (Hammarberg & Hagekull, 2000) of the Control of Child Behavior Scale,

a subscale to the Parental Locus of Control (PLOC; Campis, Lyman & Prentice-Dunn, 1986). In this context the wordings were changed to be applicable to elementary school teachers.

Teacher strategies

Teacher strategy preferences in handling problematic classroom or school behaviors were measured by 10 vignettes based on classroom observations and consultations with experienced teachers. The brief stories were constructed by the author and described various problematic classroom situations. Seven of the 10 vignettes used described disruptive behavior in class, late arrival after recess, foul language, neglecting homework, disobeying instructions, derogatory remarks about the free lunch meal, and a fight between children during recess. A majority of the teachers had nominated externalizing behaviors similar to those described in the vignettes among the most disturbing student behaviors, thereby attesting to the validity of the vignettes. Respondents were asked to endorse one of the five to six given response alternatives describing alternative interventions or to formulate their own strategy in an open-ended response. Five alternatives matched disciplinary practices described in the Parental Discipline Interview (PDI; Palmerus, 1999; Palmerus & Scarr, 1995; Scarr, Pinkerton, & Eisenberg, 1991), but were modified to accommodate the school context. The teacher was asked to indicate how she would handle the situation if this problem had occurred once only or if it had occurred several times. Two alternatives indicating punitive behaviors were considered to represent authoritarian strategies (“Firm verbal reprimands” and “Physical restraint”). Two alternatives that indicate a democratic style (“Discussion with student” and “Weak authority”) were considered as non-authoritarian strategies. ‘Behavior modification strategies’ or behavior contingences imply that the strategies are used in a systematic and contingent manner. Reinforcement of positive child behaviors was included among the behavior modification strategies (Beaman & Wheldall 2000; Ferguson & Houghton, 1992). The response alternative “Contacts with the child’s parents to discuss problems” was added as an intervention suitable to the school context (Merrett, Wilkins, Houghton, & Wheldall, 1988; Moore & Cooper, 1984). The alternatives thus consisted of the following strategies:

- Firm verbal reprimand: firm commands to stop misbehavior
- Physical restraint: remove child from room
- Reasoning/discussing: discuss the situation, talk the problem through
- Weak authority: plead, praise, give student alternative assignment
- Behavior modification approach: reinforce good behavior, retention, time-out
- Contacting parents: contact parents to discuss problem and ask for help

The content of all open-ended responses was covered by the given alternatives, which were coded as one of the six alternatives. To establish reliability two independent coders evaluated 49 randomly chosen open-ended responses (29% of all open-ended responses). The two coders reached 94% absolute agreement. Preference for each type of strategy was measured by the sum of endorsements in the seven vignettes under the two conditions (endorsements under the two conditions were significantly related, $p < .05$ or better, for all strategies except weak authority, $p < .30$). When not agreeing, the coders had chosen alternatives close to one another, such as reasoning/discussing and exerting weak authority.

Observed teacher behavior.

One year after the administration of the questionnaire, teachers' interactions with second grade students were observed. Standardized values of mean frequencies of five teacher behaviors towards the 26 children with externalizing behavior problems were used in Study I. Two scales were constructed: The Scale of Positive Educative Actions, $\alpha = .70$ (encourage, individual instruction/explaining) and the Scale of harsh/punitive behaviors, $\alpha = .56$ (physical restriction/removal, irritation and anger). A measure of limit setting/corrections was constructed by two items: commands and reprimands, $r = .27$. Reliability between two independent observers (two persons were in the classrooms together) of 29 children (nine of these from the present group) was found to be satisfactory. For the three aggregated teacher behavior scales (mean of frequencies of separate items), reliabilities were $r(29) = .94$ to $.98$, and for the two separate items percent agreement as to the frequency for each child of teacher behavior was 93 and 100%.

Behavior problems CBQ

To measure children's behavior problems the teacher version of the Children's Behavior Questionnaire (CBQ; Rutter, et al., 1970) was used in grades 1, 3, and 6. The scale measuring *Externalizing Problems* had nine items and captured acting-out behaviors (e.g., "is often disobedient"), as well as restlessness and inattention (e.g., "very restless"). The α s were between .92 and .95 during all three grades in Studies II and III, respectively, and between .89 and .91 in grades 1 and 6, respectively, in Study IV. The scale measuring *Internalizing Problems* had five items, (e.g., "often worried"). During the three grades measured in Studies II and III, α s were between .86 and .89, and in Study IV the α s were between .77 and .80.

As a test of the validity of the teacher ratings, relations between the ratings of externalizing and internalizing behavior problems and the two peer behavior scales from classroom observations one year later were computed. Externalizing problems were related to aggressive peer behavior, $r(95) = .20$,

$p = .05$, but not to withdrawn/uncertain behavior, $r(95) = .16$, ns. Furthermore, internalizing problems were related to withdrawn/uncertain peer behavior, $r(95) = .24$, $p < .05$, but not to aggressive peer behavior, $r(95) = .00$.

As a test of reliability across contexts, the ratings in grade 3 regarding concurrent relations between teacher and parent problems were computed. For externalizing problems, the correlation was $r(81) = .55$, $p < .001$ and for internalizing problems it was $.23$, $p < .05$, results that correspond to those of other studies.

Social Competence SCI

Social competence was measured with the teacher version of the Social Competence Inventory (SCI). This inventory captures two aspects of social competence, namely prosocial orientation and social initiative derived through extensive factor analysis (Rydell et. al, 1997). The *Prosocial Orientation Scale* has 17 items, $\alpha = .94$ (e.g., "gives compliments to peers", "shows generosity towards peers"). The *Social Initiative Scale* has eight items, $\alpha = .91$ (e.g., "often suggests activities and games to play with peers", "invites shy children to participate in play"). In Study IV, the total scale including all 17 items was used for the analyses, $\alpha = .94$ in grade 1 vs. $\alpha = .96$ in grade 6.

Teacher-child relationships

The teacher-child relationship was first assessed through *observations of teacher-child interactions* in grade 2. There were 31 items for child behaviors, of which 12 codes captured behaviors towards peers. The other 19 items captured child behavior in class and behaviors towards the teacher. Teacher behaviors had 29 items, with 24 of these capturing behaviors towards the target child. Five items captured behaviors towards other children or the whole class and were not used in the present analyses. The mean frequency for each item across all observation periods was computed. As a basis for scale construction, the frequencies were standardized and a factor analysis was then performed. Three meaningful factors were identified and subsequently used to construct scales that reflected teacher-child interactions, as the mean of frequencies. The *Disruptive Behavior Correction Scale* was made up of 10 items, $\alpha = .82$ (e.g., child off-task behavior, conversation with peer and motor restlessness, and teacher admonishing child or making critical remarks). The *Mutual Anger Scale* included eight items, $\alpha = .76$ (e.g., the child talking disruptively, giving irritated or angry remarks to teacher, and the teacher restraining child physically, giving irritated or angry remarks to child). Finally, the *Positive Interaction Scale* consisted of five items, $\alpha = .65$ (e.g., the child asking for help, giving positive remarks to teacher, and the teacher encouraging, praising or helping the child). Interob-

server agreement was calculated for 29 of the children and ranged from $r = .94$ to $.98$ for the three interaction scales.

Children's perception of their relationship with their teacher was assessed in grade 3 with seven self-report items constructed by the present author. A five-point rating scale was used, where 1 = "very happy" to 5 = "very angry" (e.g. "When I meet my teacher I feel..." or "My teacher often is...") or from 1 = "very much" to 5 = "not at all" (e.g. "I think my teacher likes me..." or "I like my teacher ..."). Each endpoint and the middle response point were illustrated with drawings of a happy, neutral or angry face, with the meaning of each face carefully explained to the child. The scale was computed as the mean of items. Low values denote a positive relationship with the teacher. The scale demonstrated good internal consistency, $\alpha = .86$, and was related to teacher ratings of conflicts, $r(93) = .21$, $p < .05$. The *teacher's perception of each child's relationship with her* was measured with a Swedish translation and adaptation of "The Student-Teacher Relationship Scale" (STRS; Pianta, 1996). The scale included 28 items. A five-point rating scale was used, where 1 = "don't agree at all" to 5 = "totally agree". The original factor solution with three factors (Pianta, 1996) was confirmed in the present sample. Scales were constructed as the mean of items. *The Conflict Scale* consisted of 12 items, $\alpha = .86$, (e.g., "This child and I always seem to be struggling with each other"), the *Dependency Scale* had five items, $\alpha = .64$, (e.g., "This child is overly dependent of me") and the *Closeness Scale* comprised 11 items, $\alpha = .79$, (e.g., "I share an affectionate, warm relationship with this child").

Peer relationships

Peer relations. In grade 2, peer relations were measured in classroom observations of the target child's behaviors with peers. Twelve peer behavior items (e.g., "fussing, teasing", "rejects contact attempt from peers", "friendly touches") were standardized and factor analyzed. From this analysis, three meaningful factors were identified, with scales constructed as the mean of items. The *Aggressive Peer Behavior Scale* with four items, $\alpha = .69$, captured physical and verbal hostility (pushing and hitting peer, angry and irritated remarks). The *Withdrawn Peer Behavior Scale* was made up of two items, $\alpha = .77$, (e.g., vague and undirected remarks, looking sad or uncertain), and the *Competent Peer Behavior Scale* contained four items, $\alpha = .67$, (e.g., friendly touches, positive verbal comments). Agreement between independent observers was $r(29) = .89$, $.88$, and $.94$ for the *Aggressive Peer Behavior Scale*, the *Withdrawn Peer Behavior Scale*, and the *Competent Peer Behavior Scale*, respectively. In grade 6, seven nomination items were used to assess *behaviors with peers and peer acceptance*, where children were asked to nominate up to three children to each item. The procedure followed the one described by Ladd (1999b). For positive behaviors, children were

asked to name “three children in the class that are helpful and nice to others” and “three children that are good at cooperating”. For aggressive behaviors, children were asked to name “three children in the class that get into fights with others” and “three children that kick, push, and hit other children”). Finally, one item referred to shyness ($\alpha = .81$) (“name three in the class that are very shy”). One item measured social liking (“name three in the class that you wish to be with”) and one item measured social disliking (“name three in the class that you do not wish to be with”). Each item was standardized across gender within each class. By averaging the nominations for the two positive behavior items, a *Positive Behavior Scale* was constructed, ($\alpha = .84$). An *Aggressive Behavior Scale* was similarly constructed by averaging the aggressive behavior items ($\alpha = .86$). As a mean of peer acceptance, a *Social Preference Score* (SPS) was derived by subtracting the number of nominations on the social disliking item from the number of nominations on the social liking item. Children’s self-perceptions of *loneliness* were measured by “The Loneliness and Social Dissatisfaction Questionnaire for Young Children” (LSDQ; Asher, et al., 1984; Cassidy & Asher; 1992) using a five-point Likert-type scale. In this study a revised version with a four-point Likert-type scale was used, where 1 = fits very well to 4 = doesn’t fit at all. The loneliness scale included 16 items that captured both subjective lack of social contact and feelings of loneliness (e.g., “It is easy for me to make new friends”- reversed scoring, “I feel alone” ($\alpha = .89$)). Two groups were formed, where the lonely group consisted of those children comprising the upper 30% on the loneliness scale and the non-lonely group consisted of the other 70%.

Self-perception

In *grade 3*, the child’s *self-perception* was measured with a Swedish 32-item self-report instrument for elementary school children (“How I am”, Ouvinen-Birgerstam, 1985). The instrument has shown good psychometric properties, with split-half reliability $> .80$. This instrument has been used extensively in both clinical settings and in research in Sweden. The children are instructed to evaluate each statement on a yes/no dichotomous format according to whether it describes them accurately. The measure contains positively and negatively worded items. Scale scores are computed as the sum of the endorsed items. The instrument has five subscales, which have been tested in factor analyses on the original sample. One scale, Physical well-being, captures evaluations of one’s appearance and physical well-being (e.g., “I have a nice face”). The Achievement Scale captures how the child thinks that he/she is doing in school (e.g., “I am good at arts”, “I am bad at mathematics” –Reversed scoring), Psychological well-being captures the child’s predominant mood (e.g., “I easily get angry “–Reversed scoring”, “I am almost always happy”), Social relations capture the child’s view of

his/her relationships with peers and teacher (e.g., "I like my classmates", "My teacher is nice to me"). A self-perception score was computed as the sum of the four subscale scores ($\alpha = .73$). The fifth scale, which captures the relationship with parents, was not used.

In *grade 6*, children's self-perception was measured with a Swedish version of Harter's "Self-perception Scale for Adolescents" (Harter, 1985; Wichstrom, 1995). The child was instructed to evaluate each statement according to whether it describes him/her on four-point response scales, with scale endpoints stated for each item (1 = applies very well and 4 = doesn't apply at all). The measure contains five scales but only one of them was used in Study IV, namely 'the Global Value Scale' ($\alpha = .82$), which contains five items (e.g. "I am often disappointed with myself" – Reversed scoring). The revised Harter Scale was complemented by nine newly constructed items paralleling the Swedish Self-perception instrument used in grade 3 (Ouvinen-Birgerstam, 1985). This scale, named 'Psychological Well-being' ($\alpha = .75$), captures feelings of happiness, sadness, and discomfort (e.g., "I am a happy person", and with reversed scoring, e.g. "I often feel sad").

School adjustment

School adjustment was measured in grade 6 using teacher ratings of school achievement and child ratings of school liking.

School achievement was rated by teachers and included children's performance in four subjects: Swedish, Mathematics, English, and Social science. The ratings were done on five-point scales ranging from 1 to 5 with ascending numbers indicating higher achievement. The teachers were instructed to rate the child's achievement in comparison with peers. Averaging the scores on the four items provided an overall measure of school achievement ($\alpha = .92$). Results from the National tests in grade 5 in Swedish, English, and Mathematics were included for a sub-sample of five of the participating classes. The correlations with teacher ratings a year later were high, $r = .82, .82, \text{ and } .88, p < .01$ for Swedish, Mathematics, and English, respectively. *School Liking* was measured by six items from the "School Liking and Avoidance Questionnaire" (SLAQ) adapted from Ladd & Price, (1987) (e.g., "I wish I didn't have to go to school" – Reversed scoring, "I like being in school"), and ratings were made on a four-point scale ranging from 1 "does not apply at all" to 4 "applies very well" ($\alpha = .88$).

