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Through the teacher's mind

Understanding and improving teacher-child relationships in elementary school

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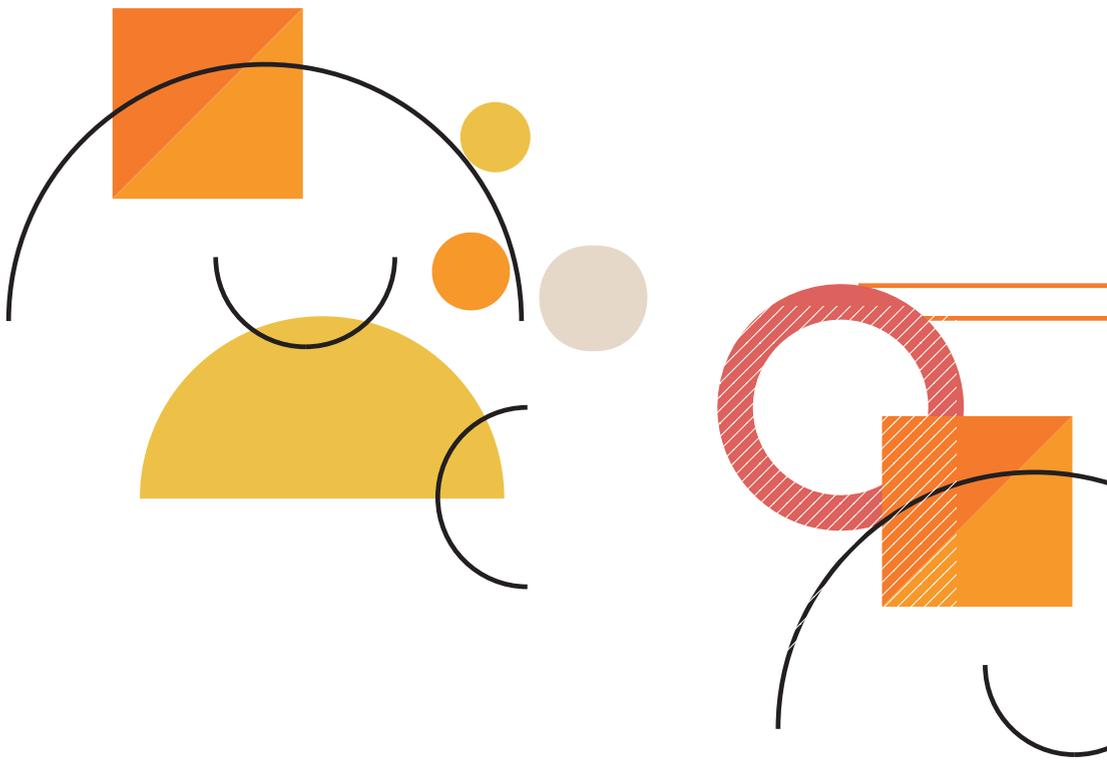
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General discussion

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In this dissertation, we tried to advance insight in the development of teacher–child relationship quality through elementary school, to identify reasons for why teachers experience poor-quality relationships with certain children, and to explore how poor teacher–child relationship quality can be improved. To this end, we first revealed how teacher–child relationship quality, in terms of teachers’ perceptions of closeness, conflict, and dependency, developed from kindergarten through the end of elementary school, and especially, how these separate trajectories of relationship quality differed between groups of children. Additionally, we examined whether child characteristics influenced relationship trajectories, and how these trajectories of relationship quality affected children’s motivation and academic achievement. Building on the findings of the first study, the second aim was to identify why teachers experience their relationships with children with different types of externalizing behavior to be low in quality. The results of the second study implied that teachers were likely to have different mental representations of relationships with children with various behaviors. Therefore, it seemed important to increase teachers’ insight in and awareness of their mental representations of relationships and to help them to change their perceptions about these relationships. Consequently, the third aim was to improve teachers’ perceptions of relationship quality with individual children by using a teacher-based coaching intervention focused on teachers’ reflection on their feelings, beliefs, and attitudes in relationships with individual children. In this general discussion, the results of the cross-sectional, longitudinal, and multiple intervention studies are briefly summarized and reflected upon. For each aim, limitations and suggestions for future research are discussed. This chapter ends with practical implications of the findings.

The development of teacher–child relationship quality during elementary school

Longitudinal research into teacher–child relationship quality has increased in recent years, providing valuable insights into how long-term relationships affect children’s development (e.g., Hajovsky et al., 2017; Jerome et al., 2009). To date, however, most studies have failed to address possible individual differences in relationship quality between teacher–child dyads over time. Chapter 2 extended previous longitudinal research that aimed to uncover individual differences in longitudinal trajectories of teacher–child relationship quality in elementary school (e.g., O’Connor et al., 2011; O’Connor et al., 2012; Spilt et al., 2012a). Using a person-centered approach, it was possible to identify how many children and which specific children were most likely to be at risk for developing a negative relationship trajectory with their teachers during elementary school, and to examine how long-term poor-quality relationships affected their school adjustment.

