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1 General introduction

Please choose three words that tell about your relationship with the child?

> "(…) He challenges me with his behavior; he always tries me out, every day. He already knows the rules but then he still wants to know the next day whether I really mean it. It's a boy who seeks a lot of reassurance, and needs much praise. He is also very physical, yeah, very clingy towards me." ~Teacher A

Do you feel you have real contact with the child, regardless whether this contact is positive or negative?

> "No. When he shows affection, it's more in a physical sense. He wants a hug or kiss or whatever, but not really that you talk with him or have a small conversation. No, very few times. (…) I don't know how he feels about that; that's difficult to say. He doesn't really call on me. And when he occasionally seeks contact, it is always a bad timing. For instance, if we're going to have a circle conversation or something like that. I try to tell him to come to me at a later moment, but then he doesn't come anymore. But yeah…yeah… the other children are there waiting for something to start. So, yeah, yeah. This is… Well, if I call him to me later that day, he says 'I don't remember Miss'. Then it's forgotten or so. I don't know. No. It's only when he is in pain or has a fight, in those moments he seeks my support, but eh, only then." ~Teacher C

Every teacher has at least occasional doubts about whether they are meeting a child's needs. What brings this up for you? How do you handle these doubts?

> "She doesn't show me her needs so I cannot have doubts. I could more easily think about whether I motivate her enough? That's the only thing she needs. But, well yeah, that's what I tend to do, so... I don't have the feeling that I am not doing enough. I don't have that feeling, but I do feel that I'm helpless: That

> I don't achieve anything with her. But that's something else. Or is this also about having doubts about yourself? A bit of helplessness, I mean, I'd like to achieve more with you but it doesn't work. Yeah, well, yeah... Well, I sometimes talk with my colleagues about this, but I don't worry about this." ~Teacher B

What gives you the most satisfaction being the child's teacher? Why?

> "He makes it fun for me each single day. He expresses his appreciation for everything. He then says 'We have fun together, don't we Miss?', 'I like you, Miss, I like this'. Yeah he is enthusiastic from half past nine to half past four. Yeah… that's… yeah, I don't really know, that's… They are all sweet; I want to state that clearly as well." ~Teacher A

> "Well, it's a nice little boy, a funny boy, ehh… Well, I like having him in my classroom, and I hope he experiences school as a calm and stable place because that's what he needs." ~Teacher F

> "Well, what I like most, well it may seem a bit like something in general, but when I see that she has understood something and it makes her happy; that's I think what I like most. (…) When she makes progress and achieves something and with a happy smile on her face and that I could support and help her in that, that's what satisfies me most. Especially, when it makes her happy when you see her growing." ~Teacher D

The above quotes were taken from teachers' narratives about their relationships with specific children in their kindergarten classrooms. The narratives reveal the uniqueness of the interpersonal relationship between a teacher and a child. Many teachers emphasize warm feelings and satisfaction, and explain how they enjoy sharing time with these children. On the other hand, some narratives also strikingly illustrate the difficulties and challenges that teachers face with some children. Teachers give expression to negative emotions such as anger and helplessness when they sense that the relationship is not what it should be. Lastly,

there are children who go largely unnoticed by teachers and for whom teachers have neither positive nor negative feelings. Overall, the interviews highlight the importance of relationships in everyday kindergarten classrooms and substantiate the rising attention of scholars for the systematic study of teacher-child relationships.

The overarching goal of the current PhD research project was to advance understanding of interpersonal relationships between teachers and children with externalizing behavior in regular kindergarten classrooms. Young students displaying externalizing behavior are at serious risk of social difficulties and academic underachievement (e.g., Stipek & Miles, 2008). To understand these problems, it is worthwhile to consider problem behavior from a relational perspective. It appears more predictive of children's long-term development to ask teachers to report on children's behavior from a relational view than adopting a simple focus on just problem behavior (Hamre & Pianta, 2001). Teachers often experience difficulties in forming positive relationships with disruptive children and report elevated levels of conflict, which could seriously add to social and academic difficulties. Ladd and Burgess (2001), for instance, found that teacher-child conflict exacerbated dysfunctions that were related to aggressive behavior. It is possible that aggressive children with social-information processing deficits develop increasingly hostile attribution biases in the context of conflictual relationships with teachers, thereby increasing risks of school failure and drop out (cf., Crick & Dodge, 1994). On the other hand, there is evidence that close relationships with teachers constitute compensatory resources for aggressive children (Ladd & Burgess, 2001; Meehan, Hughes, & Cavell, 2003; Silver, Measelle, Armstrong, & Essex, 2005). In the current thesis, special attention was devoted to physical aggression because more than other subtypes of externalizing behavior, physical aggression appears predictive of social maladjustment and juvenile violence (Nagin & Tremblay, 1999).