Table 2. Overview of measures and ratings used in each of the four studies

| | |
|--|--|
| <p>STUDY I</p> <p><i>Perceived control</i> TLOC- Teacher perceived control <i>Teacher strategies</i> Problem vignettes <i>Teacher orientation:</i> Attitudes to classroom practices Teacher characteristics <i>Teacher behaviors:</i> Classroom observations</p> | <p>STUDY III</p> <p><i>Behavior problems:</i> CBQ, grades 1, 3, 6 <i>Social competence:</i> SCI, grades 1, 3, 6 <i>Teacher-Child relationship:</i> STRS, grade 3 <i>Peer relations:</i> Classroom observations, grade 2 Peer nominations, grade 6 <i>School achievement:</i> National tests, grade 5 Teacher ratings, grade 6</p> |
| <p>STUDY II</p> <p><i>Behavior problems:</i> CBQ -Children behavior Questionnaire, grades 1, 3 <i>Social competence:</i> SCI- Social Competence Inventory, grades 1, 3 <i>Peer behaviors</i> Classroom observations, grade 2 <i>Teacher Child interactions:</i> Classroom observations, grade 2 <i>Teacher-Child relationship:</i> Teacher report: STRS-Student-Teacher Relationship Scale, grade 3 Children report: Teacher and I, grade 3 <i>Children Self-perception:</i> JTJA- How I am, grade 3</p> | <p>STUDY IV</p> <p><i>Behavior problems:</i> CBQ, grades 1, 6 <i>Social competence:</i> SCI, grades 1, 6 <i>Children Self-perception:</i> Harter: Self-perception Scale for Adolescents, grade 6 <i>Peer acceptance:</i> Peer nominations, grade 6 <i>School adjustment:</i> SLAQ: Liking and Avoidance Questionnaire, grade 6 <i>Loneliness:</i> LSDQ: Loneliness and Social Dissatisfaction Questionnaire for Young Children, grade 6 <i>School achievement:</i> National tests, grade 5 Teacher ratings, grade 6</p> |

Study I

Elementary school teachers' strategies to handle externalizing classroom behavior: A study of relations between perceived control, teacher orientation and strategy preferences

Background and aims

Teachers are important for children's achievement and their social and emotional adjustment. The goodness of a supportive and warm teacher has been stressed (e.g., Pianta, et al., 1995). However, children may exhibit problematic behaviors which might influence teachers' ability to be supportive, and teachers generally perceive about 15% of children to be exhibiting various externalizing and disturbing behaviors (Wheldall & Beaman, 1998). Teachers differ in the disciplinary strategies they employ and in how successful they are in dealing with these disturbing child behaviors. Thus, teacher strategies seem to be an important part of the teacher role. Preventive and "authoritative" strategies, combining positive interventions with clear consequences and rewarding good behavior, have characterized effective teachers (e.g., Brophy, 1996; Kounin 1970; Mayer, 1999; Merrett, et al., 1988; Tulley & Chiu, 1998). However, what underlies individual differences in disciplinary strategies has barely been studied, and conceptualizations of why individuals differ in the strategies they prefer are very seldom performed.

In brief, Ajzen's Theory of Planned Behavior postulates that attitudes toward a behavior, the subjective norm or moral obligation, and perceived behavioral control all influence the intentions to act, which, in turn, determine behavior. An attitude refers to the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question (Ajzen, 1991). Inspired by the suggested effects of attitudes and perceived behavior control on action intentions and behaviors, the constructs of perceived control and teacher orientation were used in an effort to understand teachers' disciplinary strategies. *'Perceived control'* refers to a person's perceptions of his/her ability to perform certain behaviors in a given situation. In this study this meant personal control over one's own classroom situation. *"Teacher orientation"* was used to encompass teacher attitudes to classroom practices and the teacher role. A custodial orientation implies a directive teacher role with focus on the maintenance of order, favoring punitive sanctions and impersonal teacher-student relationships. A humanistic orientation favored such things as open and reciprocal interactions, close teacher-student relationships, and student initiatives (Lunenburg & Schmidt, 1989; Schmidt & Jacobson, 1990).

The primary aim of Study I was to investigate relations between teachers' perceived control, and teacher orientation and teachers' strategy preferences when confronted with hypothetical incidents of externalizing child behav-

iors. Based on prior parenting and teacher research, it was expected that perceived high control and a humanistic orientation would be associated with non-authoritarian strategies, whereas low perceived control and a custodial orientation would be associated with authoritarian strategies (e.g., Janssens, 1994; Vandenplas-Holper, 1996). A further aim was to study whether perceived control and teacher orientation was independent of teacher strategy preferences. This notion was inspired by the assumption from the 'Theory of Planned Behavior' that perceived control and attitudes act as independent influences on intentions to act.

Results

Initial frequency analyses demonstrated that some strategies were more frequently used than others. Reasoning/discussion was shown to be the most popular disciplinary strategy followed by contacting parents and weak authority; the least common strategy was physical restraint. The participating teachers perceived themselves as having good control over the classroom situation. A humanistic orientation was strongly stressed, with most teachers rating involvement as very important for them in their professional role. The Involvement scale had a mean of 6.45 on a 7-point scale, with little variation. Because of this skewed and narrow distribution, the scale was excluded from further analyses. The teachers also deemed self-restraint important, with this scale showing larger variation. A humanistic-custodial orientation regarding classroom practices was negatively related to the evaluation of self-restraint as important ($r(83) = -.30, p < .01$); perceived control, however, was not related to any of the teacher orientation measures (all r s $< .16$, ns).

The results of this study indicate that perceived low control over the classroom situation was associated with preferences for authoritarian strategies. In contrast, a high-perceived control was associated with non-authoritarian strategies (Table 3). A humanistic teacher orientation was associated with a preference for discussion, whereas a custodial orientation was associated with contacting parents and verbal reprimands.

Regression analyses were performed to test whether the results were consistent with the independent effects of perceived control and attitudes on action intentions postulated by Ajzen's Theory of Planned Behavior (1991). The results demonstrated strong evidence of independent relations of perceived control and teacher orientation to strategy preferences. Perceived low control and a custodial orientation were associated with preferences for authoritarian strategies, and perceived high control and humanistic attitudes were associated with non-authoritarian strategies: High perceived control and low self-restraint predicted weak authority, $\beta = .25$ and $-.28, p < .05$. Verbal reprimand variable was predicted by low perceived control and a custodial orientation, $\beta = -.25$ and $-.23, p < .05$. Contacting parents was

predicted by high perceived control, $\beta = .18, p < .10$, high self-restraint, and a custodial orientation, $\beta = .22$ and $-.22, p < .05$.

Table 3. Product-moment correlations between perceived control, teacher orientation and disciplinary strategy preferences (N= 85-86).

| Perceived control and teacher orientation | Disciplinary strategy preferences | | | | | |
|---|-----------------------------------|----------------|----------------|----------------|----------------|----------------|
| | DR <i>r</i> | WA <i>r</i> | CP <i>r</i> | BM <i>r</i> | VR <i>r</i> | PR <i>r</i> |
| Perceived control | .11 | .21* | .22* | -.21+ | -.24* | -.20+ |
| Teacher orientation | | | | | | |
| Humanistic-custodial ^a attitude to classroom practices | .32** | .18 | -.27* | .07 | -.24* | .14 |
| Self-restraint | -.29** | -.25* | .29** | .05 | .00 | .03 |

+ $p < .10$ * $p < .05$ ** $p < .01$ ^a High values indicate a humanistic teacher orientation and low values indicate a custodial teacher orientation. DR = Discussion/reasoning, WA = Weak authority, CP = Contacting parents, BM = Behavior modification type, VR = Verbal reprimand, PR = Physical restraint

To validate teachers' strategies to handle hypothetical disturbing classroom situations relations between these strategy preferences and observed teacher behavior were analyzed in a sub-sample of 26 children and their teachers. The results indicated that a preference for discussion/reasoning was negatively related to observed limit-setting/behavior corrections, reprimands, and harsh/punitive teacher behavior and positively related to positive educative actions. A strategy preference for physical restraint was positively related to actual reprimands in the classroom. Teachers' strategy preferences and associations between perceived control, teacher orientation, and strategy preferences were therefore validated (Table 4).

Table 4. Product-moment correlations between disciplinary strategy preferences and observed teacher behavior with children with externalizing problems (N = 26)

| <i>Disciplinary strategy preferences</i> | Observed teacher behavior | | | | |
|--|---------------------------|-------------------------|------------------------|------------------------|------------------------|
| | <i>PEA</i> <i>r</i> | <i>LS/C</i> <i>r</i> | <i>COM</i> <i>r</i> | <i>REP</i> <i>r</i> | <i>H/P</i> <i>r</i> |
| Discussion/reasoning | .35+ | -.33+ | -.04 | -.48* | -.36+ |
| Weak authority | -.06 | -.27 | .07 | -.54** | -.16 |
| Behavior modification | .35+ | .17 | .52** | .40* | -.36+ |
| Verbal reprimands | -.30 | .25 | -.07 | .36+ | .06 |
| Physical restraint | .03 | .15 | .29 | .49* | -.12 |

+ $p < .10$ * $p < .05$ ** $p < .01$

PEA = Positive educative actions, LS/C = Limit setting/corrections, COM = Commands, REP = Reprimands, H/P = Harsh/punitive behavior

Conclusions

One contribution to earlier research was the investigation of present-day elementary school teachers' strategies when dealing with externalizing and disturbing behaviors and the relation between these strategies and teacher behavior in the classroom. A striking result was that teachers' repertoire of interventions appeared rather narrow, with the most frequent strategy being to *discuss* with the child all situations involving misbehaviors and thereafter to contact the parents for their help in correcting these misbehaviors. An exploration of alternative or complementary strategies could prove beneficial for the effective management of disruptive classroom behavior. Another area to explore would be to compare teacher and student perspectives on disruptive classroom behaviors.

Both teachers' perceived control over children's classroom behavior and teacher orientation gave independent contributions to teacher's strategy preferences in hypothetical situations where children exhibited externalizing behaviors. The results are in line with the independent effects of perceived control and attitudes on action intentions postulated in the 'Theory of Planned Behavior' (Ajzen, 1991). The teachers' were found to express highly democratic and humanistic attitudes in good accordance with the existing regulations in the Swedish school system. The validity of strategy preferences was validated by the observed teacher behaviors.

What teachers think about their role and their situation relates to the strategies they prefer in a theoretically coherent way. The results indicate that perceived control is related to the employment of authoritarian strategies. The teachers in the present study generally had a high sense of control. However, external factors (such as many children with disruptive behavior in the classroom) that reduce teachers' sense of control might lead to enhanced preferences for authoritarian strategies.

Finally, a large part of the variation in teachers' strategy preferences remained to be explained. Consequently, an important challenge for research in this area is to link teacher strategies to outcomes in terms of directing problematic children towards healthy development.

Study II

Elementary school children with behavior problems: Teacher-child relationships and self-perception: A prospective study

Background and aims

Teachers in school constitute a group of non-familial adults with whom children will have extensive involvement for about 10 months a year for a good number of years. Teachers may have different roles in addition to teaching or instructing. Some of these other roles include caretaker, mentor, disciplinarian, and companion. The quality of the teacher-child relationship has been related to several aspects of both short- and long-term school adjustments. A secure teacher-child relationship may even compensate for insecure or negative child-parent relationships (Lynch & Cicchetti, 1992). However, both externalizing and internalizing child behaviors have been associated with conflictual, dependent, less close relationships, and school adjustment problems- the former both concurrently and prospectively, and the latter in only concurrent assessments (Birch & Ladd, 1998; Hamre & Pianta, 2001; Pianta, et al., 1995). The teacher relationships with children with internalizing behavior problems also seemed to improve after some years (Ladd & Burgess, 1999). Teacher-child relationships have been studied in various ways, but seldom by observations in real classroom interactions. In addition, little is known about how the children with behavior problems experience this relationship with their teacher.

The chief aims of the present study were to prospectively investigate teacher-child relationships regarding classroom interactions and perceptions of the relationship, and children's self-perception for children who were identified as having externalizing or internalizing behavior problems in the first grade as compared with unproblematic children and to each other. Based on earlier research, children with *externalizing* problems would be

expected to have more conflictual and less positive interactions and relationships with teachers; moreover, they should have more dependent and less close relationships than unproblematic children and children with internalizing problems. Children with internalizing problems could be expected to have more dependent and conflictual relationships, as well as less close teacher-rated relationships than unproblematic children. Regarding actual interactions and the children's perceptions of the relationship, no hypothesis based on earlier research could be formulated. Further, concerning the children's self-perceptions, research has been conflicting, indicating both lowered and not lowered self-perceptions in children with behavior problems. This made it difficult to formulate firm hypotheses. One important aim was to study whether these children's social skills would have any moderating effects on the child-teacher relationship. Finally, the independent contribution of actual classroom interactions to children's self-perceptions and to the quality of the teacher-child relationship from the perspective of the teachers was investigated. The longitudinal design, with classroom interactions assessed between the initial problem identification and the assessments of self-perception and the teacher relationship, was assumed to extend the understanding of mechanisms influencing children's adaptation.

Statistical analyses.

The SAS computer software was used for all the analyses. ANOVAs were performed using the general linear model (GLM) procedure for unequal group sizes. To test if children with externalizing problems had more negative teacher interactions, more problematic and less close teacher relationships, or lower self-perceptions than children with internalizing behavior problems or unproblematic children, GLM ANOVAs with planned contrasts between the groups were performed. Regression analyses were performed with each problem group versus the unproblematic group and one social competence aspect at a time to determine whether the associations between problem status and child and teacher perceptions of the teacher-child relationship were moderated by the child's social competence. Externalizing or internalizing problem status (yes-no), the standardized prosocial orientation score or the standardized social initiative score and the interaction term (group status x prosocial orientation or group status x social initiative) were entered as predictors. Significant interaction effects (indicating moderators) were plotted by the procedure described by Cohen and Cohen (1983). To investigate whether the quality of the actual interactions with teachers had any independent effects on children and teacher perceptions of the relationship above that of problem behaviors or children's self-perceptions, hierarchical regression analyses were performed. All analyses controlled for gender in the GLM ANOVAs as a covariate and in the regression analyses as a first step. Correlation analyses were partialized for gender.