First, we examined possible trajectories of affective relationship quality from kindergarten through the end of elementary school. Separate trajectories of teacher-perceived closeness, conflict, and dependency were modeled. The results indicated that there were three subgroups of teacher–child dyads regarding closeness: the majority of teacher–child dyads appeared to follow a high-stable trajectory of closeness, whereas smaller subgroups had either very-high decreasing or moderate increasing trajectories of closeness during elementary school. For teacher–child conflict, the majority followed a low-stable trajectory, whereas smaller subgroups had either low-increasing or high-decreasing levels of conflict. For dependency, the largest group of teacher–child dyads followed a low-increasing trajectory, and a small subgroup followed a less favorable low-increasing trajectory. Combining the three separate relationship dimensions for each teacher–child dyad revealed that over 70% of the dyads had favorable trajectories on all relationship dimensions. However, part of the children had unfavorable trajectories on at least one relationship dimension, and around 5% of the children even had unfavorable relationship trajectories on two or more dimensions.

Thus, it was a key finding that most teachers experienced high-quality relationships with children in their classroom from kindergarten through the end of elementary school. These teachers did not perceive any relationship problems with individual children, as indicated by the separate dimensions of closeness, conflict, and dependency. This means that many teachers are perfectly able to bond and connect with individual children in

their classrooms during elementary school. This is promising, considering the importance of teacher–child relationship quality for children’s school adjustment (e.g., Hamre & Pianta, 2001; Roorda et al., 2011), and teachers’ wellbeing in school (e.g., Yoon, 2002).

Importantly, a small subset of the teacher–child dyads was considered unfavorable, at least at some point during the elementary school years. These relationships could be considered negative on one or more dimensions of relationship quality, such as high levels of conflict and dependency, and/or low levels of closeness. Children within these negative relationship trajectories had somewhat poorer task motivation and math achievement at the end of elementary school, compared to children who had a favorable relationship with their teachers. Important child characteristics that increased the risk of these unfavorable relationship trajectories (i.e., mainly low-increasing and high-decreasing trajectories of conflict, and low-increasing dependency) were children’s gender (i.e., being a boy), verbal ability, and their externalizing behavior. Overall, the results reported in Chapter 2 indicate that there are different ways in which teacher–child relationship quality develops throughout elementary school, which in turn can have implications for children’s motivation and academic adjustment. These results also highlight the importance of improving poor-quality relationships between teachers and children, as the quality of relationships with several teachers can become increasingly worse during the school years (Jerome et al., 2009).

For some children, the findings imply that their teachers perceive the relationship during elementary school to be more and more conflictual over the years. Previous research using an at-risk sample of children, has indicated that some teacher–child dyads are even highly stable in conflict during several years of their school careers (Spilt et al., 2012a). This suggests that for a minority of the children the relationship with different teachers within the school are continuously, or even progressively, negative over time. Jerome et al. (2009) have explained that the communication between teachers in a school may affect their perceptions of relationship quality. Specifically, teachers may hold biases about new children in their classroom based on the information that they receive from previous teachers. Consequently, teachers are likely to rate their relationship based on not only their own perceptions, but also on previous teachers’ perceptions of children. This explanation is highly consistent with what teacher Tom told during the start of the second intervention session of LLInC:

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"Last week, you asked me what I liked about being Jake's teacher. It shocked me that I could not come up with characteristics of Jake that I found pleasant or that I could appreciate. I think this started already in summer, when I discussed all new children with their previous teacher. Jake's previous teacher explained everything about his behavioral problems and how he was difficult to 'manage'. That he had a very negative impact on the rest of the class and how this affected her feelings about her capabilities of dealing with him. This specific information did not help me in constructing my own views about Jake. I was already biased to see what made him 'difficult' or 'challenging', which affected my feelings about him in a negative way".

In most Dutch schools, teachers have a different class of children each school year and could therefore have similar experiences as teacher Tom. Biased perceptions about children could possibly lead to stable unfavorable relationships, or increasingly negative relationships during elementary school. This line of argumentation fits with Pianta's (1999) conceptual ideas about teachers' relationship perceptions. He argued that teachers, when interacting with children, are inclined to focus on information consistent with beliefs and ideas they already have about the child, resulting in rather constrained or restricted perceptions about interacting with the child. Teachers' beliefs and perceptions may consequently act as self-fulfilling prophecies (Pianta, 1999). As our results suggest, a vicious circle of conflict over several school years may imply that some children are viewed continuously negative by their subsequent teachers.

The expectancy confirmation theory of social interactions may shed more light on how these self-fulfilling prophecies emerge (Darley & Fazio, 1980). In every first social interaction, the perceiver (in our case the teacher) first forms a set of expectancies regarding the behavior of a target person (in our case the child). These expectancies can be based on several sources, such as a sample of behaviors that the child displays or other factors such as a teacher's knowledge about the child, like their gender, ethnicity, or behavioral dispositions that trigger inferences of how to approach the child (Darley & Fazio, 1980). Consequently, the teacher may act toward the child based on these previously formed expectancies, allowing the child to respond in a way that is similar to the teacher's expectancies. A possible source of teachers' expectancies regarding individual children can be the

(biased) information they receive from previous teachers who have their own beliefs about interacting with these children. It is important to understand how rigid or inflexible thoughts influence relationship quality, and to find ways to alter these restricted perceptions.