To enhance the understanding of relationships between teachers and disruptive kindergartners, it is important to examine the teacher-child relationship from different perspectives using various methods. We therefore explored two relatively new instruments for kindergarten children and a semi-structured interview for teachers. In addition, we explored possibilities for change in teacher-child relationships in an intervention study.

1.1 Theoretical framework

There has been an international trend in school psychology moving from more traditional, clinical paradigms towards an ecological approach that takes into account the context in which children function (e.g., Short, 2003). From this perspective, children's development is highlighted as interplay between personal and contextual influences. One contextual factor that should be systematically attended to in educational settings is the relational domain, including affective bonds between teachers and students (Pianta & Steinberg, 1992). Though it is widely recognized that relatedness and social bonding is an important factor in children's social and scholastic lives, relatively little is known about relationships between children and teachers in comparison to peer relationships (Verschueren, 2008). The significance of relationships with teachers has long been assumed but not systematically studied. Research that has examined issues related to teacher-child relationships has been mostly been done in an isolated manner lacking an organizing theoretical framework (Pianta, Hamre, & Stuhlman, 2003). To address this issue, Pianta and colleagues have provided a theoretical paradigm that has boosted research into teacher-child relationships over the course of the past decade (Pianta, 1999, 1992; Pianta et al., 2003). Two grand theories are central to this research: the extended attachment perspective and social-ecological models of development. Ecological models provide a multilevel structure to describe the adult-child relationship system and to model the complex bidirectional relationship processes at different levels (i.e., intrapersonal, interpersonal and contextual). The attachment framework aids the interpretation and operationalization of the different components of the dyadic microsystem. Those theoretical frameworks are discussed in the next paragraphs.

The extended attachment perspective on teacher-child relationships

In 1992, Pianta and co-researchers published a volume presenting pioneering research into teacher-child relationships guided by an attachment framework (Pianta, 1992). They were among the first to draw attention to the affective qualities of teachers' relationships and interactions with specific children by drawing parallels with parent-child relationships. One of the main conclusions

was that children form relationships with non-parental caregivers that in many cases are attachment bonds. Children appeared to seek proximity and comfort from teachers in times of stress, and teachers' sensitivity to children's socioemotional needs was related to the quality of the relationship (Van IJzendoorn, Sagi, & Lambermom, 1992). Other researchers have found similar findings as well (e.g., Koomen & Hoeksma, 2003). Importantly, Pianta and co-researchers also concluded that not all teacher-child relationships could be considered true attachment bonds. Children seemed to differ in how much they need teachers as a secure base and safe haven. Children who lack sufficient emotion regulation skills or who have poor attachments with parents may have a larger need for attachment bonds in the classroom in order to feel emotionally secure than typical children (Lynch & Cicchetti, 1992). The extent to which strong relationships were developed was depended on contextual factors (Howes & Matheson, 1992). In settings that allowed for more frequent and intense teacher-child interactions, attachment relationships were more likely to develop. Thus, though teachers can fulfill important attachment functions, it was concluded that researchers need to adopt a broader view and not focus on attachment as equivalent of the teacher-child relationship. Unlike primary attachments, relationships with teachers are generally not exclusive, lasting, or predominantly affective, and the separation effect often does not occur (Koomen & Thijs, 2004-2005). Considering the differences and similarities between parent-child and teacher-child relationships, researchers often refer to the latter as secondary attachment relations (Ainsworth, 1991).