Results

Regarding the teacher-child relationships, the results demonstrated that children with externalizing problems had more conflictual interactions with teachers than unproblematic children. However, contrary to expectations, children with externalizing problems had more positive teacher interactions than the unproblematic children (top of Table 5). The children with internalizing problems did not differ from the unproblematic children on any interaction scale.

To pursue further the issue of teacher interactions, the disruptive behavior-corrections, mutual anger, and positive interactions were summed and averaged across observational periods: group differences in total number of interactions were then analyzed, controlling for gender. The externalizing problem group had more interactions with their teachers ($t = .434, p < .001, t = 2.37, p < .05$) than the other two groups. However, analyses of the profile of the interactions after performing arc sine transformations of the proportional variables (e.g., Kirk, 1968) revealed one group difference. When these differences were taken into account, the externalizing problem group had a higher proportion of mutual anger interactions than the groups without externalizing problems ($t = 2.47, p < .05$).

The children with externalizing behavior problems rated their relationship to their teacher as more negative (middle of Table 5). Children with externalizing and internalizing problems had more dependent and conflictual teacher relationships than unproblematic children (bottom of Table 5). In contrast to expectations, the children with externalizing problems did not differ from unproblematic children with such problems in closeness. Only the children with internalizing problems had significantly lower scores than the unproblematic children.

Table 5. Least square means and standard error of teacher-child interactions, teacher-child relationships, and children's self-perceptions. Planned comparisons between unproblematic children (PF, n=44), children with internalizing behavior problems (INT, n=22-25), and children with externalizing (EXT, n=26) behavior problems. Gender served as the covariate.

| Variable | PF (A) | INT (B) | EXT (C) | A≠C | A≠B | B≠C |
|-------------------------------------|------------|-------------|-------------|---------|-------------------|---------|
| | M(SE) | M(SE) | M(SE) | t | t | t |
| <i>Teacher - child interactions</i> | | | | | | |
| Disruptive behavior corrections | -0.20(.08) | -0.08(.10) | 0.42(.10) | 4.79*** | 0.98 | 3.29** |
| Mutual anger | -0.14(.09) | -0.04(.12) | 0.25(.12) | 2.69** | 0.71 | 1.71 |
| Positive interactions | -0.11(.10) | 0.06(.13) | 0.24(.13) | 2.18* | 0.32 | 1.61 |
| <i>Teacher-relationship</i> | | | | | | |
| Child report | 1.51(.08) | 1.52(.11) | 1.82(.11) | 2.35* | 0.00 | 1.90 |
| Teacher report | | | | | | |
| Conflicts | 1.25(.08) | 1.61(.10) | 2.29(.10) | 8.05*** | 2.78** | 4.57*** |
| Closeness | 4.19(.08) | 3.95(.10) | 4.12(.10) | 0.60 | 1.92 ^a | 1.12 |
| Dependency | 1.63(.10) | 2.26(.14) | 2.33(.14) | 4.06*** | 3.71*** | 0.35 |
| <i>Child's self-perception</i> | | | | | | |
| | 20.31(.91) | 18.40(1.30) | 12.62(1.24) | 4.98*** | 1.21 | 3.11** |

* $p < .05$ ** $p < .01$ *** $p < .001$ ^a one-tailed

Hierarchical regression analysis was performed to examine whether the quality of the actual interactions with teachers had any independent effects on child and teacher perceptions of the relationship above that of problem

behaviors. The child self-report scale and the conflict and dependency scales were used as dependent variables in three separate analyses, with each problem group analyzed separately. Gender was entered in a first step, the continuous problem ratings were entered in a second step, and the teacher-child interactions with significant bivariate relations with the relationship scale in question were entered in a third step. The regressions demonstrated consistent and strong associations especially between externalizing problems and troubled teacher relationships. The teacher interactions contributed independently to the relationship in one case. Mutual anger interactions had a significant effect on the level of dependency, $\beta = .28, p < .05$. No teacher-child interactions significantly contributed to the child's self-evaluation of the relationship. However, assuming that children might evaluate interpersonal relationships primarily according to how they perceive the other persons are treating them more than according to their own behaviors an additional analysis was performed using the negative teacher behaviors from the mutual anger scale, $\alpha = .60$, and externalizing problems as predictors. The interobserver agreement was $r(29) = 1.0$. In this analysis negative teacher behavior contributed to the child's evaluation of the relationship as being more negative, $\beta = .27, p < .01$.

Self-perception was negatively related to the three teacher-child interaction scales (correlations were between $-.22$ to $-.43$; $p < .05$ to $p < .001$). Moreover, children with externalizing problems had much more negative self-perceptions than the children in the two other groups, but the children with internalizing problems did not score lower than the unproblematic group. After taking into account the child's level of externalizing problem behavior, a hierarchical regression analysis was undertaken to investigate whether the teacher-child interactions had any significant effects on the child's self-perception. The interaction scales did not contribute significantly in lowering the child's self-perception. However, negative teacher behaviors made a significant contribution, $\beta = -.20, p < .05$ to lower self-perception.

Children with externalizing and internalizing problem behaviors had lower levels of prosocial behaviors than the unproblematic children ($F(2) = 32.2, p < .001$ vs. $F(2) = 26.5, p < .001$). Furthermore, children with internalizing problems scored lower on social initiative ($F(2) = 94.3, p < .001$). The evidence of moderating effects of social competence on the teacher-child relationship in children with behavior problems was meager. Social competence did not predict the teacher relationship. Only one interaction effect was significant, $\beta = .54, p < .05$, i.e. for children with internalizing problems, high social initiative scores were associated with higher levels of conflicts as compared with those who were low in social initiative, whereas the reverse was found in children in the unproblematic group.

Conclusions

This study confirmed earlier results that both children with internalizing and externalizing problems had more negative teacher-child relationships. However, the results further indicated that only the children with externalizing behavior problems rated their relationship as more negative. Conflicts and negative teacher-child daily interactions augmented maladjustment, especially in children with externalizing problems. Corrections from teachers, on the other hand, were not destructive. Children with internalizing problems were found to have a heightened risk of problematic relationships with teachers, at least as the teacher saw it, but they adapted well in all other aspects. Thus, the detrimental effects of poor relationships were not overwhelming.

Low levels of prosocial behavior were associated with externalizing and internalizing problems, whereas low levels of social initiative, as expected, were only associated with internalizing problems. Only weak and somewhat divergent moderating effects were found for prosocial behaviors. However, it is important to notify that these children with behavior problems reached almost clinical levels of problem behaviors and therefore protective factors might not have an effect. This means that the prosocial aspect of social skills still might be a protective factor in children with behavior problems, and thus it remains important to help children develop their social competence.

Study III

Children with behavior problems: The influence of social competence and social relations on problem stability, school achievement, and peer acceptance across the first six years of school

Background and aims

Internalizing and externalizing problems are common in middle childhood. They seem to be fairly stable, at least the externalizing problems, and are often coupled with low school achievement. It is therefore important to identify factors in and around the child that may influence the developmental course of the problems once they have been manifested. In the present study, children were followed during their first six years of school. One aim was to study the extent to which social competence, teacher-child relationships, and behaviors with peers moderated later problems, school performance, and peer acceptance in children with externalizing and internalizing problems. The protective effects were studied in relation to social competence, close teacher relationships, and positive behavior with peers, as well as exacerbating effects of conflicted or dependent teacher relationships and aggressive and withdrawn behaviors with peers. The importance of these phenomena in terms of independent relations to later outcomes when early problem behav-

iors were taken into account was also studied. Mainly, the teacher-child and child-peer relationships from the end of elementary school to sixth grade were investigated. However, social competence was also studied with respect to short-term relations to later problem levels during elementary school (from grade 1 to grade 3). Finally, the pattern of relations between competence and problems in grade 6 was also examined.

Statistical analyses

For all analyses, the SAS computer software was used. ANOVAs were performed using the GLM procedure, which controls for unequal group sizes. To study independent effects regression analyses were performed on the outcome variables, with each problem group versus the unproblematic group and one other predictor in addition to the problem ratings at a time. All continuous variables were centered before being entered as predictors. Gender was always included as a control term because of the uneven gender distribution in the problem groups (see methods). Hierarchical regression analyses were performed. In a first step the predictors (problem ratings and either social competence, teacher relationships or a peer behavior variable) were entered to investigate the effect of other variables when controlling for behavior problems. In a second step interaction terms were entered and moderator effects were studied according to Baron and Kenny (1986). Significant interaction effects (indicating moderators) were plotted by the procedure described by Cohen and Cohen (1983). All analyses controlled for gender: in the GLM ANOVAs as a covariate and in the regression analyses as a first step. Correlation analyses were partialized for gender.

Results

There were no group differences in parental education ($\chi^2(4, n=81) = 2.66$, ns) between children with behavior problems or unproblematic children. Children with behavior problems in first grade had higher problem levels in grades 3 and grade 6 than the unproblematic children, especially the children with externalizing behavior problems ($F = 172.9$, $p < .001$ and $F = 110.9$, $p < .001$). There were also interaction effects of time and group for the children with externalizing and internalizing problems ($F = 10.3$, $p < .001$, vs. $F = 16.7$, $p < .001$). In the two problem groups there was a reduction in problem levels, whereas the unproblematic children sustained a low level of problems up to grade 6. Children in the externalizing problem group had lower levels of prosocial behavior in grade 6 than the unproblematic children, whereas the children in the internalizing problem group had lower levels of social initiative than the other two groups. Both of the problem groups had lower global self-esteem, lower school achievement, and lower peer acceptance than the children who had formerly been unproblematic (Table 6).

Table 6. Results of the one-way ANOVAs and Tukey's Post Hoc Test on social competence, school achievement and peer acceptance in grade 6 in problem-free children (PF, n=44), children with internalizing behavior problems (INT, n=22) and children with externalizing behavior problems (EXT, n=24-25) (gender was controlled for in all analyses, n=91-90).

| Variables | PF (A) <i>M(SE)</i> | INT (B) <i>M(SE)</i> | EXT (C) <i>M(SE)</i> | <i>Df</i> | <i>F</i> | Significant Differences |
|--------------------|------------------------|-------------------------|-------------------------|-----------|-----------|-------------------------|
| Prosocial behavior | 3.8(.12) | 3.3(.18) | 3.2(.17) | 3,87 | 4.94 ** | A>C |
| Social initiative | 4.2(.12) | 3.1(.18) | 4.3(.17) | 3,87 | 13.05 *** | A, C>B |
| School achievement | 3.7(.12) | 3.0(.17) | 3.1(.17) | 3,86 | 8.95 *** | A>B, C |
| School Liking | 3.4(.08) | 3.1(.11) | 3.2(.10) | 3,87 | 4.58 ** | A>B, C |
| Global self-esteem | 3.5(.08) | 3.2(.11) | 3.3(.11) | 3,87 | 2.66+ | A>B, C |
| Peer Acceptance | 0.5(.14) | -0.0(.21) | -0.6(.20) | 3,86 | 10.46*** | A > B, C |

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

Independent contributions and moderator effects

Social competence

In the first set of moderation analyses the effect of social competence on the levels of the two kinds of problems was investigated, first during the elementary school years from grades 1 to 3 and then from the end of elementary school to grade 6. The effects on school achievement and peer acceptance in grade six regarding problems and competences at the end of elementary school were also evaluated. Social initiative was not deemed relevant in children with externalizing problems. No independent effects of social competence were noted on internalizing or externalizing problems in grade 3, nor was there any interaction effect of prosocial behavior and externalizing problems, $\beta_s < .11$. However, in the analyses regarding internalizing problems/no problems there was a significant interaction with social initiative $\beta = .36, p < .05$, indicating that there was a protective effect of social initiative for the unproblematic group. Specifically, higher levels were associated with lower problem levels in grade 3. In the children with behavior problems social initiative did not make a difference. However, prosocial behavior independently predicted lower levels of externalizing and internalizing problems in grade 6, $\beta = -.23, p < .05$ and $\beta = -.23, p = .05$, but there were no interaction effects with either competence aspect. In the analyses in the internalizing problem/unproblematic groups prosocial behavior independently predicted higher peer acceptance, $\beta = .31, p < .05$. In addition, the interaction effect

was significant, $\beta = .27, p < .05$ (Figure 1). The formerly problematic but highly prosocial children were more accepted by their peers than the formerly problematic children with low prosocial levels; in fact, they were about as accepted as the formerly unproblematic children.

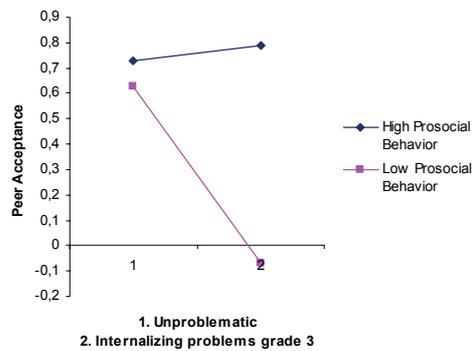


Figure 1. Moderating effects of prosocial behaviors in grade 3 on the level of peer acceptance in grade 6 in unproblematic children and children with internalizing problems in grade 3

Teacher-child relationships

Next, possible protective and independent effects of a close teacher relationship at the end of elementary school were explored regarding problem levels, school achievement, and peer acceptance in grade 6. There were no independent or significant interaction effects of a close teacher relationship, $\beta s < .17, ns$. Possible exacerbating and independent effects of teacher conflicts and teacher dependency were examined in the same manner. Conflicted relationships were used in the analyses on the externalizing problem group, and dependent relationships were used in the analyses on the internalizing problem group. This was done because conflicts with teachers were deemed more relevant in children with externalizing problems, whereas dependency was judged more relevant in children with internalizing problems. Concerning the analyses on children with externalizing problems, conflicted relationships did not contribute independently to any of the outcomes in grade 6. There were no significant independent effects of dependency for the internalizing group, $\beta s < -.25, ns$, but a significant interaction effect of teacher dependency on peer acceptance was noted, $\beta < -.31, p < .05$, suggesting that in the formerly problematic children high dependency was associated with lower levels of peer acceptance (Figure 2).