To our knowledge, no empirical research has examined how receiving information about a child may influence the teacher's perceptions of relationship quality. In a study about teachers' labelling bias of developmental disorders, researchers used an experimental research design with vignettes to test whether teachers' knowledge on children's ADHD diagnosis influenced their perceptions and expectations of these children (Ohan, Visser, Strain, & Allen, 2011). Half of the teachers read vignettes about a child displaying hyperactive and inattentive behaviors, and the other half of the teachers read the same information, with the important addition that the child had an official ADHD diagnosis. Subsequently, all teachers answered questions about their perceptions about dealing with the child (Ohan et al., 2011). They found that the knowledge about the ADHD label led to increases in teachers' negative emotions, teachers had more negative expectations about the child's problems, and teachers were less confident in their ability to instruct the child. Future research that focuses on examining teachers' perceptions of relationships could use a similar design in which teachers read vignettes with only factual statements about the children (e.g., grades, task motivation) versus vignettes with additional statements about the previous teacher's affective experiences related to that specific child. Subsequently, comparing teachers' expectations of relationship quality when teachers read vignettes with and without information about affective experiences, will help identify whether teachers are biased when they receive more or less information about a child. Such research designs could possibly help identifying the mechanisms of how certain teacher-child relationships become continuously negative over time.

It should be noted that in this dissertation only teachers' perceptions of relationship quality have been included, and that no conclusions can be drawn about children's perceptions of relationship quality in elementary school. Researchers taking an extended attachment perspective generally theorize that children develop their own set of mental representations about their relationship with significant others, such as their teachers (Pianta et al., 2003). Therefore, children can have different ideas about the relationship with subsequent teachers in elementary school compared to their teachers. Research has indicated that children's and teachers' perceptions of their relationship may not be congruent (e.g., Wu, Hughes, & Kwok, 2010; Zee &

Koomen, 2017). Despite these different views about the relationship, it could be that for children, beliefs and attitudes about the relationship with the teacher may also act as self-fulfilling prophecies. Future research could also examine how children's perceptions of relationship quality develop through elementary school.

Why do teachers experience negative relationships with certain children?

In Chapter 2, the most important predictor of negative relationship trajectories was children's externalizing behavior in kindergarten. This finding was not surprising considering abundant research showing associations between children's externalizing behavior and teachers' negative perceptions of dyadic relationships (e.g., Lei et al., 2016). Previous research has shown that children's externalizing behavior not only affects the relationship perceptions of teachers, but also their behaviors. Teachers were found to behave less sensitive and more controlling toward children with externalizing problem behavior (McComas, Johnson, & Symons, 2005; Rimm-Kaufmann et al., 2002). However, not all children displaying externalizing behavior share low-quality relationships with their teacher (cf. Hamre, Pianta, Downer, & Mashburn, 2008). Possibly, the extent to which different types of externalizing behavior interfere with good-quality relationships is dependent on teachers' underlying feelings, beliefs and attitudes about behaviors and relationships.

In Chapter 3, we tried to advance knowledge about how different types of externalizing child behavior were related to teachers' implicit thoughts, feelings, and beliefs about the dyadic relationship. In Chapter 2, we focused on teachers' perceptions of relationship quality. Although these perceptions provide general insight into teachers' mental representations about relationships, they are less suitable to shed a light on teachers' implicit thoughts and processes of relationships. In Chapter 3, therefore, we examined teachers' mental representations of dyadic relationships more in depth. Our results showed that teachers had more positive feelings about relationships in cases of hyperactivity. Moreover, teachers acted more sensitive in response to hyperactive behavior. This is promising, considering that for children with hyperactive behavior, a warm and supportive teacher-child relationship may function as a buffer against further behavioral problems (Olivier & Archambault, 2017).

In contrast, teachers experienced more anger or negative feelings in relationships in the cases of conduct problems. Previous research has

already indicated that conduct problems are more stressful for teachers than other subtypes of externalizing behavior, such as hyperactivity or inattention (Greene, Beszterczey, Katzenstein, Park, & Goring, 2002). More specifically, conduct problems are predominantly viewed as goal-oriented and coercive, whereas hyperactivity and inattention are more often viewed as involuntary (e.g., Chang & Davis, 2009; Lovejoy, 1996). Therefore, researchers have suggested that teachers should learn to understand the background or origin of conduct problems rather than applying contingency management procedures that are often included in school programs (Cavell, 2000; Greene et al., 2002). Providing more insight into the origins of children's behavior, and especially children's conduct problems, may enhance positive relationships between teachers and children (Greene et al., 2002).

The findings reported in Chapter 3 could differ from those from other research into associations between externalizing behavior and teacher-child relationship quality, as we used a more implicit measurement for assessing teachers' perceptions of dyadic relationship quality. Instead of asking teachers directly about their perceptions of the relationship with individual children, we conducted an interview in which teachers were asked about a series of recent experiences in daily interactions that occurred between the teacher and the child. The teacher was invited to talk extensively about his or her feelings regarding these recent experiences in their relationship with a child. Teachers' narratives were scored by several independent coders using a theoretically based coding system consisting of theoretical constructs of pedagogical practices and teachers' feelings regarding their relationship with an individual child. Conducting interviews where specific questions and answers do not refer to openly visible psychological constructs are considered more implicit techniques (Furman & Wehner, 1994). Applying these implicit techniques revealed important associations between relationship quality and children's behavior and possibly other characteristics of teachers and children as well.