The importance of teacher-child relatedness for learning and academic achievement is increasingly recognized. For instance, Goldstein (1999) discussed how the notion of relatedness plays an important role in Vygotsky's theory on cognitive development and posited the idea of a 'relational zone' of development. In self-determination theory, relatedness is considered a basic psychological need of students (Connell & Wellborn, 1991; Wentzel, 1999). The *extended attachment perspective* on teacher-child relationships asserts that relationships with teachers provide children a secure base from which they can explore novel situations and face social and academic challenges. In contrast, discordant relationships elicit emotional distress, thereby constraining a child's psychological resources and energy to be devoted to learning activities. Engagement in social and academic

activity, exploring novel situations, and risk taking is foundational to learning. Relationships with teachers thus could play a vital role in children's academic progress. Research has provided ample evidence for this postulation, especially in the early school years (e.g., Koomen, van Leeuwen, & van der Leij, 2004; Ladd, Birch, & Buhs, 1999; Pianta, Nimetz, & Bennett, 1997; Pianta & Stuhlman, 2004b; Thijs & Koomen, 2008). As children mature, they become less dependent on teachers as sources of emotion regulation and security. Nevertheless, the need to be known and valued by teachers seems to extend far beyond early grade school (Furrer & Skinner, 2003; Hamre & Pianta, 2001).

Ecological models and the dyadic system

Guided by social-ecological models of development, scholars have increasingly considered schools as social environments and learning as a process embedded in a social context. The ecological paradigms such as Ecological Model of Bronfenbrenner (1977) and Developmental Systems Theory (DST; Ford & Lerner, 1992) emphasize the complex interplay between child and contextual factors (i.e., person-in-context). The basic principle is that children's development is a function of dynamic (nonlinear) processes embedded in multilevel interactions between persons and contexts over time. Those models provide an elaborative framework for understanding development by positing how proximal and distal risk factors may interact over time. The proximal regulatory processes found in dyadic relationships are key processes in children's development (Pianta & Stuhlman, 2004a). Accordingly, developmental risk can be conceptualized in relational terms: Interaction patterns, quality of relationships, and how significant adults in children's lives understand and interpret the child's behavior are all causally related to a child's development (Pianta & Stuhlman, 2004a).

Pianta and colleagues posited that by focusing on the level of relationships as a unit of analyses, large advances could be made in research into developmental significance of teacher-child relationships. They applied ecological principles to adult-child relationships and conceived a conceptual model of the teacher-child relationship as a dyadic or microsocial system (Pianta et al., 2003). The system is viewed as a dynamic multicomponent entity that involves reciprocal interactions within and across multiple levels and time. Four primary components were discerned: 1) features of the individuals, 2) representational models, 3)

information exchange processes, and 4) external influences. At the most basic level, the dyadic system embodies unique features of the relationship partners, such as for instance gender, ethnicity, relational history, self-regulatory skills of children, and efficacy beliefs of teachers (Hamre & Pianta, 2001; Hamre, Pianta, Downer, & Mashburn, 2008; Ladd & Burgess, 1999; Mashburn, Hamre, Downer, & Pianta, 2006; Saft & Pianta, 2001). Second, analogous to Bowlby's notion of internal working models (IWMs), each individual has a mental representation or internalized belief system of the relationship (Bowlby, 1969/1982; Bretherton, 1985). Those models are not features of the individual but are conceptualized as higher order constructs that mainly embody features of the dyad (Pianta et al., 2003). Third, the relationship system encompasses information exchange processes and feedback functions. The nature of interactions between the teacher and student, what it is said, done, gestured, and perceived about the other, serves as a feedback loop that affects relationship quality over time. Lastly, external contexts assert influence on the dyadic system such as the child's family context (e.g., parent-child relationship; socioeconomic status) and classroom climate (Howes & Hamilton, 1992c; Kontos, 1992; Kontos, Burchinal, Howes, Wisseh, & Galinsky, 2002; Ladd et al., 1999; Pianta, La Paro, Payne, Cox, & Bradley, 2002). Those contexts can either support or constrain the quality of relationships.

Given this conceptual model of adult-child systems, it is crucial to employ multiple perspectives and multiples methods across contexts and time in order to obtain an accurate and complete description of the dyadic system (Pianta et al., 2003). However, especially in early grade school, research into teacher-child relationships is largely limited to teacher-report questionnaires. There is a lack of well-validated instruments to assess other components of the model such as young children's perceptions or actual teacher-child interactions (e.g., Doumen, Verschueren, Koomen, & Buyse, 2008; Mantzicopoulos & Neuharth Pritchett, 2003). We aimed to contribute by exploring two relatively new instruments for young children. In addition, we studied teacher narratives to advance understanding of the mental representations of teachers of their relationships with specific children.