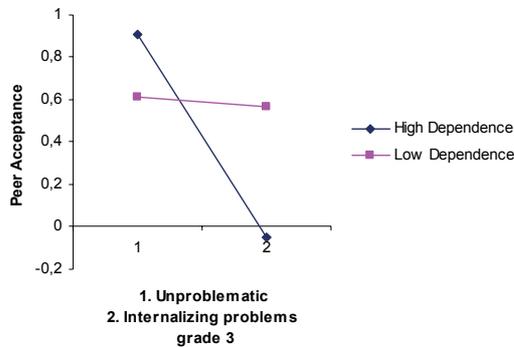


Figure 2. Moderating effect of dependent teacher relationships on peer acceptance in unproblematic children and children with internalizing problems in grade 3

Peer behaviors

In the following analyses peer behaviors as independent contributors and moderators were studied. In the analyses with the internalizing problem/unproblematic groups competent behavior with peers contributed to lower levels of internalizing problems in grade 6, $\beta = -.27, p < .01$. Further, there were interaction effects for the three outcomes of internalizing problems, school achievement, and peer acceptance, $\beta = -.22, p < .05, \beta = .29, p < .05$ and $\beta = .31, p < .01$, respectively. These findings indicate that in the formerly problematic group high levels of socially competent peer behavior was associated with lower levels of internalizing problems (Figure 3) and higher levels of school achievement (Figure 4), and peer acceptance. These effects were not evident in the formerly unproblematic group.

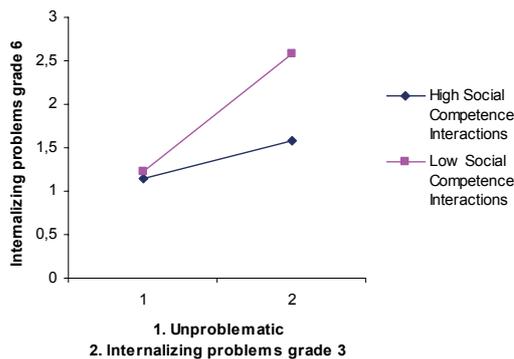


Figure 3. Moderating effects of socially competent behavior with peers on internalizing problems in grade 6 for the unproblematic children and children with internalizing problems in grade 3

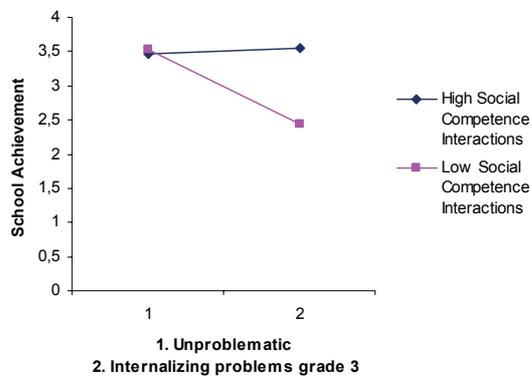


Figure 4. Moderating effects of socially competent behavior with peers on school achievement in grade 6 for unproblematic children and children with internalizing problems in grade 3

Aggressive peer behavior was used as a possible exacerbating factor in children with externalizing problems and withdrawn peer behavior as a possible exacerbating factor in children with internalizing problems. This was done based on the reasoning regarding teacher relationships discussed above. In the analyses on the externalizing problems/unproblematic groups aggressive peer behavior did not contribute to any of the outcomes, nor were any interaction effects found. Uncertain/withdrawn behavior independently contributed to higher levels of internalizing problems in grade 6 and lower levels of school achievement, $\beta = .28, p < .01$ and $-.23, p < .05$, respectively. No interaction effect was observed.

Conclusions

Social competence was found to have a limited impact on later adjustment in children with early behavior problems. This conclusion is based on the finding that there were only independent effects on the externalizing and internalizing problem levels in grade 6, not on peer acceptance or school achievement. Furthermore, the only moderating effect applied to children with internalizing problems regarding later peer acceptance. The buffering effects of positive teacher-child relationships found in earlier studies were not confirmed in the present study. A negative teacher-child relationship did not appear as a risk factor for later adjustment (more than a dependent relationship contributed to poor peer acceptance but only for children with internalizing problems) which could have been expected. In children with inter-

nalizing problems early competent behaviors with peers were related to lower problem levels and higher school achievement and peer acceptance later on. Thus, even if they risk a non-optimal adaptation, they benefit from their strengths as assessed in a school context. Social competence in relation to peers therefore is an important health factor, and the results suggest that interventions in terms of competence building are potentially effective.

In children with an early onset of externalizing problems the problems seem to carry a momentum of their own, which are difficult to overcome. Unfortunately, their social relations are important, but in a negative sense in that poor relations seem partly responsible for problem persistence. Concerning children with internalizing problems, they also had persistent problems, low school achievement, and competence deficits in terms of low participation. However, in these children teacher and peer relationships make a positive contribution, which points to areas of potentially fruitful interventions.

Finally, as these data show, to get a fuller understanding of deviant development it is crucial to follow problematic young children over several years, preferably into young adulthood. Further, research into factors that may cut into the spiral of negative experiences in children with externalizing problems is highly important because these children are at very high developmental risk. The significance of their problems calls for powerful interventions.

Study IV

Self-perceived loneliness and social acceptance by peers: Adjustment and early predictors

Background and aims

What happens in children's peer groups and friendship relationships will probably affect development and functioning in every other aspect of children's lives. It is well recognized that their peer relationships are associated with multiple aspects of both development and adjustment, including their achievement in school (Grifford-Smith & Browell, 2003). Positive peer relationships are considered as a marker of healthy development: in fact, such relationships are one of the most vital developmental outcomes as children approach adolescence. In contrast, low peer acceptance and self-perceived loneliness are negatively associated with well-being and other aspects of social adjustment. Loneliness is a phenomenon that is prevalent and linked to several disorders (e.g., depression and anorexia nervosa) but that has been somewhat neglected in studies on children's social adjustment.

Loneliness and peer acceptance express the child's peer relationships as seen from both the inside and outside. It is plausible that differentiation of

these two phenomena would further our understanding of children's social world. It is likely that there are different pathways to loneliness. Two pathways have been hypothesized to lead to difficulties in peer relationships during childhood (e.g., Parkhurst & Asher, 1992; Rubin, et al., 1990). On the one hand, loneliness is an outcome in a trajectory from early internalizing problems. Loneliness may also result from externalizing problems in that these types of problem are often associated with poor interpersonal skills and low peer acceptance.

In contrast to most studies on loneliness, a longitudinal design with a community-based sample was used, where self-reported loneliness was studied both as a continuous variable and as a group variable. The main aim of the present study was therefore to investigate social and school adjustment of children experiencing loneliness or low peer acceptance in grade 6. A further purpose was to study whether lonely and poorly accepted children differ regarding adjustment. Another goal was to study predictors of loneliness and of peer acceptance in terms of early problem behaviors. In doing so, was hoped that a differentiation of loneliness and peer acceptance would be possible via different predictors. Finally, social competence as a moderator between early problem behaviors and later loneliness and peer acceptance was examined.

Statistical Analyses

It was proposed that the combination of poor peer acceptance and self-reported loneliness would pose a greater risk for adjustment problems. To test this postulation a dichotomous variable denoting poor versus good acceptance was also created, with the lowest 30% on peer acceptance indicating poor peer acceptance and the remaining 70% good peer acceptance. To investigate loneliness two groups were formed in which the lonely group consisted of those children comprising the upper 30% on the loneliness scale and the Non-lonely group was the remaining 70%.

For sixth grade data, two-way analyses of variance were conducted, using the GLM) procedure of the SAS Systems Software. This model was used because it controls for unequal group sizes. Loneliness and peer acceptance were used as group variables and were analyzed in relation to a number of aspects of concurrent adjustment. The variables of interest for adjustment were peer behavioral nominations, teacher-rated problem behaviors and social competence, self-esteem, psychological well-being, and school adjustment. Furthermore, chi-square analyses were conducted to examine the overlap of loneliness and peer acceptance. To study possible predictors and independent contributions to loneliness and peer acceptance in grade 6 hierarchical regression analyses were performed. In a first step, gender (used only as a control variable), externalizing and internalizing problem behaviors, and social competence ratings from grade 1 were entered in the analysis. Thus

independent effects of problem behaviors and social competence on the two outcomes were studied. In a second step, the interaction of externalizing problems and social competence, as well as the interaction of internalizing problems and social competence, in that order, were entered into the analysis. The effect of social competence in conjunction with each problem aspect was studied in separate analyses. Continuous variables were used on loneliness and peer acceptance in grade 6 and problem behaviors and social competence in grade 1. Predictor variables were centered before entering and interactive effects were interpreted in accordance with Aiken & West (1991).

All analyses controlled for gender (in the GLM ANOVAs as a covariate and in the regression analyses as a first step). Correlation analyses were partialized for gender

Results

There were gender differences in self-reported loneliness, with more boys reporting loneliness, $\chi^2(1, N = 808) = 4.7, p < .05$. There were no gender differences in reported levels of internalizing problem behaviors in first grade, $t = 0.8$, but in grade 6 there were significantly more boys than girls with internalizing problem behaviors, $t = 2.9, p < .01$. Moreover, more boys than girls evidenced higher levels of externalizing problem behaviors, both in grade 1, $t = 5.9, p < .0001$ and in grade 6, $t = 8.8, p < .0001$. Girls were rated by teachers as having higher levels of social competence than boys in grade 1, $t = 5.2, p < .001$ and in grade 6, $t = 9.2, p < .0001$, but there were no gender differences on peer acceptance (SPS), $t = 0.2, ns$. Comparisons were also performed between Nordic and non-Nordic children. Most of these comparisons proved to be non-significant in grades 1 and 6. However, in grade 6 Nordic children had more internalizing behaviors, $t = 2.3, p < .05$ and were lower in psychological well-being, $t = 2.0, p < .05$, but higher in prosocial behaviors, $t = 2.1, p < .05$ than non-Nordic children.

Table 7. Chi-square analysis on lonely status in relation to peer acceptance

| Peer acceptance | Lonely | Not lonely | |
|-----------------|--------|------------|-------|
| Well accepted | 18.2 % | 51.7% | 69.9% |
| Poor accepted | 14.6% | 15.5% | 30.1% |
| <i>N</i> =808 | 32.8% | 67.2% | 100% |

The chi-square analysis on lonely status in relation to peer acceptance was significant, $\chi^2(1, N = 808) = 39.00, p < .0001$. Most children did not feel lonely and they were well accepted by their peers. However, over 30% did

feel lonely and about 30% felt they were poorly accepted by their peers (Table 7).

There were significant group differences on a number of adjustment variables. Concerning peer nominations, children with lonely status or poor acceptance showed fewer positive behaviors than their counterparts. For aggressive behaviors, however, only the main effect of acceptance was observed, indicating that children who were poorly accepted by their peers showed more aggressive behaviors than children who were well-accepted. For shyness, there was a main effect of lonely status only, indicating that children reporting loneliness received more shy nominations than non-lonely children. Children with lonely status and poor peer acceptance were rated as having higher levels of internalizing problems as well as being less socially competent than their counterparts. Poor accepted children were higher in externalizing behaviors and lower in school achievement than their counterparts.

A few significant interactive effects were noted between lonely status and low peer acceptance on adjustment (Table 8). Concerning peer nominated aggressive behavior and teacher-rated externalizing behavior, non-lonely children who were well-accepted had lower levels of these behaviors ($M = 0.48$ ($SE = .04$) and $M = 1.54$ ($SE = .04$) as compared with those who were poorly accepted ($M = 1.15$ ($SE = .08$) and 2.06 ($SE = .08$); while differences between lonely children who were well accepted ($M = 0.59$ ($SE = .08$) and $M = 1.65$ ($SE = .07$) as compared with children who were poorly accepted ($M = 0.85$ ($SE = .08$) and $M = 1.91$ ($SE = .08$) were smaller. Aggressive and externalizing behaviors were most frequent among poorly accepted children who did not report being lonely. Internalizing behaviors, on the other hand, showed a significant interactive effect such that the greatest difference was found in lonely children, with poorly accepted lonely children having more internalizing behavior problems ($M = 2.38$ ($SE = .08$) than their well-accepted counterparts, ($M = 1.73$ ($SE = .07$)). In the non-lonely children the poorly accepted children had only slightly higher levels of internalizing problems than well-accepted children ($M = 1.81$ ($SE = .08$) than well-accepted children, $M = 1.47$ ($SE = .04$)).

Concerning self-ratings, loneliness had significant main effects on self-esteem and school liking, with lonely children showing lower self-esteem but higher school-liking as compared with not-lonely children. The well-accepted children also differed from their counterparts on higher self-esteem and higher school liking. When it comes to psychological well-being, lonely children reported significantly poorer psychological well-being than non-lonely children, whereas there was no such difference between children who were poorly accepted versus well-accepted.