Next to children's externalizing behavior, children's gender also appeared to be an important risk factor for developing low-quality relationship trajectories (see Chapter 2). However, in Chapter 3, gender was not significantly associated with teachers' mental representations of relationships. Thus, despite findings from other research into teachers' relationship perceptions (Birch & Ladd, 1997; Murray & Murray, 2004), including our results from Chapter 2, our more implicit interview method did not uncover potential gender differences of children among teachers' mental representations. Two explanations could be mentioned. First, a possible explanation is that in the

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TRI, teachers are mainly asked about specific experiences that have occurred between the teacher and the child. The questions are not aimed at specific characteristics of the child that could have an effect on teachers' perceptions of relationship quality, but rather on feelings and experiences during recent interactions. Other measures that examine teachers' relationship perceptions, such as the STRS, include questions targeting teachers' general perceptions about the relationship with the child. These general aspects of relationship quality may unintentionally reflect more general child characteristics, such as a child's gender, instead of only relationship perceptions. A second explanation for the lack of gender differences is related to the selection of the sample. We did not randomly select children from classrooms, but selected children with either low or high levels of externalizing behavior. This has influenced the selection of boys and girls in the sample, and possibly explains the lack of gender differences in teachers' mental representations.

Previous research has indicated that the Teacher Relationship Interview (TRI) provides more in-depth information about teachers' perceptions of relationships as compared to more general questionnaires that assess teacher–child relationship quality (e.g., Spilt & Koomen, 2009; Stuhlman & Pianta, 2002). Therefore, this interview can be used more frequently in examinations of teachers' mental representations of relationships. Using this interview method multiple times, for several children in the classroom, may also give insight into teachers' characteristics or emotional processes that could reveal why their relationship with certain children are different from relationships with other children. Initial evidence for this claim has been provided by Spilt and Koomen (2009). They conducted the TRI two times (i.e., about the teacher's relationship with two individual children), and were thus able to identify whether teachers' narratives could have represented teacher characteristics rather than characteristics that were specific to the dyadic teacher–child relationship. In contrast to findings of teachers' emotional experiences, it appeared that especially teachers' sensitive practices could be attributed to teacher characteristics instead of characteristics of the dyadic relationship. This implies that the TRI may also capture aspects that are indicative for a specific teacher, rather than the more affective teacher experiences that relate mostly to dyadic relationships. In future research, it would be interesting to determine whether teacher characteristics, for instance teacher resilience (Gu & Day, 2007), teacher well-being, and teacher identity (Day & Kington, 2007; Hanna, Oostdam, Severiens, & Zijlstra, 2019), are also related to teachers' mental representations of relationships with individual children.

Moreover, as Stuhlman and Pianta already argued in 2002, the TRI may not only be an assessment tool, it can also be a starting point for a continued consultation process in which teachers are supported to improve their relationships with individual children. This can be illustrated again using an example of what teacher Tom said to the consultant after the TRI about the relationship with his student Jake:

“After we had the interview last week, I started thinking about my relationship with Jake. I think that I have too high expectations of Jake, considering his difficult situation at home and how he behaves in school. All I want is that Jake goes to school with a positive feeling, and that he feels support from me as his teacher. That should be a good starting point for him to learn. The day after our interview, I already payed more attention to Jake’s feelings and experiences. I don’t know if it was an especially good week for us, but I noticed that Jake laughed at jokes from his friend, he smiled when I gave him a high-five after he succeeded his math task, and that he worked hard in the mornings. Although Jake was very overactive in the afternoon and had multiple fights in the classroom, the focus on more positive aspects of his functioning made me actually feel more satisfied about myself as a teacher”.

In what follows, we evaluate a teacher-based coaching intervention that included the TRI as a tool to improve teacher–child relationships.

Improving teachers’ relationships with individual children

Poor-quality teacher–child relationships that continue to be negative throughout several school years, can have a negative impact on children’s functioning in school (see Chapter 2; Hughes, 2012; Jerome et al., 2009). Therefore, researchers have called for interventions that can break these poor-quality relationship patterns. However, most interventions to date have mainly focused on changing children’s behavior (e.g., Conray et al., 2015), or changing teachers’ classroom behavior (e.g., Cook et al., 2018), instead of focusing on improving relationship perceptions. We used a teacher-based

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coaching intervention, LLInC (Leerkracht-Leerling Interactie Coaching in Dutch), to improve teachers' perceptions of relationship quality with individual children. In Chapters 4 and 5, we evaluated whether LLInC improved teachers' affective relationship experiences and self-efficacy beliefs toward individual children. Findings from the case study in Chapter 4 revealed that, in general, teachers' perceptions of relationship quality became more favorable. However, only half of teachers' day-to-day experiences in relationships with individual children seemed to improve after LLInC. Therefore, we concluded that although LLInC was promising in improving teachers' general relationship perceptions, these changes were not experienced on a day-to-day basis. This could be due to the variability in daily experiences that are not captured in general measurements of relationship perceptions. In another multiple case intervention study that examined LLInC, similar mixed findings have been reported for teachers' daily relationship perceptions and teachers' emotions (Koenen, de Vroey, Kelchermans, & Spilt, in press). Future research could also examine whether there are other factors that may explain mixed findings regarding teachers' daily and general perceptions, for instance teachers' motivation during the intervention and teachers' abilities to reflect on their emotions and sensitive practices.