1.2 Measurement of teacher and child perspectives

The Student-Teacher Relationship Scale (STRS; Pianta, 2001; Pianta & Steinberg, 1992; Pianta, Steinberg, & Rollins, 1995) is the most widely-used instrument to assess teachers' relationships with individual children, particularly in early grade school. This teacher-report scale measures relationship perceptions of teachers along three subdimensions: Conflict, Closeness, and Dependency. Another teacher-report questionnaire that has been employed is a teacher-adapted version of the Network of Relationships Inventory (Furman & Buhrmester, 1985; Meehan et al., 2003). The availability of these psychometrically sound scales has boosted the research into teacher-child relationships, and has greatly contributed to our understanding of teacher-child relationships. The heavy reliance on teacher-report scales is, however, a reason for concern because it limits understanding of the nature of teacher-child relationships and compromises strong theory building.

The extended attachment theory and the notion of internal working models suggest several limitations of teacher reports of relationship quality. First, internal working models are believed to operate outside conscious awareness. Therefore, within attachment-based research there is a strong tradition of using indirect measures such as interviews to measure internally represented models of parent-child relationships and parenting (e.g., Button, Pianta, & Marvin, 2001; George & Solomon, 1996). There is some evidence that such interview methods show more validity to tap into unconscious structures than self-report scales (Maier, Bernier, Perkrun, Zimmermann, & Grossmann, 2004). Given the parallels between parent-child and teacher-child relationships and the strong reliance on attachment theory, it is surprising that hardly any attempts have been made to explore the use of teacher interviews (Stuhlman & Pianta, 2002). Thus, guided by the notion of internal working models as unconscious structures (Bowlby, 1969/1982; Bretherton, 1985; Maier et al., 2004) and the conceptualization of parental caregiving representations in attachment theory (George & Solomon, 1996), we argue that interview-based methods will yield new insights in the teacher's perspective on teacher-child relationships. Teacher narratives could reveal underlying beliefs and emotions that may not be captured with questionnaire methods.

Second, based on attachment theory, it is believed that teacher reports cannot substitute the perspective of children. According to Pianta's conceptualization of adult-child dyadic systems, both teachers and children construct a mental representation of the dyadic relationship. These representations are constructed on the basis of daily interactions but are also rooted in a social history with significant others (cf., Howes & Hamilton, 1992b; Kesner, 2000). This implies that a child may appraise the relationship differently than the teacher does in the face of shared interpersonal experiences (Pianta et al., 2003). The notion of internal working models of mental representation thus underscores the uniqueness of teachers' and children's relationship experiences. The handful of studies that has assessed the perceptions of school-age children indicated indeed little teacher-child agreement (e.g., Al-Yagon & Mikulincer, 2004; Hughes, Cavell, & Jackson, 1999).

In sum, to obtain a more complete understanding of teacher-child relationships in early grade school, it is vitally important to develop psychometrically strong instruments for young children and to explore more indirect measurement methods to evaluate teachers' relationship experiences.

1.3 Externalizing behavior and physical aggression

From the teachers' perspective, it is clear that disruptive classroom behavior and aggression constitutes a major challenge (Martin, Linfoot, & Stephenson, 1999; Stephenson, Linfoot, & Martin, 2000). Children with under-controlled or externalizing problems are more easily aroused, have poorer self-regulatory abilities, more difficulties following directions and instructions, and consequently are more likely to provoke confrontations with teachers than typical children. Teachers must intervene and re-direct in such a way that they foster students' capacity for self-regulation rather than exerting control over children's behavior to attain compliance. It is often seen, however, that teachers struggle with sensitive responding to children with conduct problems. Observational studies show that teachers tend to be less sensitive, more controlling and less responsive to the intellectual capacities and prosocial behavior of problem children than non-problem children (Fry, 1983; McComas, Johnson, & Symons, 2005; Rimm-

Kaufman et al., 2002). Over time, teachers' attitudes seem to grow more negative with pronounced increases in negative affect (Fry, 1983). In addition, teachers often report high levels of conflict in relationships with disruptive children (Birch & Ladd, 1998; Hamre et al., 2008; Murray & Murray, 2004). On the other hand, not all children with externalizing problems have poor relationships with teachers. The dyadic system perspective on adult-child relationships states that teachers' impressions of the individual features and behaviors of children influence the formation of relationships from the moment children enter a classroom (Pianta et al., 2003). Thus, the extent to which externalizing behavior hinders the development of positive teacher-child relationships may be dependent on teachers' underlying beliefs and attributions for behavior problems. In addition, there are reasons to believe that especially physical aggression causes relational difficulties.