Table 8. Group differences in concurrent social functioning in grade 6 between children classified as lonely (n = 109-130) or not lonely (n = 545-678), good peer acceptance or poor peer acceptance, regardless of gender

| <i>Adjustment</i> | Lonely | Not lonely | Poor peer acceptance | Good peer acceptance | | | Lonely* |
|-------------------------|---------------|---------------|----------------------|----------------------|----------|-----------|----------|
| <i>Variables:</i> | A (n = 265) | B (n = 542) | C (n = 243) | D (n = 564) | A vs. B | C vs. D | Accept. |
| | <i>M (SE)</i> | <i>M (SE)</i> | <i>M (SE)</i> | <i>M (SE)</i> | <i>F</i> | <i>F</i> | <i>F</i> |
| <i>Peer nominations</i> | | | | | | | |
| Positive behaviors | 1.60 (0.12) | 2.04 (0.10) | 0.90 (0.12) | 2.73 (0.09) | 9.55** | 141.89*** | 2.39 |
| Aggressive behaviors | 0.72 (0.05) | 0.81 (0.04) | 1.00 (0.05) | 0.54 (0.04) | 0.94 | 45.47*** | 8.84** |
| Shyness | 2.12 (0.18) | 1.04 (0.15) | 1.72 (0.19) | 1.44 (0.14) | 18.23*** | 0.94 | 1.86 |
| <i>Teacher ratings</i> | | | | | | | |
| Internalizing behavior | 2.06 (0.05) | 1.64 (0.04) | 2.09 (0.05) | 1.60 (0.04) | 39.94*** | 55.32*** | 5.27* |
| Externalizing behavior | 1.78 (0.06) | 1.80 (0.05) | 1.98 (0.06) | 1.60 (0.04) | 0.00 | 29.58*** | 4.13* |

| | | | | | | | |
|--------------------------|-------------|-------------|-------------|-------------|-----------|----------|------|
| Social competence | 3.28 (0.05) | 3.46 (0.04) | 3.07 (0.05) | 3.68 (0.04) | 8.83** | 89.58*** | 2.48 |
| School achievement | 3.15 (0.06) | 3.23 (0.05) | 2.92 (0.06) | 3.45 (0.04) | 1.41 | 50.73*** | 0.00 |
| <i>Self-ratings</i> | | | | | | | |
| Global self-esteem | 3.12 (0.03) | 3.54 (0.03) | 3.29 (0.03) | 3.38 (0.02) | 97.19*** | 4.75* | 0.38 |
| Psychological well-being | 2.96 (0.03) | 3.38 (0.02) | 3.15 (0.03) | 3.19 (0.02) | 149.90*** | 0.92 | 0.04 |
| School-liking | 3.25 (0.02) | 3.16 (0.03) | 3.16 (0.03) | 3.25 (0.02) | 72.96*** | 3.93* | 0.14 |

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

In the bivariate analyses the results showed that high levels of internalizing and externalizing behaviors in grade 1 were significantly associated with high levels of self-reported loneliness and low peer acceptance in grade 6 (Table 9, upper part).

Table 9. Pearson correlation analyses between problem behavior, loneliness, peer acceptance, and other aspects of adjustment

| | Sixth grade | |
|----------------------------------|-------------|---------|
| | Loneliness | SPS |
| First grade | | |
| <i>Teacher ratings (n = 323)</i> | | |
| Internalizing behaviors | .28*** | -.20** |
| Externalizing behaviors | .16** | -.28*** |
| Social competence (SC) | -.23*** | .20* |
| Sixth grade | | |
| <i>Teacher ratings (n = 653)</i> | | |
| Internalizing behavior | .30*** | -.35*** |
| Externalizing behavior | .03 | -.29*** |
| Social competence | -.23*** | .41*** |
| School achievement | -.08* | .30*** |
| <i>Self-ratings (N = 808)</i> | | |
| Loneliness | ---- | -.36*** |
| Global self-perception | -.44*** | .19*** |
| Psychological well-being | -.50*** | .17*** |
| School-liking | -.38*** | .18*** |

⁺ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ SPS = Peer acceptance

However, only internalizing problems in grade 6 were significantly correlated to both loneliness and peer acceptance, whereas externalizing problems was only correlated to peer acceptance (Table 9, bottom part). Social competence was significantly correlated to lower level of loneliness and higher peer acceptance in grades 1 and 6. Global self-esteem and psychological well-being were significantly correlated to less loneliness and higher peer acceptance.

Predictions loneliness in grade 6 and social preference

Early internalizing problems made an independent contribution to loneliness in grade 6, $\beta = .22$, $p < .01$, and early externalizing problems made an independent contribution to peer acceptance $\beta = -.25$, $p < .001$ as measured across five years. Social competence contributed to less loneliness and higher peer acceptance; however, social competence did not prove to be a significant predictor regarding the two kinds of problem behaviors. As for the moderating effects of social competence, no such effects were evident on loneliness, but social competence moderated peer acceptance for internalizing vs. externalizing behavior problems, $\beta = .13$ vs. $\beta = -.12$, $p < .05$. However, in internalizing and externalizing behavior problems social competence was found to bolster peer acceptance in children with low problem levels.

Conclusions

Study IV has contributed to the field of peer relationships by revealing differences in adjustment and differential developmental pathways for two aspects of peer relationships, i.e. self-perceived loneliness and peer acceptance. A discouraging finding was that social competence did not buffer the impact of early behavior problems on peer relationships. In conclusion, loneliness in preadolescent children is mainly related to internalizing problems. In addition, low peer acceptance is strongly related to externalizing problems, but to some extent even to internalizing problems. Thus, our results concur with Qualter and Munn's (2002) findings that peer relationships, as seen from the inside and outside, are somewhat different phenomena in terms of adjustment, how they are formed, and in which types of intervention are required.

GENERAL DISCUSSION

In the following section, a general discussion is presented that includes a brief summary of the main findings of the studies in this thesis, as well as possible conclusions in relations to children's behavior problems (risk, protective factors, and exacerbating factors). Further, methodological strengths and limitations are discussed. Finally, some directions for future research are proposed.

The first study was designed to contribute with data on variables associated with teachers' constructive conflict management strategies (Morris-Rothschild & Brassard, 2006). Studies II-IV made a broad attempt to further our knowledge about children with behavior problems, their development, and adjustment by measuring various phenomena, both simultaneously and recurrently across the first six years of children's school lives. A further goal was to use multiple measurement techniques such as questionnaires, interviews, and observations in natural classroom settings. Such a strategy is in accordance other researchers emphasizing the necessity to follow children with behavior problems longitudinally and to use multiple informants and measurement methods (e.g., Rutter, 1994).

Study I contributed with actual data about factors that may influence teachers' choice of strategies to handle disturbing child behaviors. In concordance with official school legislation and existing national school programs, the majority of the Swedish teachers had a well-grounded humanistic orientation. However, in hypothetical problematic situations only two strategies were favored, namely discussions with the child and contacting parents. The first study also indicated that planned strategies were consistent with observed classroom behaviors. Few have examined the longitudinal relations between behavior problems, nonsocial behaviors, self-perceptions, and peer acceptance (Nelson, et al., 2005), and Study II-IV aimed to address to these lacks.

In *Study II* was designed to complement earlier research by investigating how problematic classroom interactions contribute to the quality of teacher-child relationships. In this study children's self-evaluations of their relationship to their teachers was used. Children with externalizing and internalizing behavior problems had more negative teacher relationships, but only the former children rated their relationship as more negative. Children with externalizing problems participated in 'angry' interactions with their teachers

to a greater extent than the other children. These unpleasant and perhaps damaging interactions between the children and teachers were found to contribute to more negative teacher-child relationships. These children received more encouragements and stronger criticism, and they reported less positive self-perceptions than the other children. One moderating effect was found: high social initiative raised the level of teacher conflicts in children with internalizing problems.

Study III examined children's social competence, teacher relations and behaviors with peers as protective or exacerbating factors in the adaptation of children with early behavior problems. Independent effects of social competence were only found on behavior problems in grade 6. Further, only one moderating effect was found in children with internalizing problems regarding peer acceptance. However, observed socially competent peer behavior was related to lower problem levels later on in school, higher school achievement, and higher peer acceptance. Several exacerbating factors were found in children with internalizing problems as indicated by the findings that high teacher dependency was associated with lower levels of peer acceptance and withdrawal from peers contributed to higher problem levels and lower school achievement. Additionally, the stability of behavior problems was considerable between grade 1 and grade 6, especially in children with externalizing behavior problems.

Study IV aimed to extend our understanding both of concurrent correlates and early predictors to peer relationships. Differential developmental pathways to self-perceived loneliness and peer acceptance were revealed, where early internalizing problems independently contributed to loneliness and early externalizing problems contributed to low peer acceptance. Social competence contributed to less loneliness and higher peer acceptance, but did not give any buffering effects in behaviorally problematic children. Lonely children reported lower self-esteem and lower psychological well-being. In contrast, children who are poorly accepted by their peers liked school less and had lower school achievement than children who were well accepted. Both lonely children and children who were poorly accepted by their peers received fewer nominations of positive behaviors and were rated less socially competent than non-lonely and well-accepted children.

Teacher strategies in handling problem behaviors

The main objective of *Study I* was to investigate the relations between teachers' perceived control and teacher orientation, as well as teacher's strategy preferences in handling externalizing child behaviors. How teachers plan to handle these disturbing, aggressive and off-task behaviors is of great importance when trying to learn more about these behaviors because they occur frequently in many classes. In addition, such behaviors prohibit teachers

in their teaching duties, and they are a serious disadvantage for school children. This is because engagement in school work is one of the most important correlates of a child's academic success (Wheldall, & Beaman, 1998). Externalizing behavior problems and a large number of boys in a classroom have been found to independently contribute to lower perceived control in pre-school teachers (Hammarberg & Hagekull, 2002). It is reasonable to suspect that these results would hold in elementary school as well.

As seen in *Study I*, perceived control over children's classroom behavior and teacher orientation independently contributed to teachers' strategy preferences in hypothetical incidents of externalizing child behaviors. The hypotheses that perceived high control and a humanistic orientation would be associated with non-authoritarian strategies while low perceived control and a custodial orientation would be associated with authoritarian strategies were confirmed. One important question concerns the probability that planned strategies capture those strategies used in real life. Congruence between teacher orientation and beliefs and actual classroom practices was found in the observations of teacher behaviors because preferences for non-authoritarian strategies were negatively related to firm and harsh behaviors, whereas preferences for authoritarian strategies were associated with higher levels of reprimands. These results are consistent with other findings (e.g., Lunenburg & Schmidt, 1989; Vartuli, 2000). However, a large proportion of the variation in teachers' strategy preferences remains to be explained. Probably both personal environmental and situational factors cooperate in strategy selection, but all the different influences appear difficult to capture simultaneously.

What makes a teacher effective?

A few teachers favored a more custodial orientation and low personal engagement. Most teachers preferred a humanistic orientation and a warm and engaged teacher role. This humanistic attitude is probably more effective. Several studies have reported that teacher warmth could enhance peer acceptance in children with externalizing and internalizing behavior problems, whereas teacher attitudes of aversion toward aggression could strengthen the association between children's aggression and peer rejection (Brody, Dorsey, Forehand, & Armistead, 2002; Cheng, 2003).

Encouragements were not very frequently mentioned in relation to problem handling strategies, presumably because the teachers were focused only on the unacceptable behaviors. However, the observations demonstrated that children with externalizing behavior problems, in addition to being criticized received substantial positive feedback. Yet, did these strategies make the teaching mission effective? One great teacher dilemma is how to maintain an unconditional positive regard while expressing disapproval of some aspect of a child's behavior (O'Leary, 1987). This balance between being a warm and

encouraging teacher and providing constructive criticism is not easy to attain. One opinion is that an effective teacher is one who encourages the children, is involved with them, and uses criticism and negative comments sparingly (e.g., Feeney & Chun, 1985). There is most likely a great difference between pure criticism and help in examining one's own behavior. It might be that teachers who are accustomed and prepared to always give 'the right answers' forget themselves about the possibility of asking the children how they were thinking or how a behavior could be changed, etc? The latter method could be important in the development of reflective thinking.

One important finding in the first study was the limited set of strategies the teachers use in handling externalizing problems in the classroom. The two most selected strategies were to 'discuss the situation with the child' and to 'contact the child's parents. Unfortunately, these strategies proved not to be particularly successful, at least not in light of the degree of stability in problem behaviors up to grade 6 (Study III). Perhaps other interventions should be considered. One question concerns what the teachers really meant by the term 'discussing', especially in these situations involving conflict. Was it a reciprocal dialogue and reflection about behaviors and their consequences, or was it more of a monologue on moral explanation of what the teachers themselves thought is correct and incorrect behaviors? The observations could be further analyzed to give a fuller answer if these discussions included a mutual and reflective dialogue. Teachers, as most other people, have a developmental potential in this area.

It appears reasonable to suppose that young children have a generally poor understanding of the life they are supposed to live and therefore could be at risk for behavior distortions. Lacking moral maturity has been confirmed in anti-social youths (e.g., Gibbs, et al., 1995) and one could presume to be the case in younger children with behavior problems. Piaget (1932/1965) described children's moral as a development from egocentricity to reciprocity. He characterized the development of mutual perspectives as a transition from 'reciprocity as a fact' to 'reciprocity as an ideal' or 'to do as you would be done by'. A mature moral demands that a person can perceive things from another person's perspective, which demands an ability to catch several aspects at the same time (Gibbs, Basinger, & Fuller, 1992). It is possible that a moral opinion from a teacher is not trustworthy because it is too advanced for the specific child and his/her level of functioning. Perhaps it therefore would be more effective to confirm the child's feelings of, e.g., anger or distress first in order that the child could experience a kind of reciprocity. Thereafter, more adjusted and structured strategies could be used in children's moral development.

As seen in this thesis, teachers tended to rely on the ability of parents to solve problem situations in the school, which probably for many parents appears to be 'a mission impossible'. This is partly because parents do not have sufficient information about the school situation and partly because

they are not there during the school day. Many situations in the classroom are inevitably difficult to handle alone, and teachers in general need better support in handling these difficult situations and in helping children with behavior problems. The method to contact parents about the child's misbehavior, after teachers' own discussions and critics, thus enhanced the attention to negative behaviors, which could be contra-indicative, at least if one believes that negative behaviors should be ignored, rather than catered to.

The children with internalizing behavior problems led their school problems essentially unnoticed. They may have felt loneliness not only in relation to their peers (Study IV), but also in relation to their teachers. It is known that teachers rate the relationship with these children more negatively in comparison with unproblematic children (Study II; Birch & Ladd, 1997; 1998). Thus, the children may have been aware of this negative teacher attitude toward them and hence decided not to seek consolation from their teachers. It appears reasonable to question why their self-esteem changed from being at the same level as unproblematic children's in grade 3 to lower than the unproblematic children in grade 6. This could partly be explained by not being noticed or receiving encouragements during their formative school years. Researchers have discussed the possibility that many adults believe that a children's internalizing behaviors successively will change on their own. In reality, these children are at risk of becoming even more isolated from positive and friendly relationships and therefore might never learn the necessary prosocial skills (Oden, 1980). Recent research has also indicated that children who display anxious solitude at school entry may become excluded by peers rapidly thereafter and high anxious solitude combined with high peer exclusion predicted highly elevated depressive symptoms (Gazelle & Ladd, 2003). These results stress the importance of early interventions. However, as observed in Study IV, lonely children liked school as much as the unproblematic children liked school. Consequently, these self-esteem changes could be caused by other factors (e.g., cognitive maturity or enhanced vulnerability during preadolescence) than lack of teacher confirmation. Moreover, the unproblematic children had fewer interactions with their teachers than children with externalizing problems, but nonetheless got along well and did not act in a negative way in the classroom.