In Chapter 5, a group comparison study was conducted to evaluate whether LLInC was more successful in improving teachers' perceptions of poor-quality relationships and teachers' student-specific self-efficacy beliefs compared to teachers receiving no intervention. In general, LLInC brought about improvements in the perceptions of teachers' relationship quality (for closeness and conflict) and teachers' student-specific self-efficacy beliefs (for behavior management and emotional support), compared to teachers receiving no form of intervention. However, later in the school year, only the improvements in teachers' self-efficacy beliefs in managing the child's behavior still differed from the teachers who did not receive any intervention. Importantly, the improvements in teachers' perceptions of relationship quality and self-efficacy beliefs also transferred to unfavorable relationships with children that were not directly targeted in LLInC. It seems that what teachers learn about themselves and their relationships with two individual children helps them to improve the relationships with other children as well. This may imply that LLInC could also have a more general effect on the teacher, such as teachers' general self-efficacy beliefs or teachers' wellbeing. Future research could examine how LLInC affects more general teacher characteristics.

In general, the effects of LLInC seem to be strongest for teachers' sense of self-efficacy toward individual students. Teachers also indicated to have improved self-efficacy beliefs during an evaluative interview session four weeks later about teachers' experiences of LLInC (see also the case study in Chapter 4): Several teachers explained that they felt better about their ability to influence the relationship with a child. As such, teachers believed more in their capabilities to support individual children. An increase in teachers' self-efficacy beliefs is promising considering that teachers' sense of self-efficacy has been found to be related to teachers' well-being and positive affect in school (Domenech-Betoret, 2009; Zee & Koomen, 2016).

The evaluative interview in Chapter 4 also indicated that teachers in general had positive feelings about their experiences with the intervention, for instance regarding new insights in their feelings about relationships with individual children and about their motivation to improve the affective relationship. Teachers who participated in the group-design intervention study in Chapter 5 also answered several evaluative questions about their experiences with LLInC. Descriptive results from this study indicated that 72% of the teachers reported to be more aware of their feelings and sensitive practices in the relationship with specific children. In addition, 82% of the teachers indicated to be more motivated to improve the dyadic relationship. We also asked teachers to report on possible changes that they experienced in the relationship with a child after LLInC in an open-ended question at the end of the questionnaire. Although not all teachers answered this question ($n = 33$ teacher-child dyads), regarding five teacher-child dyads, teachers reported that they did not notice any changes in the dyadic relationship in the weeks after LLInC. Many teachers ($n = 56$ teacher-child dyads), did report to have a more open relationship, that there were less conflicts, or that there was more mutual understanding in the relationship. Hence, these exploratory findings suggest that teachers were relatively satisfied with LLInC.

Selection of children for improving teacher-child relationships

In previous intervention research, children have often been selected based on the degree of problem behaviors that they display in the classroom (e.g., Spilt et al., 2012a; Vanraeyveldt et al., 2015). We used a different criterion for selecting the children. In both intervention studies (i.e., Chapters 4 and 5), teachers were asked to select children from their classroom with whom they experienced difficulties in the relationship. We have chosen this selection method because relationship quality appears not to be solely

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dependent on children's problem behavior (e.g., Hamre et al., 2008). Also, our selection method is highly comparable to what happens in common classroom practice, where teachers themselves ask for help to improve the relationship with children they experience difficulties with. In this paragraph, we further elaborate on this selection method.

In a manuscript in preparation (Bosman, Koomen, Zee, & de Jong, manuscript in preparation), we explored whether there are more teacher-child dyads that can be considered problematic in the selected sample from Chapter 5 compared to the degree of problematic dyads in a representative sample. The data for the representative sample were collected with the purpose of validating the Student-Teacher Relationship Scale (Koomen et al., 2012). More information about this dataset, procedures, and selection of schools and children can be found in Koomen et al. (2007) and Koomen et al. (2012). In both samples – the representative sample and the selected sample from Chapter 5 – relationship quality was measured using the short version of the STRS, which comprised three different dimensions: conflict, closeness, and dependency. Together, these unique dimensions could reflect certain relationship patterns (e.g., Ahnert et al., 2012; Gregoriadis & Grammatikopoulos, 2014; Pianta, 1994). We examined whether the distribution of the relationship patterns from the selected sample differed from the patterns that were found in the representative sample.