Physical aggression

Koomen and Thijs (2004-2005) point out that only a few studies of teacher-child relationships have differentiated between subtypes of externalizing behavior that correspondent with more clinical-oriented research. The handful of studies that has explicitly focused on physical aggression using pure measurement scales indicated that early aggressive behavior is associated with pervasive social difficulties including low peer acceptance and conflictual teacher-child relationships (Buyse, 2007; Hughes et al., 1999; Ladd & Burgess, 1999; Ladd & Burgess, 2001). There is some evidence that teachers have different attitudes toward aggression than to other subtypes of externalizing child behavior. Using classroom vignettes, it has been found that teachers attribute more control and responsibility to aggressive children than inattentive-overactive children (Lovejoy, 1996). Teachers also reported more negative affect in response to aggression and viewed punishment more appropriate. Moreover, research showed that aggressive child behavior may be more stressful for teachers relative to other subtypes of externalizing behavior (Greene, Beszterczey, Katzenstein, Park, & Goring, 2002; Stephenson et al., 2000). Thus, poorer teacher-child relationships could be presumed for children viewed by teachers as aggressive in comparison to children who display behavior problems that teachers' attribute to hyperactivity and inattention. Intriguingly, Buyse and colleagues (2007) showed that close

relationships with teachers buffered children with a temperamental disposition to activity against aggression but not against hyperactivity. They speculated that aggression may be more malleable by environmental (social) influences than overactive-inattentive behaviors.

The distinctiveness of physical aggression from other externalizing behavior such as hyperactivity-inattention and non-aggressive antisocial behavior is widely accepted (e.g., Cote, Vaillancourt, LeBlanc, Nagin, & Tremblay, 2006; Hinshaw, 1987; Loeber & Hay, 1997; Nagin & Tremblay, 1999; NICHD Early Child Care Research Network, 2004). However, to our knowledge the discrimination between physical aggression and more generic non-aggressive antisocial behavior has not yet been empirically tested in samples of young children. Moreover, the majority of existing instruments designed for young children focus on broader levels of measurement and do not discriminate between forms of the same constructs (Ladd & Profilet, 1996). For instance, the narrowband subscale Aggression of the Child Behavior Checklist (CBCL/4-18; Achenbach, 1991) measures a broad range of conduct problems including nonaggressive problem behaviors (e.g., ‘tamper tantrums’, ‘disobedient’, ‘talks too much’, ‘demands a lot of attention’, and ‘bragging, boasting’). The current CBCL for young children does not distinguish between subtypes of antisocial behavior (CBCL/1½-5; Achenbach & Rescorla, 2000). The Strength and Difficulties Questionnaire (SDQ; Goodman, 1997) comprises a subscale of conduct problems that contains items that represent both physically aggressive and nonaggressive forms of antisocial behavior (i.e., temper tantrums, stealing, and disobedience).

In sum, research into teacher-child relationships has given considerable attention to relationships between teachers and disruptive children. Most studies have focused on broad ranges of conduct problems. However, given the social and academic risks associated with early physical aggression, specific attention for this particular subtype of externalizing behavior is warranted. Moreover, there is some research that suggests that the link between teacher-child relationships and problem behavior is more pronounced for physical aggression. Before such assumptions can be studied, it is necessary to empirically test the discrimination of physical aggression from non-aggressive antisocial behavior in samples with young children.

1.4 Ideas for dyad-focused intervention

Both the ecological approach on children's development and the extended attachment perspective bear consequences for the development of intervention programs to promote children's development. According to ecological models, child adaptation is not a characteristic of the child but mediated by social processes (Pianta, 1997). An ecological perspective on intervention thus promotes the intentional structuring of developmental resources such as teacher-child relationships to support children's development. There are several successful prevention programs aimed at the social and learning environments of classrooms by promoting social-emotional competence in classrooms or fostering teachers' professional growth (Kinzie et al., 2006; Kusché & Greenberg, 1994). Though relationships could be affected by such programs, there is a need of dyad-focused approaches that have a direct impact on relationships of teachers with specific children (Pianta et al., 2003).