Behavior problems, relationships, and adjustment

Behavior problems and stability

In the three grades (i.e. grades 1, 3, and 6) teachers rated children's levels of behavior problems. The results from *Study III* point to a stability of the problems, especially concerning externalizing behavior problems, but even internalizing problems, though to a lesser extent. This latter finding contradicts

some earlier studies. One explanation to account for this stability in behavior problems is that these problematic behaviors are caused by and/or maintained by other factors such as insecure attachment, ongoing family discordance, or low socio-economic status. One other explanation is that teachers and parents often pay attention, even if only through pointing out real or perceived flaws, to these negative behaviors so that such behaviors are strengthened. Aggression can also become self-perpetuating: the more the child behaves aggressively, the more aggressive scenarios there are to be encoded into memory. The more scenarios that have been encoded, the more they are available to be rehearsed and retrieved when a social problem arises, successively reducing the chance for other strategies to be retrieved (Eron & Huesmann, 1990). Could children with internalizing problems have similar corresponding processes where, e.g., withdrawal becomes self-perpetuating? According to one theory, internalizing problems might be an expression of anger, but when suppressed, this anger might lead to an increase in internalizing problems. Therefore, internalizing distress might be the other side of the coin (Zahn-Waxler et al., 2000). There are several studies indicating the existence of combined behavior problems (e.g., anxiety-depression has been found to be correlated to aggression) (Hinden, Compas, Howell, & Achenbach, 1997; Russo, & Beidel, 1994), and the link between early and later aggression appears to be strengthened in the presence of co-morbid anxious symptoms (Ialongo, Edelsohn, Werthamer-Larsson, Crocket, & Kellam, 1996). Researchers have also discussed the possibility that co-morbidity between disorders might be a problem of our own making because of the complexity and nonhierarchical approach of our current classification systems (Nottelman & Jensen, 1995). Co-occurrence has often been measured in clinical samples, which may be biased because clinical samples contain a disproportionately large number of patients having co-occurring problems (Caron & Rutter, 1991). There are also risks that an artificial subdivision of syndromes may contribute to high levels of co-morbidity (Achenbach, 1990/1991). Further studies are needed to clarify the development and adjustment for children with combined behavior problems.

Behavior problems and relationships

Teacher-child relationships

Study II demonstrated that children with externalizing behavior problems were vulnerable regarding negative relationships with their teachers (as rated by their teachers), which concurs with earlier findings (Birch & Ladd, 1998; Howes, 2000; Howes, et al., 2000; Ladd & Burgess, 1999; Pianta, 1999). The teacher ratings were also validated by the observations of daily mutual behaviors and interactions in the classrooms, where conflicts and negative teacher behaviors were frequent. The results further indicated that unprob-

lematic children and children with internalizing behavior problems were less noticed by their teachers. Thus, the risk is high that these children go through their school lives with very poor acknowledgment. Still, negative behaviors from the teachers contributed to a lower self-perception only for children with externalizing problems. How could this finding be explained? One possible reason is that negative criticism is more harmful than lack of attention. The results also indicated that conflicts and negative teacher behavior in daily interactions with children augmented maladaptation, whereas corrections from teachers did not appear destructive. However, their teacher relationship was not evaluated as less close to them than to the unproblematic children, even if this could have been partly a result of teachers' social or moral desirability of wanting to be close to these children. As the observations demonstrated, these children were also receiving a tremendous amount of encouragement in the classroom, which would go against pure desirability effects. Thus, at least some of the externalizing children seemed to be rather 'popular'. This may have been due to what kind of disturbance the child was causing and how the child acted. For instance, a disturbing child with 'a humoristic glimpse in his/her eye' would likely receive greater teacher acceptance than a child with a wrathful temper.

Lacking effects of encouragements

However, the results showed that teacher encouragements did not enhance the self-perceptions in the child with externalizing behavior problems. One explanation to account for this finding could be that these children often act impulsively, having difficulties to put together actions and consequences. Therefore, these children are incapable of incorporating the encouragement into their lives. This in turn could be associated with an external locus of control found in children with externalizing problems. This would imply that these children could have difficulties in interpreting what happens around them, believing things happen by coincidence rather than design (Haye, Swearer, Love, & Tumer, 2003; Kee, 2003). Another possible explanation to account for the absence of any effects could be that the encouragements were drowned in negative criticism, perhaps leaving the child confused or pessimistic. Consequently, these children could fall into the trap of 'learned helplessness', i.e. the belief in one's own powerlessness, which renders futile any attempt to learn (Seligman, et al., 1995).

It is also understandable that a child who is angry/aggressive and disturbing would provoke a teacher threatening his/her perceived control in the teaching situation. One question of interest would be to determine what kinds of feelings the child evokes in the teacher. It seems reasonable to suppose that the child is promoting the teacher's feelings of powerlessness. The risk here is that the teacher could display an elevated level of counter-aggression. Even the most controlled feelings of teacher frustration could thus function as a means of confirming the child's worthlessness. Interestingly, teachers'

hostility and anger directed toward children really seem to have more detrimental effects than direct behavior corrections. Thus, a teacher's anger and hostility are too detrimental for encouragement to have a positive effect reducing children's problem behaviors. Nevertheless, in real school situations it is often believed that encouragement can change a negative situation into a positive one. However, the effectiveness of general encouragement or praise has been questioned. Instead, it has been proposed that praise may even have a direct negative effect, especially if the positive evaluation does not fit a child's self-perception; in this case it could evoke anger and feelings of being manipulated (e.g., "I'm not a good student - you just say so because you want me to work harder", Gordon, 1974, p. 84). If there is an overuse of praise in a classroom, the absence of praise could also be interpreted as negative criticism (e.g., "You told Tommy his painting was pretty but said nothing about mine"), which implies a superiority of the judging person. However, it is necessary to differentiate between praise and encouragement because the former is given only when something has worked well, whereas the latter places emphasis on the child's efforts whether he/she failed in accomplishing a special task. Praise that teachers use at random is generally considered unproductive and different from positive reinforcement, which is meant to be used consistently and systematically (Wolfgang & Brudenell, 1982). Perhaps the use of general praise instead of exact and direct reinforcements could explain some of the failures modifying negative behaviors in children.

From research in neurology, it is known that the non-declarative memory is generally acquired gradually across multiple trials or experiences (Squire & Knowlton, 1995) and that the neural elements from conscious experiences are integrated in memory traces in the brain (Moscovitch, 1995). From a neurological perspective, repeated teacher encouragements should strengthen the positive memory traces in these problematic children, at least if consciously experienced. Unfortunately, it seems that teacher encouragements and support fail to have permanent positive effects. One can speculate that if the teacher's encouragements were not honest appreciations, the person receiving them would tend not to believe in them or even be consciously aware of such encouragement. Thus, this kind of encouragement would fade away before leaving a memory trace. In contrast, if the negative and disturbing behaviors are continuously criticized in the classroom and consciously perceived by the children, their memory traces could be strengthened. Irritation and even hostility, especially from a teacher, is probably often a less controlled but honest reaction to a child's behavior that happens when the teacher's patience is depleted. In this situation the child does not question the honesty of the teacher's behavior and is not left uninfluenced by the experience, which makes the brain and memory work easier. One problem is that the depletion of patience may be experienced faster because of the stored negative experiences of the teacher. Recent research has also indicated that publicly demonstrated or otherwise noticeable irritation directed toward

children could strengthen the negative evaluation of the children by their peers (Cheng, 2003). Could it be that even a very good teacher, who wishes to help a child with behavior problems, could actually become a part component of the problem? More studies are needed to clarify these possible harmful connections.

Peer relationships

Social competence, which was measured in grades 1, 3, and 6 (Studies II-IV), is important for children's relationships with others. As found in Studies II-III, children with *externalizing* behavior problems had lower levels of prosocial behaviors in all grades than unproblematic children, whereas children with *internalizing* behavior problems were lower in prosocial behaviors in grade 1 and 3, but not in grade 6 and lower in social initiative in all three grades. Peer relations were indicated by peer behaviors (in grade 2) and measured by both peer acceptance and loneliness (in grade 6). One finding was that children with early externalizing and internalizing problems had lower peer acceptance later on than unproblematic children, but only the children with internalizing problems reported more loneliness as well. Concerning the children with externalizing problems, these results are in accordance with earlier findings (e.g., Parker & Asher, 1987; Hymel et al., 1990; Rubin et al., 1989). Because children with externalizing problems often have heightened levels of aggressive behaviors, it could be expected that children who were poorly accepted will also show fewer positive behaviors and more aggressive behaviors (Study IV). It has been proposed that aggressive behaviors could be a response to and elevated by perceived rejection, especially in aggressive boys and girls tending to blame others, as well as in aggressive boys who blame themselves for their social failures (Guerra, et al., 2004).

The other indicator of peer relationship was loneliness. Both internalizing and externalizing problems in grade 1 predicted loneliness in grade 6. However, the pathway from internalizing problems was stronger and remained a significant predictor when the contribution from externalizing problems and poor social competence was considered. In grade 6, only internalizing problems were found to be significantly related to loneliness. One explanation could be that aggressive children affiliate with other children with similar problems and therefore tend to have more friends than would be expected (Asher, et al., 1990). Recently, researchers have found that children in aggressive groups were nominated as cool by peers, regardless of the nominators' individual characteristics, indicating that also unproblematic children appear to give broad reputational support to aggressive children (Rodkin, Farmer, Pearl, & van Acker, 2006). Further, relational aggression was found positively related to influence in the peer group (Prinstein & Cillessen, 2003) and to peer perceived popularity, and that this could increase relational aggression (Rose, Swenson, & Waller, 2004).

Another explanation to less loneliness in children with externalizing problems could be aggressive children's lack of sensitivity to self-directed feedback from others (Zakriski & Coie, 1996), and their underestimation of their own aggression (Lochman & Dodge, 1998), probably facilitating their feelings of social acceptance to a greater extent in comparison with depressive and unproblematic children (Brendgen, Vitaro, Turgeon, & Poulin, 2002; Brendgen, Wanner, Morin, & Vitaro, 2005). Aggressive children have been found to hold fictitious positive feelings, i.e. a false interpretation of a situation in which these children tend to have overly optimistic views of their social relationships (Hymel, et al., 1993). However, researchers have found that extreme overestimation and underestimation have been related to increased aggression, which increases the risk for peer rejection and loneliness in aggressive children (Brendgen, Vitaro, Turgeon, Poulin, & Wanner, 2004). In addition, aggressive children are at greater risk for continued social and behavioral problems (Hughes et al., 2001). Thus, early externalizing behavior might finally have taken its toll in terms of its associations to poor peer acceptance in grade six.

Lonely children exhibited significantly fewer positive behaviors, reported lower self-esteem and poorer psychological well-being, and were rated as being less socially competent and more shy than children who were not lonely. Therefore, helping young children who appear anxious, sad, and withdrawn to become more competent in peer interactions might help foster a positive development. Some of the poorly accepted children did not report feeling lonely. One explanation for this finding could be that these children, who are poorly accepted in school, have other positive relationships outside the school (e.g., with their family and other children in their neighborhood). Cheng (2003) found that teacher warmth contributed to better peer acceptance. It could therefore be questioned whether children with behavior problems had compensatory good relationships with their teachers, but generally the results did not confirm the existence of such an association.

Behavior problems and self-perceptions

Researchers have recently claimed that no research has examined the longitudinal relation between behavior problems or nonsocial behaviors and self-perceptions, or the role of peer acceptance for self-perceptions (Nelson, et al., 2005). The studies II-IV were therefore carried out to evaluate these issues. First, the results demonstrated that first grade externalizing problems predicted lower self-perceptions in grade 3, where these children had more negative self-perceptions than children with internalizing behavior problems and unproblematic children. However, neither negative nor positive teacher-child classroom interactions contributed to children's self-perceptions (Study II). Second, in grade 6, both children with externalizing and internalizing problems scored significantly lower than the unproblematic children (Study

III). Third, lonely and children poorly accepted by their peers scored lower on self-esteem (Study IV). In contrast to earlier studies (Baumeister, et al., 2003; van Boxtel, et al., 2004), neither high self-esteem nor an inflated self-perception was noted in children with externalizing behavior problems when both aggressive and disturbing behaviors were included. However, it has recently been proposed that low self-esteem or exaggerated self-esteem could be related to aggressive behaviors and peer acceptance, the latter indicating that a disputed self-esteem strengthened the relation between exaggerated self-esteem and aggression, even when gender and internalizing problems were controlled for (Diamantopoulou, Rydell, & Henricsson, submitted for publication).

The results and conclusions from earlier research on self-esteem and externalizing problems are contradictory, pointing to a lower, higher, and inflated self-esteem. The results from different studies are difficult to compare because different measures of self-esteem have been used. Furthermore, comparisons have been made with externalizing behavior problems in some studies and aggressive behaviors in others. Moreover, it is unclear if an inflated narcissistic self-esteem is the same as, or proof of, a genuinely high self-esteem. It is vital to distinguish between these two constructs (Paulhus, Robins, Trzesniewski, & Tracy, 2004). For instance, narcissism has been found beneficial for psychological health only in the sense that it was associated with high self-esteem (Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2005); aggression was associated with low self-esteem when the effects of narcissism were controlled for (Donnellan, et al., 2005). Another explanation has to do with the adolescent ages of the children participating in many of the other studies of self-esteem (e.g., Cole, Maxwell, & Martin, 1997; Harter, 1993; Harter, et al., 1997). Perhaps older children have defense mechanisms and survival strategies that are more developed compared with younger children. Such strategies may help these older children in denying feelings of poor self-esteem.