First, finite mixture modeling was used to identify the number of relationship patterns in the representative sample. A three-pattern solution was considered most favorable based on statistical indicators, model parsimony, and theoretical interpretability. Most teacher-child relationships could be considered supportive ($n = 73.2\%$; Table 1): There were high levels of closeness, and low levels of conflict and dependency. A subgroup of teacher-child dyads was considered unfavorable ($n = 17.6\%$): There were moderate levels of closeness, moderate levels of conflict, and moderate levels of dependency. The smallest group consisted of teacher-child dyads that were considered highly unfavorable ($n = 9.2\%$): There were moderate levels of closeness, and high levels of conflict and dependency.

The children from the selected sample of Chapter 5 were also classified into the three classes. This was done by fixating the estimates of the three-class solution that was obtained from the representative sample. By constraining all these parameter estimates to be similar, we examined whether the distribution of relationship patterns differed between the two samples. It appeared that the supportive group now contained 39.2% of the teacher-child dyads, instead of 73.2% in the representative sample. The unfavorable

group was almost twice as large in the selected sample ($n = 36.4\%$) compared to the representative sample ($n = 17.6\%$). In addition, teacher–child dyads with highly unfavorable relationship patterns were also twice as large in the selected sample ($n = 22.4\%$) compared to the representative sample ($n = 9.2\%$; see also Table 1).

When teachers only selected children with whom they experienced relationship problems, the distribution of relationship patterns thus changed significantly. When teachers selected children with whom they experienced relationship problems, nearly 60% of the teacher–child dyads were considered unfavorable, compared to around 25% in a representative sample. Across the board, this indicates that teachers did report to have relational difficulties, also when it was measured with a validated questionnaire. In addition, it must be noted that level of closeness of the supportive relationship group in the selected sample was relatively low compared to closeness in the supportive group of the representative sample. Thus, even though teachers had supportive relationships in the selected sample, these relationships were still somewhat more problematic.

Overall, these results showed that, even when teachers explicitly selected children with whom they experienced difficulties in the relationship, a subsample (around 40%) still had relatively supportive relationships based on the questionnaire. Several explanations may account for this finding. First, teachers were obliged to select four children from their class with whom they experienced difficulties. During data collection, it already appeared this was not easy for teachers, as they argued that they only considered the relationship to be difficult for two or three children, instead of four. This may have resulted in a relatively large group of dyads that can be considered supportive. Second, teachers may have had different ideas about what they considered to be a difficult relationship, compared to how teacher–child relationship quality is usually operationalized in questionnaires such as the STRS. It may be that teachers consider other dimensions to be part of relationship quality as well. For instance, teachers in the case study selected children because they found it difficult to understand the child's emotions and because they felt distance in the relationship (see also Chapter 4). These aspects are only covered to a limited extent in the short version of the STRS. Another reason is that teachers may have had a wish or were ambitious to improve the relationship with a certain child, without really experiencing a lot of difficulties in the relationship with the child.

The mixed results regarding the effects of LLInC on the improvement of relationship quality could possibly be explained by the finding that several

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relationships were already relatively good before the start of the intervention, based on the used measurements⁵.

Table 1. Descriptive statistics (means, standard deviations) and analyses of variance of the three-class solutions of the representative sample and the selected sample.

	Supportive Relationship	Unfavorable Relationship	Highly Unfavorable Relationship	<i>F</i> , <i>p</i>
<i>Representative Sample</i>	<i>n</i> = 789 (73.2%)	<i>n</i> = 190 (17.6%)	<i>n</i> = 99 (9.2%)	
Closeness	4.01 (0.73) ^a	3.51 (0.79) ^c	3.23 (0.87) ^b	70.76, <i>p</i> < .001
Conflict	1.17 (0.24) ^a	2.24 (0.33) ^c	3.52 (0.47) ^b	3575.95, <i>p</i> < .001
Dependency	1.79 (0.70) ^a	2.10 (0.76) ^c	2.67 (0.93) ^b	68.79, <i>p</i> < .001
<i>Selected Sample</i>	<i>n</i> = 98 (39.2%)	<i>n</i> = 91 (36.4%)	<i>n</i> = 56 (22.4%)	
Closeness	3.55 (0.91) ^a	3.38 (0.85) ^a	3.12 (0.75) ^b	4.49, <i>p</i> = .012
Conflict	1.29 (0.31) ^a	2.35 (0.36) ^c	3.74 (0.57) ^b	656.33, <i>p</i> < .001
Dependency	1.72 (0.70) ^a	2.46 (0.87) ^c	2.92 (0.86) ^b	42.97, <i>p</i> < .001

Note. Class means in the same row that do not share subscripts (e.g., a, b, and c) differ at *p* < .05 using the Fisher least significant difference procedure. All *F* values are statistically significant at *p* < .05.