Attachment intervention research draws attention to the role of caregivers' mental representations of relationships as a key to support secure adult-child relationships. Mental representations rather than actual behavior appeared the primary factor that accounts for the quality of the child-adult attachment (Slade, Grienenberger, Bernbach, Levy, & Locker, 2005). This has led attachment researchers to argue for intervention programs aimed at parent's mental representations and reflective functioning rather than changing actual behavior (Slade, 2006; Suchman, DeCoste, Castiglioni, Legow, & Mayes, 2008). Given the parallels between parent-child and teacher-child relationships, this postulation should be considered when developing intervention programs within the school context aimed at teacher-child relationships.

The Students, Teachers, and Relationship Support program (STARS; Pianta, 1999; Pianta et al., 2003) offers a dyad-focused approach that comprises two main components: teacher consultation and Banking Time. Teacher consultation targets the mental relationship presentations of teachers. Teachers are engaged in reflection on their relationship with a specific student following semi-structured interviews and watching videotapes of classroom interactions in individual sessions with consultants. In this way, their mental representations of relationships with pupils could be enhanced. During Banking Time, teachers

engage in nondirective child-centered sessions with the target child. This technique addresses all components of the adult-child relationship system, including behavior (teacher behavior is highly constrained), feedback and exchange processes (in contrast to routine interactions, the teacher follows the child's lead, which lead to newly emergent interaction patterns), and belief systems (teachers convey messages of caring and acceptance, and reconstruct their representational beliefs following changes in the child's behavior). To our knowledge, this comprehensive approach has not yet been examined in randomized intervention trials. We therefore aimed to examine the potential of teacher consultation.

1.5 Thesis outline

Research aims

The growing body of research into teacher-child relationship guided by the extended attachment perspective has provided strong evidence for the importance of early relationships with teachers in children's social and scholastic lives. In particular for disruptive children, the teacher-child relationship could function as either an additional stressor or a compensatory resource. Yet, there has been limited research on specific subtypes of externalizing behavior. Especially physical aggression is of profound concern given the associations with a wide array of social and academic problems, including poor teacher-child relationships. However, for young children, the distinctiveness of physical aggression from nonaggressive antisocial behavior first needs to be empirically tested.

With respect to the measurement of teacher-child relationships, two implications arise from the attachment paradigms that are currently insufficiently addressed in the literature. First, both children and teachers are believed to construct internal working models or mental representations of the dyadic teacher-child relationships. Those models are primarily based on their shared experiences but also on a social history with others. This implies that teacher reports cannot substitute the children's own accounts and that the inclusion of young children's own perspective is critically needed. The second implication based on the notion of internal working models as unconscious structures is that

indirect measures such as interviews are needed to advance understanding of teachers' mental representations of relationships with students. Furthermore, there is a need for a dyad-focused approach in intervention programs aimed at relationships between teachers and specific children. Based on attachment intervention research, enhancement of teachers' mental representation of the relationship with individual children may be a key to promote teacher-child relationships. To address these issues, four aims were stated:

1) Extending evidence for the discrimination between physical aggression and nonaggressive antisocial behavior to young children.
2) Obtaining an age-appropriate instrument for the assessment of young children's perceptions of teacher-child relationships.
3) Exploring the use of interviews to advance understanding of teachers' mental representations of teacher-child relationships.
4) Developing and evaluating an intervention program for teachers targeting relationships with specific disruptive children through relationship-focused reflection.

The overarching goal was to advance understanding of the nature of relationships between teachers and disruptive children in regular kindergarten classrooms. Interest was taken in externalizing behavior and physical aggression as it occurred in regular kindergarten classes across the full range of severity and not in clinical or subclinical problems. Therefore, aims 2 to 4 were pursuit in different samples of kindergarten children with various levels of externalizing behavior. The four aims were addressed in five empirical studies. Each study is presented in a different chapter.