In contrast with earlier studies indicating lower self-esteem in children with internalizing, withdrawn behaviors (Fordham & Stevenson-Hinde, 1999; Rubin, et al., 1990), the children in the present study (i.e. Study II) did not differ from the unproblematic children in grade 1. However, their self-esteem decreased from grade 1 to grade 6 in comparison with unproblematic children. Apparently, something happens between grades 1 and 6, where the children with internalizing problems regard themselves more negatively during their preadolescent years than when they were younger. Could this be a result of a maturing awareness of the external world, or does this period of preadolescence simply entail greater vulnerability for many children? Support for this theory could come from the reports of changes in self-esteem during different ages, where the self-esteem appeared highest during childhood, then dropping during adolescence, finally increasing again during adulthood (Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002). However,

the findings on age as a predictor of self-esteem have been inconsistent. Several longitudinal studies have found self-esteem to remain constant with advanced age (e.g., Chubb, Fertman, & Ross, 1997), whereas others have found self-esteem to decrease with age (e.g., Brown, McMahon, Biro, Crawford, Schreiber, Similio, et al., 1998) or increase with age (e.g., Jones & Meredith, 1996). Noteworthy, is that the studies cited above did not study behaviorally problematic children.

Behavior problems and school adjustment

Addressing the questions of possible relationships between children's behavior problems and their school adjustment, current studies have indicated an association between externalizing and internalizing behavior problems and lower school achievement. Earlier studies reported that aggression and other aspects of externalizing problems predicted low school achievement (Coie, Christopoulos, Terry, Dodge, & Lochman, 1989; Jimerson, et al., 2000). Socio-emotional and behavioral problems have been reported to be related to poor work-related skills, which, in turn, predict academic achievement (McLelland, et al., 2000). However, one methodological problem concerns how to measure school achievement. The methods used in different studies do not always permit direct comparisons. There are probably also cultural differences in what should be measured (e.g., how achievement should be measured and at what point in time). Different countries have different systems for evaluating achievement. These systems may vary even from one school to another. Although school liking has been related to school achievement (Ladd, et al., 2000), there are no studies on the possible link to behavior problems. However, problematic children's feelings about school are obviously an important component of their school adaptation. As seen in Study III, the results indicated that children with externalizing and internalizing behavior problems had lower school liking than unproblematic children. In the Swedish school system, one method to handle school problems is referral to special education in smaller groups. Even if the small-group method enhances the possibilities of individual support and reinforcement, there is a risk that children experience the small group as a form of alienation, finding it negative being out of their normal classroom situation. How much and under what circumstances can these special educational efforts help children with their behavior problems? Can they lead to a more positive development in terms of school adjustment or personal well-being? These questions need to be investigated further.

A note on gender differences

Gender differences have not been investigated extensively in the present thesis (Studies II-IV), but some differences have been noted and therefore all the analyses have controlled for gender effects. Concerning internalizing problems, girls with high levels of internalizing problems were in the majority in grade 1. However, when dimensionally compared in grade 6, boys exhibited more internalizing behaviors. This finding is in contrast to studies in which girls reported more worries than boys (Silverman, et al., 1995). However, concerning internalizing disorders, some studies have not found any clear differences between younger boys and girls on anxiety and mood disorders (Nottelman & Jensen, 1995). On the other hand, many others have found more girls to be depressed (e.g., Zahn-Waxler, 1993; Angold & Rutter, 1992; Koenig, Isaacs, & Schwartz, 2002). As could be expected based on earlier studies (e.g., Bongers, Koot, van der Ende, & Verhulst, 2004), boys with high levels of externalizing behavior problems were in the majority in grade 1; they were also in the majority when dimensionally compared in grade 6. The gender differences are particularly significant concerning externalizing disorders (e.g., ADHD is more common among boys than girls and reported gender ratios range from 3:1 in epidemiological studies to 6:1 in clinic-referred samples of children) (Gaub & Carlson, 1997; Nolan, Volpe, Gadow, & Sprafkin, 1999). The prevalence of antisocial disorders is higher among boys than girls, but during a 40-year period, these disorders have increased in adolescent girls from a gender ratio between boys and girls of 10:1 to 4:1 (Rutter, et al., 1998). A gender change is thus quite evident, with conduct disorders (CDs) in girls becoming relatively common. These girls with CDs, in comparison with boys with CDs, are at increased risk for co-morbid conditions, especially girls with internalizing disorders (Keenan, et al., 1999).

Girls were found to be rated as more socially competent than boys (Studies II and IV). This finding is consistent those in other studies (Aber, Brown, & Jones, 2003; Howes, 2000; Lynch & Cicchetti, 1997). In contrast to other studies in which females have reported lower self-esteem (e.g., Chubb, et al., 1997; Maôano, Ninot & Bilard, 2004; Quatman, & Watson, 2001), children's self-esteem in the present thesis was higher in girls than in boys (Study II). Anxious girls show greater fear of negative evaluation from peers than their male counterparts, and are more socially avoidant in new situations (Silverman et al., 1995). However, in Study IV boys reported more loneliness than girls, and if the child was both lonely and a boy, it was more probable that he would be aggressive and have low peer acceptance. Despite more aggressive behaviors in boys, no general gender difference was found on peer acceptance.

Concerning the observed teacher-child behavior interactions, the results indicated that girls had fewer disruptive behavior corrections and situations

with mutual anger with their teachers (Study II). The gender effect of less disruption concurs with previous findings (Howes, 2000), where in addition to receiving less behavior corrections, they had better school achievement than boys (Hamre & Pianta, 2001). According to Keenan (2000), most studies on gender differences in the classroom have focused on academic issues (e.g., Hall, 1982), and not on the affective relationships between teachers and children. However, in two studies teachers' perceived relationships with boys were found to be more conflictive and less close than their relationship with girls (Hamre & Pianta, 2001; Keenan, 2000). In another investigation, teachers reported a higher level of closeness but also more dependency with girls than with boys (Howes, et al., 2000). It was somewhat unexpected that loneliness was found higher in boys and that peer acceptance did not differ between boys and girls. One possible explanation to account for this difference is related to the gender appropriateness hypothesis (Kerr, Lambert, Stattin, & Klackenberg-Larsson, 1994), which proposes that culturally defined stereotypes of masculinity and femininity set the rules for how boys and girls should behave. Overt aggression is, e.g., more accepted in boys, whereas girls who are overtly aggressive are less accepted by peers (Crick, 1997; Keenan, et al., 1999). Furthermore, parents seem to tolerate hyperactivity less in girls than in boys (Silverthorn, Frick, Kuper, & Ott, 1996).

Risk and protective factors

Risk factors

Several of the presumed risk factors for later social and emotional adjustment problems were partly confirmed by the results in Studies II-III, especially in children with externalizing problems. The findings in Study II indicated that first grade externalizing and internalizing problems independently contributed to a teacher-child relationship of conflict and dependency in grade 3, which to some extent could induce a self-fulfilling prophecy, i.e. teachers were probably more liable to get into conflicts with children they had identified as disruptive or otherwise problematic. However, the negative interaction patterns in the classroom worsened the situation. Mutually angry teacher-child interactions only contributed to a relationship built on dependency but not on conflict, perhaps suggesting that an ambivalent "love and hate" or a "don't like but need you" relationship might have developed, which might be the result of simply receiving more attention.

Conflicts and negative teacher-child behaviors in daily interactions thus augment the maladaptation in children with externalizing problems, whereas corrections from teachers did not appear that destructive. However, for these children, conflictive relations in grade 3 did not contribute independently to any of the outcomes in grade 6 (Study III). Even if the findings from earlier

studies (Hamre & Pianta, 2001) of long-lasting negative consequences of conflicted teacher-child relationships was not replicated in this study, negative teacher-child relationships still could be a risk factor. This is because lacking teacher-child closeness and teacher-child conflicts have been found to predict later aggression and disruptive behaviors in children (Howes, 2000). As was seen in Study IV, early behavior problems appeared to be a risk factor in later peer relationships, and high levels of externalizing behavior in grade one was significantly associated with loneliness and poor peer acceptance in grade 6. Externalizing behaviors and social competence deficits stood out as characteristic of the poorly accepted group as early as grade 1, but they had also become low achievers, disliked school, and tended to have low self-esteem. These results could be interpreted as confirming the importance of helping children already when levels of aggression are relatively low (Goldstein, et al., 1998).

Despite negative teacher ratings of the relationship, the children with internalizing problems did not deviate from unproblematic children in the teacher-child interaction patterns. They failed to see the relationship with their teacher as more negative, and their self-perception in grade 3 was not affected by their problem status in grade 1, though it was in grade 6. There was only one independent effect of teacher-child dependency in that dependency predicted poor peer acceptance in grade 6. In other studies, lacking closeness in teacher-child interaction is a risk factor that predicts later social withdrawal (Howes, 2000). However, children with internalizing behavior problems, in comparison with unproblematic children, showed lower school achievement and were less accepted by their peers. This is particularly true if children with internalizing behavior problems had experienced conflict with their elementary school teacher, as these conflicts could have an exacerbating effect on school achievement. Although aggressive peer behavior did not function as an exacerbating factor in children with externalizing problems, uncertain or withdrawn peer behavior contributed independently to higher levels of internalizing problems and lower levels of school achievement in grade 6. Internalizing behaviors in grade 1 was associated with self-reported loneliness and low peer acceptance in grade 6. Internalizing behaviors were also able to predict loneliness, which indicates possible exacerbating capabilities. Loneliness, in turn, was related to low global self-worth. Children who are lonely and poorly accepted by their peers are at risk for devastating outcomes. These results therefore indicate that loneliness in children is an important and perhaps undervalued risk factor. The question needs to be raised regarding the long-term effects of children's early loneliness. If lonely children are those who also have internalizing behavior problems, they probably do not disturb the teacher in the classrooms. Accordingly, loneliness in children might be as invisible as internalizing behavior problems. From this view, it is reasonable to ask what efforts are made in the ordinary school situation to help children out of involuntary loneliness.

In addition to children's behavior problems and poor peer acceptance, lack of social competence gave a unique contribution to the prediction of loneliness. Further, poor peer acceptance was also related to children's loneliness. Therefore, it is concluded that lacking social competence is a risk factor. As regards children with early emerging externalizing problems, their social relationships seem important in a negative sense, i.e. poor relationships were somewhat responsible for problem persistence. Are there any other explanations to children's loneliness than early behavior problems? Associations have been found between maladaptive or pessimistic attribution style and loneliness (Anderson, 1999), which might be accompanied by feelings of pessimism and hopelessness about the future. Moreover, children who interpret negative events in terms of general, stable, and global events later report more loneliness than children with other attributional styles (Toner & Heaven, 2004). On the other hand, loneliness may be caused by poor interpersonal skills and low peer acceptance.

From earlier studies, we know that untreated problematic behaviors often remain and may even worsen, taking the child into deeper maladaptation. Behavior problems, if left untreated, may have an impact on or be associated with other aspects of children's development (e.g., lower self-esteem, lower school achievement and school-liking, poorer peer acceptance, and more loneliness) (Study II-IV). The present results indicated that negative relationships and problem persistence are related. Children with problematic behaviors and who were both poorly accepted and lonely were therefore in a risky situation, and there exists a risk for cumulative effects, at least in children with externalizing behavior problems. Disturbing or even withdrawn behaviors are perhaps the most visible cry for help. The problematic behaviors could also be a response to difficult life circumstances. The evidence is overwhelming regarding the detrimental effects of poverty on the development of behavior and other problems (Bradley & Corwyn, 2002; Dodge, Pettit, & Bates, 1994; Pace, Mullins, Beesley, Hill & Carson, 1999; Rutter, et al., 1998), in reducing self-esteem and self-confidence (Rosenberg & Pearlman, 1978), and in lowering school achievement (Compas & Williams, 1990). However, in one study the nature of the predictive linkages found between the relational risk and protective factors and later maladjustment did not differ substantially by SES (Ladd & Burgess, 2001). One question is to ask where does the vicious circle start?

Protective factors

Mental health, good self-esteem, positive social relations, and school achievement can be interpreted as positive outcomes in child development. However, a striking result was that many of the presumed protective factors (such as a positive and warm teacher-child relationship or positive teacher-child interactions) did not protect children with behavior problems or help

them to obtain a higher self-esteem or better school achievement, or prevent them from feelings of loneliness and low peer acceptance. The results also indicated low buffering effects of social competence, especially in children with externalizing problems. Buffer effects were found regarding positive peer interactions, but only in children with internalizing behavior problems. One possible explanation to the weak buffer effects was that the children in Studies II-III were rated so extreme on behavior problems, and when behavior problems were such strong predictors of later problems, other variables would not have much of an influence.

The protective effect of a close teacher-child relationship was not confirmed, and there were no independent or significant interactive effects (Study III). Thus, these results contradict reports of benign effects of a positive teacher relationship (e.g., Howes, 2000; Hughes, et al., 1999; Meehan, et al., 2003; Pianta, et al., 1995). One possible reason for this finding is that the children with behavior problems in other studies had lower problem levels than the children in Studies II and III. Thus, even if a teacher's experience of teacher-child closeness was correct, it was not sufficient to change the situation. Children with externalizing and internalizing problems showed lower levels of prosocial behaviors, and children with internalizing problems were lower also in social initiative. This could have negatively influenced the possibilities of a buffer effect of positive teacher or peer interactions. Further, it could prevent positive social relations from developing and the reduction of problematic behaviors. Other factors may also be important, such as optimistic attribution style, i.e. the point of view that good things are likely to happen and are due to personal competence and permanent causes (Anderson, 1999; Seligman, et al., 1995). The results could also differ between other studies and the present ones for other reasons.

Nevertheless, the efforts to study if *social competence* could be a possible protective factor, especially for behaviorally maladjusted children, were an important contribution to earlier research. As seen in Study II, in children with internalizing problems high social initiative scores were associated with higher levels of teacher-child conflicts. This unexpected find was contrary to the idea of social skills as a buffer, although at least making these children more visible. This result warrants further studies of the social behavior of children with internalizing problems. In Study III, higher levels of social initiative in elementary school lowered the levels of internalizing problems in grade 3 but only for unproblematic children. Prosocial behaviors in grade 3 independently predicted lower levels of both externalizing problems and internalizing problems in grade 6 (not between grades 1 and 3), but only one moderating effect was found, where social competence predicted higher peer acceptance in children with internalizing problems. In contrast to teacher rated social competence, observed socially competent peer behaviors functioned as a protective factor moderating the levels of behavior problems, increasing peer acceptance, and increasing school achievement, but only in

children with internalizing behavior problems. The results in Study IV indicate that in the most problematic children the level of social competence did not have an influence on the level of peer acceptance, whereas high social competence in an ascending scale was associated with peer acceptance in children that were less problematic. More longitudinal studies are needed to cast further light on what effects prosocial skills have and how to build upon these skills in order to help children with behavior problems. Perhaps early interventions with social skill training in the children with behavior problems could have enhanced the positive and buffering effects for these individuals as well.