In previous research, and in Chapter 2, externalizing behavior was found to be the most important risk factor for developing long-term negative teacher–child relationships. Additionally, Chapter 3 indicated that especially regarding children’s conduct problems, teachers had negative feelings such as anger. This raises the question of whether teachers also selected relatively many children with externalizing behavior as subjects of LLInC in Chapter 5. Because we used an adapted version of the Strengths and Difficulties Questionnaire, we were not able to compare the results with

5 In additional exploratory analyses, we examined whether children with an (highly) unfavorable relationship pattern had a more favorable relationship pattern after LLInC, at the second measurement occasion. When we fitted the same finite mixture model to the data from the second measurement occasion, we found that several children still had an (highly) unfavorable relationship pattern (61%). A subgroup of the children did change from the unfavorable relationship pattern to a supportive relationship pattern (31.5%), and even smaller groups of children changed from the highly unfavorable pattern to the unfavorable relationship pattern (5.4%) or the supportive relationship pattern (1.4%). These results confirm that there were relatively small intervention effects regarding the three different relationship dimensions (see also Chapter 5). Furthermore, these exploratory results indicate that LLInC seems most helpful for the unfavorable relationship pattern, that is, relationships with moderate closeness, conflict, and dependency. This further supports our view that for some teacher–child dyads, and the highly unfavorable relationship patterns in particular, LLInC is only a start, and should be continued by another intervention.

norm scores. Therefore, we compared the degree of externalizing behavior of the selected sample from Chapter 5 with a relatively representative sample of unselected children (for more information about the sample, see Zee, de Jong, & Koomen, 2016). Teachers from both samples completed the same Dutch version of the Strengths and Difficulties Questionnaire (as reported in Chapters 3, 4 and 5). Figure 2 shows that there are more children with higher externalizing behaviors in the selected sample, for hyperactivity, $M(SD) = 2.98 (1.10)$, and for conduct problems, $M(SD) = 2.04 (0.86)$, compared to the unselected children, for hyperactivity, $M(SD) = 2.35 (1.09)$, and for conduct problems, $M(SD) = 1.56 (0.73)$. These exploratory results confirmed, again, that especially children's externalizing problems are an important risk factor for developing negative teacher–child relationships. However, selecting children for LLInC based on their externalizing behaviors only, may not be ideal. The graphs in Figure 2 reveal that more than half of the children do not show conduct problems or hyperactivity. When only selecting children with externalizing behavior for a relationship-focused intervention, there still seems to be a subgroup of children that is left out and could benefit from an intervention. Future research could further examine which children are selected based on teachers' experiences of the relationship. To conclude, selecting children based on teachers' experienced relationships difficulties may be better than selecting children based only on their externalizing behavior.

Translation of research findings into practice

The results from this dissertation yield several important implications for school professionals and teachers in elementary schools. The information about the number of teachers and children that are at risk for developing problematic teacher–child relationships can be helpful for making policy decisions about offering interventions that aim to improve teacher–child relationship quality. Providing support to teachers and children in elementary school, especially in the United States and to a smaller extent also in the Netherlands, relies on tiered intervention frameworks of evidence-based interventions, such as Response to Intervention (Glover & DiPerna, 2007) and School-Wide Positive Behavior Support (Sugai & Horner, 2009). Response to Intervention had its origin in literacy instruction, but it has been further expanded to other fields of children's development as well, such as stimulating a positive classroom climate to reduce children's behavioral problems (Fox, Carta, Strain, Dunlap, & Hemmeter, 2010; Simonson & Sugai, 2009). In these

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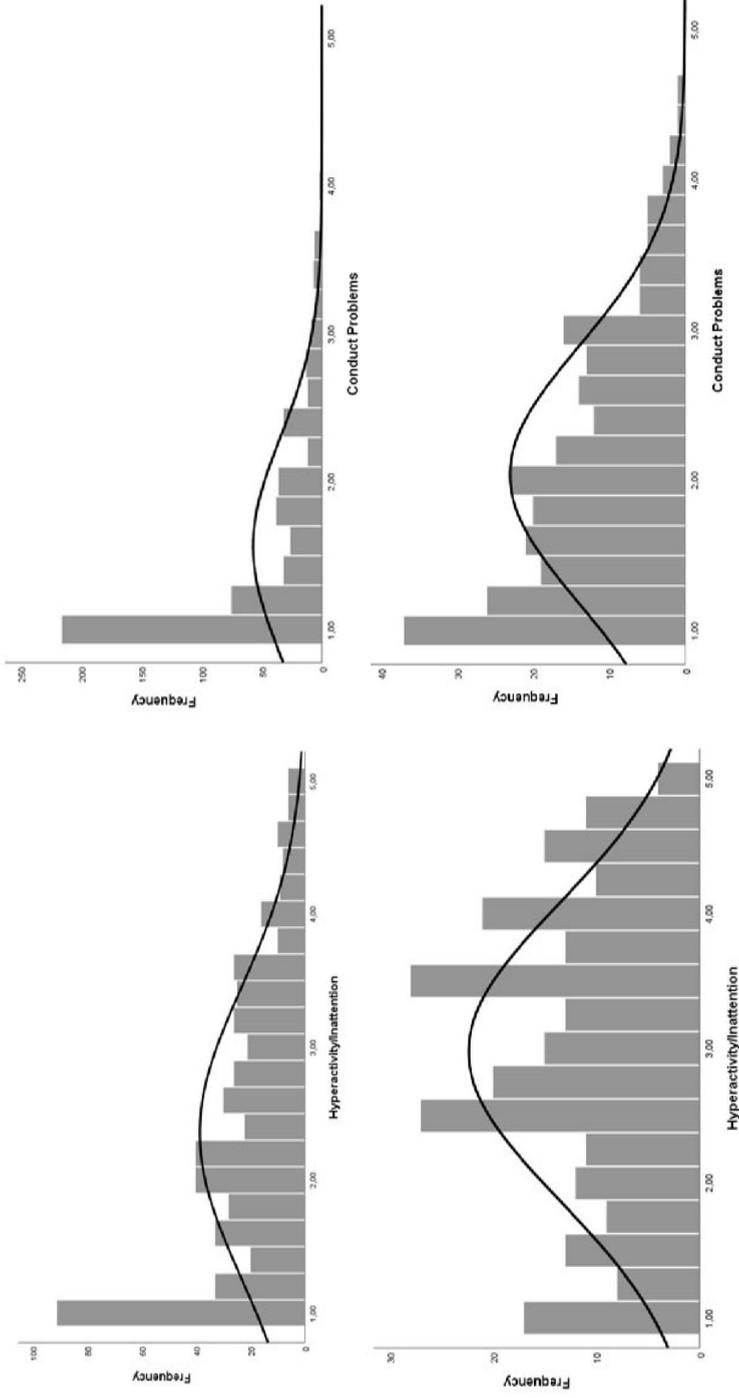
models, three tiers of intervention implementation are used: All children receive universal support (tier 1); more support is given to children with a risk for developmental problems (tier 2); and additional interventions are provided for children with persisting problems (tier 3). It seems that aspects of this framework are also applicable to stimulate good quality teacher–child relationships in elementary schools.