Aim 1 (Chapter 2 and 3). We sought to empirically test whether physical aggression is a separate construct from nonaggressive antisocial behavior in early childhood. A review of the research literature on physical aggression showed that physical aggression is generally measured with three items referring to fighting (e.g., hits, kicks), arguing or threatening (i.e., bullying), and often a fourth item 'destroys objects' (Broidy et al., 2003; NICHD Early Child Care Research Network, 2004). Those items can be found among other externalizing items in the Child Behavior Scale (CBS; Ladd & Profilet, 1996) and the Preschool Behavior Questionnaire (PBQ; Behar, 1977), which are both well-validated and widely-used screening measures that are specifically designed for use with young

children. In contrast to the CBS, the PBQ contains items that refer to more general, non-aggressive antisocial behavior (e.g., sneaky behavior and blaming others). Therefore, we used the PBQ to test the distinctiveness of physical aggression from nonaggressive antisocial behavior in early childhood.

Chapter 2 presents an empirical test of the discrimination between physical aggression and non-aggressive antisocial behavior for boys and girls using teacher reports on the Preschool PBQ. In addition, measurement invariance across gender in teacher-rated aggression is examined. To examine the discriminant and convergent validity of teacher reports of physical aggression, a multi-trait multi-method study was performed that is reported in Chapter 3. Teacher reports of physical aggression on the PBQ were evaluated against two other measures, which were teachers' free descriptions and independent classroom observations in a small group.

Aim 2 (Chapter 4). The need of teacher-child relationship measures for young children was addressed in a sample of 5-year old kindergarten children. Two relatively new instruments were evaluated: the Y-CATS (Mantzicopoulos, 2005; Mantzicopoulos & Neuharth Pritchett, 2003) and the KLIC (Van Dijk, De Graaff, Knotter, & Koster, 2006). Those instruments share the same measurement aim but employ different item and administration formats. The Y-CATS was chosen because of its promising results in prior research (Mantzicopoulos, 2005; Mantzicopoulos & Neuharth Pritchett, 2003). We choose the KLIC because this instrument employed an item format and response procedure that was adapted from a valid measure of young children's self-competence beliefs (Harter & Pike, 1984). Chapter 4 presents an evaluation study of the psychometric properties of the KLIC and the Y-CATS. In addition, linkages between child relationship perceptions and physical aggression, inattention-hyperactivity, and social inhibition were explored in relation to child gender.

Aim 3 (Chapter 5): Based on the notion of IWMs or mental representations, interview methods are needed to yield deeper insights in the teacher's perspective on the teacher-student relationship. For this purpose, the Teacher Relationship Interview (TRI; Pianta, 1999) was chosen because the development of this interview was guided by attachment principles. Research with 50 kindergarten teachers had yielded valuable information that supported the validity of the TRI (Stuhlman & Pianta 2002). Despite the potential of this approach and the strong

theoretical basis, no other studies using the TRI have been published so far. The study presented in Chapter 5 aimed to extend the research of Stuhlman and Pianta by evaluating the convergence between the TRI and the STRS in a sample of typically-developing and disruptive kindergarten children.

Aim 4 (Chapter 6). Informed by attachment intervention research, a supportive intervention program for teachers was developed targeting teachers' mental representations of relationships with specific students. Teachers were engaged in reflection on the relationship with a specific child in individual sessions with consultants. Reflection was guided by a semi-structured interview (TRI) and the joint examination of videotaped interactions with the child. Unlike problem-solving consultation, there was not a specific focus on problem identification or the generation of problem-solving action plans. The development of the program was heavily guided by the same principles as applied in the teacher consultation component of the STARS program (Pianta, 1999). The intervention program was evaluated against a more behaviorally-oriented intervention aimed at general interpersonal skills of teachers. This latter intervention was similar in design and delivery plan and differed in content only.

Participants

All research was conducted in Dutch kindergarten classrooms in regular schools. In the Netherlands, primary schooling starts when children are four years old and constitutes 8 grades. The first two grades are kindergarten classes. In many schools, kindergarten children attend the same class with the same teacher for those two years. In kindergarten classrooms, children are prepared for the transition to formal schooling and learn basic social-behavioral and academic skills needed for a successful navigation throughout elementary school. Furthermore, note that there are no formal educational provisions for children under the age of four. Even so, many children have attended some form of daycare such as day nurseries or playgroups before entering kindergarten, and therefore most have already gained some social and academic experiences outside the home environment.

Different criteria for the selection of the samples were applied in the different studies in accordance with the main goal of each investigation. In some studies, a selection procedure was employed based on teacher reports of externalizing

behavior (see Chapter 3, 5, and 6). Because students were nested in classroom, multilevel analyses were conducted.