Interventions in school settings

The longitudinal studies in this thesis have shown the persistence of children's behavior problems, especially the externalizing ones. The results of the first study indicated that the planned use of more structured strategies was infrequent, and that in general teachers' strategies generally were not particularly optimal. However, children with this type of problem probably need psychological help. Despite many possible causes of children's behavior problems, it is important to help these children steer away from maladaptive behaviors, as well as to support them, their teachers, and peers in developing positive and good relationships. Research has indicated that a greater use of learner-centered practices (such as encouragement of child autonomy and focus on positive relationships in the classroom) predict less anger, more empathy, and less peer rejection (Donohue, Perry & Weinstein, 2003). One universal violence prevention program in elementary schools is the 'Peace-Builder program'. The purpose of this program is to alter the climate and culture of the entire school, including activities that reduce aggressive, hostile behaviors and enhance prosocial behaviors. The program is also designed to provide useful strategies to avoid reinforcements of negative behaviors and conflicts (Flannery, Liao, Powell, Vesterdal, Vazsonyi, et al., 2003). The 'School Mediation Program' is a comprehensive curriculum for conflict resolution education, providing the entire school community with a common vocabulary in discussing conflict, cooperation, and caring (e.g., Aber, et al., 2003; Cunningham, Cunningham, Martorelli, Tran, Young, & Zacharias, 1998; Johnson & Johnson, 1996).

Strategies to help children recognize the experiential and physiological aspects of emotion when they are upset, to help them become aware of common triggers for their distress, and to assist them in recognizing biases in their thinking should be useful in helping to reduce strong negative feelings. Cognitive behavior therapy- (CBT) based programs, which target specific skills, appear to be more effective in reducing anger and aggression than eclectic programs (Luk, Staiger, Mathai, Field, & Adler, 1998). One exam-

ple is the Temper-Taming Program, aiming to reduce the incidence and intensity of children's temper, i.e., anger and aggressive behaviors (Williams, Waymouth, Lipman, Mills, & Evans, 2004). There are good results from multifaceted training packages in school settings using resident training, video feedback, and self-management and staff training, especially in anger-related externalizing problems in children (Del Vecchio & O'Leary, 2004; Nangle, Erdley, Carpenter, & Newman, 2002; Sukhodolsky, Kassinove, & Gorman, 2004; Wilson, Lipsey, & Derzon, 2003) and children with combined internalizing and externalizing problems (Weiss, Harris, Catron, & Han, 2003). Intriguing work is in progress in Swedish schools in which both parents and teachers learn to handle externalizing behaviors in children. So far, the results are promising (e.g., Forster, Sundell, Melin, Morris, & Karlberg, 2005; Sundell, Kling, Livhem, & Maunter, 2005). One other such program for teachers and parents is ART- aggression replacement training, consisting of e.g., anger control, interpersonal skills training and moral reasoning training (Goldstein, 1988; Goldstein et al., 1998). Researchers have recently suggested that there could be a need for different interventions depending on the specific aggression profile where e.g., interventions aimed at highly reactively aggressive children should focus on anger management and social cognitive reconstruction, whereas proactively aggressive children may benefit from exposure to non-aggressive peers and to reinforcement contingencies supporting non-aggressive behaviors (Vitaro, Brendgen, & Barker, 2006).

Cognitive theories of emotions, which proposes that cognitions representing the perceptions of events lead to emotions and that biased cognitions are typically responsible for strong, negative emotions (Beck, Rush, Shaw, & Emery, 1979), should be applicable in children with internalizing problems. However, programs focused on these children appear less frequent. One example is 'The Penn Prevention Program' aimed to alter cognitive distortions, reduction of depressive symptoms, and improving social skills (Gillham, Reivich, Jaycox, & Seligman, 1995). Changing children's maladaptive behaviors and relationships probably demand structured interventions. New behaviors can be an important starting point for a child, helping him/her to a more positive development, and facilitating other necessary changes in, e.g., the home environment and interpersonal relationships.

Methodological issues

Strengths and limitations

An important methodological strength of the present studies was the use of multiple informants and measurements, including teachers, parents, children, and peers. Questionnaires were used in which teachers made self-ratings and

ratings of their students, the students made self-ratings and ratings of their peers. These self-ratings were combined with interviews and in vivo observations. Although questionnaires can be biased by social desirability and by negative and positive expectations in relation to the children in the classroom, they still are valuable instruments. The combination of different kinds of measurements may serve to protect against these possible dangers. Many different phenomena were measured to obtain a comprehensive picture of children's behaviors, their school situation, and adjustment. The children were prospectively followed from grade 1 to grade 6. However, for logistic reasons (e.g., not wanting to impose on teachers excessively and the impracticality of repeating classroom observations), all measures were not replicated at each assessment, which precludes fine-grained, time-series analyses. The classroom observations included a broad set of negative and positive classroom interactions, which sets it apart from earlier research (Beaman & Wheldall, 2000). All variance and regression analyses statistically controlled for gender, and correlations were partialized for gender, which underscores the robustness of the results. It should be pointed out, however, that this procedure does not completely take care of gender differences. However, teacher-child relationships, self-esteem, and children's adjustment possibilities and problems are part of a complex process. The direction of the various influences is difficult to establish, such as whether the child's negative self-perception is affected by or affects teacher-child relationships. Probably they are mutually dependent. Further studies of interactions in terms of ongoing processes should extend the understanding of how these processes influence development, especially in children with behavior problems. For instance, it has been suggested that teacher attention may serve to maintain high rates of inappropriate classroom behavior (Beaman & Wheldall, 2000).

Sample size and attrition

When conducting research, priorities must be made, which may lead to certain limitations. Sample size is one issue that is always important to consider, especially when you have a longitudinal community-based research design. The possibility for generalizations is enhanced with a proper sample size. In this study all first grade teachers were included in study I and over 90% participated. Then, 40% of all first grade children living in different socio-economic areas were rated by their teachers; from this sample of more than 500 children, the two problem groups and the one unproblematic group were selected. Naturally, it would have been better to start with 60% of all first graders, but for practical reasons this was not possible. To address these sample size limitations a greater sample was used in grade 6. When conducting a longitudinal study, there is always the risk of attrition. In the longitudinal studies (Studies II-III) the attrition rate was very low, i.e. 4%. Of the 95 children in grade 1, 91-93 participated in grade 6. From the original sample of 524 children, about 80% of the initial first-graders participated in the

grade 6 study, yielding a low attrition rate. Further, when controlled, there were no differences at the start of the study between the children who remained and those who dropped out regarding gender, $\chi^2(524, 1) = 3.77$, externalizing problems, internalizing problems or social competence, all t s < 1.15, ns.

Dimensional or categorical approach

Variables such as externalizing and internalizing behavior problems could be seen either as dimensions or as discrete categories (yes/no). If the aim is to compare particularly problematic children with unproblematic longitudinally (Studies II and III), some kind of qualitatively based grouping was, if not necessary, at least helpful. The problem behavior groups were recruited from a normal community sample but constructed to contain rather extreme or near-clinical values on their respective levels of behavior problems to include only decidedly problematic children. For similar reasons, this categorical method was also used when constructing groups of lonely vs. not lonely children and low accepted vs. highly accepted children (Study IV). On the other hand, a dimensional view seems to have advantages in the sense that the cut-offs that divide children in one group or the other are not arbitrary. Concerning such phenomena as behavior problems and social competence, it therefore could be appropriate to think more in terms of quantitative rather than qualitative differences in children with and without behavior problems or social competence. Dimensional values of externalizing and internalizing behaviors were used in Study IV.

Validity and reliability

Many of the phenomena measured in this research work are not easy to define in an absolute sense. Self-perception and self-esteem could be measured in various ways, and what parameters to use are not absolute. The consensus on how to capture teacher attitudes and strategies, classroom management or what really happens in the classrooms is even lower. In previous research many different methods have been used, making comparisons of research results more difficult and conclusions less reliable. The first study aimed to capture teachers planned strategies to handle disturbing and problematic child behaviors. This was made possible by constructing different problem vignettes. The forced-choice response alternatives were used earlier in research on parent-child discipline (Palmerus, 1999; Scarr, et al. 1991). In the present work, the forced-choice approach was adjusted to make it applicable in the teacher-child context. To guarantee better measurement quality it was also possible for the respondents to give an open-ended answer to every vignette. Two independent coders performed the coding process of teacher strategies. The interrater reliability indicated near total agreement. Although the teachers were free to describe their strategies in their own words, many chose one of the forced-choice alternatives, which might have biased their

answers. However, it should be emphasized that the vignettes, as well as the response alternatives, were constructed from many years of school experience and tested in a pilot study. Open-ended questions might increase the risk for more gentle or indistinct answers. In contrast, the forced choice alternatives might “legalize” teachers to choose reprimands or punishment if they felt it necessary. At the same time, evaluating your own teaching strategies could entail a conflict between honesty and social desirability.

Another methodological problem in Study I was that the correlation between a humanistic attitude and the strategy to discuss could be part of some methodological variance because the former could be expected to include the latter. In an attempt to validate teachers’ responses to hypothetical classroom situations relations between the strategy preferences of each child’s teacher and teacher behavior were tested in teacher interactions with the children with externalizing behavior problems. Most rating scales have previously been used several times and the scales have demonstrated good reliability and validity: for instance, concerning the STRS (Pianta, 1996), the original factor solution with three factors was also confirmed in the present sample.

The problem assessment rested solely on teacher ratings. Researchers have pointed out that teacher perceptions of children’s social adjustment are not independent of their perceptions of their relationships with the children (Howes, 2000). In the studies teachers rated problems, competence, and the teacher-child relationship. Thus, method variance and social desirability effects must be considered. However, there were two years between ratings of social functioning and of the teacher-child relationship, and the quality of the teacher relationship was confirmed by the children themselves and in observed interactions. As a test of the validity of the teacher ratings, relations between the ratings of externalizing and internalizing behavior problems and the two peer behavior scales (see methods) from classroom observations one year later were computed. Externalizing problems were related to aggressive peer behavior but not to withdrawn/uncertain behavior. Furthermore, internalizing problems were related to withdrawn/uncertain peer behavior but not to aggressive peer behavior.

As a test of reliability across contexts, the ratings in grade 3 regarding concurrent relations between teacher and parent problems were computed and the results corresponded to those of other studies. Further, although different teachers performed the school assessments in elementary school and in grade 6, stability was still very high. As a test of validity, teacher ratings of externalizing problems were compared with observations of aggressive peer behaviors in the classroom. Moreover, the ratings of internalizing problems were compared with observations of uncertain/withdrawn peer behaviors. In both tests the relationships were significantly related. The classroom observations were conducted by an observation protocol that was tested in a pilot study. Twenty percent of the children were observed by two independent observers and interrater reliability was calculated and found to be high

for the three teacher-child interaction scales. The agreement between independent observers was high regarding observed children's behavior towards peers. In Studies I-IV, all possible alphas were calculated and those with acceptable or good properties were included in the study. School achievement is frequently measured by formal tests with exact test scores obtained. However, in the present studies, the teachers rated the children's general achievement level in four subject areas, which could have been a methodological limitation. Nonetheless, when comparing these teacher ratings of school achievement with formal National tests, the results from a sub-sample of five randomly selected classes demonstrated high correlations with teacher ratings a year later for Swedish, Math, and English, respectively).

Directions for future research

Many research efforts have been undertaken, including studies on children with externalizing behavior problems, but few have been prospective and longitudinal or conducted in natural school settings. More studies are needed disentangling the possibility of different predictors and different developmental trajectories of the different types of aggression (reactive vs. proactive, physical vs. relational). Consequently, further longitudinal research is called for to examine the complex interplay between children and their environment. We need to follow their progress from the first years of parent care, the school years and adulthood. We also need to study the resilience and protective forces in children. For instance, a follow-up study of the children who participated in grades 1-6 could be done when the children are adolescents and young adults. Longitudinal studies are needed to study internalizing problems and combined internalizing and externalizing behavior problems in children in order to search for health promoting factors that may be at work. Such research should also cast light on what factors, in addition to prosocial skills, there are to help children avoid an unhealthy development.

Children with externalizing problems are at a very high developmental risk. Thus, future research is required to study those factors that may help us combat the negative experiences that some children face in daily life. An important question is whether children are aggressive because they have been alienated and rejected or because of social skill deficits or other problems (Dodge et al., 2003). It would also be valuable to capture younger school-children's sense of coherence (Antonovsky, 1987) and attributional style, as well as to perform attachment interviews in an effort to trace possible developmental trajectories.

The indications of possible detrimental and perhaps long-lasting consequences of loneliness in children have to be taken seriously. One needs to also consider how to make rapid and early efforts regarding breaking these circles of social isolation at a very early stage. Childcare and school teachers

need time and resources, as well as professional psychological support to make this possible. Early building of positive social circles seems highly important, especially knowing that the period between adolescence and young adulthood is one in which there is an elevated risk for depression and even suicide. More research is therefore needed to clarify the links between children's behavior problems, relational difficulties, and loneliness.

An exploration of alternative or complementary teacher strategies could prove beneficial for the maintenance or development of a warm classroom climate and the respectful interplay between teachers and children and children and peers. One challenge for research in this area is to link teacher strategies and practices to outcomes in terms of guiding children in special needs of support towards a healthy development. Finally, further studies must include both enduring interventions that alter the matters for children risking a negative development and that are aimed to enhance not only the individual child's positive resources but also making necessary changes in their environment, i.e. enhancing the protective and resilient factors at the individual, group, and societal level. This probably demands an interdisciplinary approach that includes psychology and sociology in collaboration with authorities responsible for the welfare of the inhabitants in the region.

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