Findings from this dissertation indicate that the amount of problematic teacher–child relationships, at least from the perspective of the teacher, correspond to percentages of at-risk children that are generally identified in these tiered intervention frameworks (Glover & DiPerna, 2007). More specifically, Chapter 2 has revealed that most teachers already seem to provide sufficient support for individual children during elementary school and are able to construct a positive relationship with a child (more than 70%; tier 1). There is also a subset of teacher–child dyads that have a small risk of having a negative relationship during elementary school (approximately 20%; tier 2), which may indicate that these teachers need few instructions for improving relationship quality with these children. Additionally, there is even a smaller group of teacher–child dyads that can be identified as having a high risk of problematic teacher–child relationships during elementary school (less than 10%; tier 3). It seems that especially this group may benefit from an individualized intervention aimed at improving the dyadic relationship.

This dissertation provided promising evidence that relationship-focused reflection could be useful for changing problematic teacher–child relationships in upper elementary school, and previously, LLInC also proved to be helpful for improving teachers' sensitivity in kindergarten (Spilt et al., 2012a). As LLInC is a relatively short program, which focuses on teachers' relationships with two individual children, this intervention may be implemented when relationship problems persist during the first months of the school year (tier 3) and other strategies, such as positive reinforcement are not enough to improve problematic teacher–child relationship patterns.

LLInC also provides school psychologists or other professionals within schools a tool to help teachers talk about sensitive issues such as their feelings and attitudes about an individual child. Importantly, LLInC focuses directly on influencing the teacher and not the child. As a result of changing teacher perceptions and behaviors, more children from the teachers' classroom may benefit from these changes. This became clear in the transfer effects that were found in Chapter 5. Still, the results of this dissertation should not be overstretched. Some teachers need more to really improve interactions and the relationship with specific children, for instance Video Interaction

Figure 2. The two histograms above are from the unselected sample, whereas below, children were selected by teachers based on relational difficulties (sample Chapter 5).



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Guidance (Hayes, Richardson, Hindle, & Grayson, 2011; Fukkink & Tavecchio, 2010). Improving teachers' perceptions about relationships may, basically, also be viewed as an important precondition to improve effectiveness of interventions that are focused on reducing problematic behavior (e.g., Hoogendijk et al., 2018; Pianta, 1999). It could be an essential first step for teachers to become aware of their own attitudes, feelings or self-efficacy beliefs in dyadic relationships before they are ready or willing to invest time in applying subsequent methods that aim to improve their teaching behavior or the child's behavior. Investing a relatively short time in making teachers aware of these attitudes, feelings, and self-efficacy beliefs can therefore be a promising starting point to improve relationships between teachers and children.

This dissertation is not complete with a last impression of the intervention session(s) of teacher Tom and his relationship with Jake:

"I just realized that you did not give me any advice. You did ask me a lot of questions. It surprised me that I was able to come up with the solutions for improving the relationships with Jake and Myra (i.e., the other child that Tom selected) by myself, because it felt as if I gave up already finding new ideas that could improve our relationship. The relationship profile that you presented gave me insight into several aspects of my relationship with Jake. When you asked me all these questions, it really helped me in making concrete plans for improving the relationship. And it helped for regaining my confidence about being an important person in Jake's life. As we discussed, each Wednesday I now make some notes of what I liked about Jake that week. It only takes a minute, but it helps me to stay positive about him, instead of letting my feelings of annoyance take over, especially when we did not have a good day. I think my relationship with Jake still needs improvement, but I plan to continue reflecting on my feelings and practices throughout this school year."