

Chapter 2

Literature Review

2.1 Introduction

Parental involvement, that is “parents’ interactions with schools and with their children to promote academic success” (Hill and Taylor 2004, p. 1491), is an umbrella term that includes a variety of behaviors and activities of parents directly or indirectly related to the education of their children. Therefore, the review of the literature had three main goals. First, to investigate the underlying (sub)dimensions of the parental involvement concept in the research literature and theories about how these dimensions of parental involvement are related to educational outcomes. Second, based on empirical studies, to explore which of these dimensions of parental involvement show the most potential to be related to student attainment, and with reading literacy in particular. The third aim of the review was to identify any indication of cultural differences between countries in how parental involvement is perceived and its relation with student attainment.

A literature search was conducted during the spring of 2015 using the social research databases ERIC, Web of Science, Scopus and PsycINFO. The search keys included (combinations of) parental involvement, parents, parental support, parent-child relationship, parent-school partnership, home environment, student achievement, student performance, reading performance, and reading literacy.

In reviewing the literature, we did not aim to present an exhaustive overview of all published studies about this subject. To better explore the relationship between dimensions of parental involvement and student attainment (the second goal of this review), we targeted our search by applying a number of exclusion and inclusion criteria. Non-empirical studies and empirical studies that were published before 2000 were excluded. However, to obtain comprehensive knowledge of the (sub) dimensions underlying parental involvement and incorporate theories about how these dimensions of parental involvement are related to educational outcomes, we included theory-based publications and some older publications.

Because a systematic quality analysis of the published studies was not part of this review, only studies published in peer-reviewed journals were included, to ensure a certain methodological rigor. As PIRLS investigates the reading literacy of grade 4 students, and research has indicated that parental involvement and its effects change as children become older (Domina 2005; Mattingly et al. 2002), only studies focusing on primary school students were included. Studies focusing on special groups (e.g., students from minority groups, dyslexic students, and urban students) were also excluded, as this study does not focus on these special groups and comparisons between them across countries are difficult. Furthermore, we only included studies that took the effects of variables related to socioeconomic status (SES) at family or school level into account. Finally, although this part of the review focused mainly on studies investigating the relationship between parental involvement and students' reading literacy, studies using other achievement-related outcomes (such as math achievement, grade retention, and motivation) were also included.

Because of the abundance of studies on this subject, several meta-studies (meta-reviews or meta-analyses) have been published. We used the same exclusion and inclusion criteria for these studies. However, in this case, studies focusing (also) on secondary school students were included, since most of the available meta-studies included these students in their review.

For the second part of the review, 22 articles were summarized, including nine meta-studies. We present these studies within a general framework for parental involvement (Sect. 2.4), based on the information derived from the primary literature review (see Sect. 2.3).

2.2 Theories About the Importance of Parental Involvement for Student Attainment

As parental involvement is one of the most malleable factors of the student's home situation, it has become a relevant subject for schools and educational policy. Encouraged by studies showing a positive relationship between parental involvement and student attainment, educational policy makers in the USA, and in western European countries such as the UK and the Netherlands, have initiated and stimulated parent participation programs over the last 15 years (Mattingly et al. 2002; Driessen et al. 2005; Bakker et al. 2007; Patall et al. 2008; Selwyn et al. 2011). Schools are increasingly using digital technologies to support and promote the involvement of parents, by providing laptop computers, online intranets or learning platforms (Selwyn et al. 2011). This encouragement is sometimes less voluntary; in the UK, some schools present parents mandatory school-home agreements about their involvement in homework and expected behavior, such as attending parent meetings (Selwyn et al. 2011).

The underlying assumption of these initiatives is that parental involvement and educational outcomes are not only correlated, but that parental involvement actually influences educational outcomes (Mattingly et al. 2002). In the studies we reviewed, we found theoretical discussions concerning the influence of parental involvement on student achievement that provided conditions under which students may profit from this involvement. Hoover-Dempsey and Sandler (1997) developed a model summarizing the factors influencing parental involvement at five levels:

- (1) the decision to become involved (e.g., school invitations, parent role construction);
- (2) the choice of type of involvement (e.g., parents' skills, knowledge, and available time);
- (3) how involvement influences school outcomes (e.g., modeling, reinforcement, instruction);
- (4) tempering or mediating variables (e.g., fit between parents' involvement actions and school expectations); and
- (5) student outcomes (e.g., achievement, self-efficacy).

How parental involvement influences school outcomes, namely the third level in Hoover-Dempsey and Sandler's (1997) model, was the main focus of McNeal (1999). McNeal (1999) argued that the involvement of parents in their child's education influences student outcomes through three mechanisms. The first mechanism, socializing, refers to home-based involvement, such as supervising homework, by which parents emphasize the importance of schooling. Generating social control through school-based involvement is the second mechanism; school-based involvement offers parents the opportunity to develop relationships with teachers and other parents, and in discussing their child's behavior, to learn from them. The last mechanism is having access to insider information by communicating with the school. By this mechanism, parents will be, for example, earlier and better informed about the available solutions in instances of learning or behavioral problems. McNeal's theory specifies different outcomes for the three mechanisms: socialization and social control affect the attitude, motivation and behavior of the student, while having access to insider information has a direct effect on both cognitive and behavioral student outcomes (McNeal 1999).

Generating social control and having access to insider information can also be regarded as part of a mechanism called increasing social capital (Hill and Taylor 2004). By being engaged in school-related activities, parents learn about schools' expectations of student behavior and homework and learn how to help with their child's homework and learning at home. They also learn from other parents about available and suitable options to improve their child's learning. At the same time, teachers learn about the parental expectations of their students.

Grolnick and Ryan's (1989) theory on "parenting styles" focused on the effects of home-based parental involvement. According to this theory, three dimensions of parenting style are important for the learning behavior and achievement of students. The first is support for autonomy, by which children are encouraged in independent problem solving and participation in decision making. The second style, direct

parental involvement, refers to the extent to which parents are interested in, knowledgeable about, and taking an active part in their child's life. The third parenting style that may have a positive influence on student attainment is provision of structure (i.e., providing clear and consistent guidelines and rules) with regard to homework or other school-related aspects. Cooper et al. (2000) applied this theory in their study on parental involvement in homework and showed (1) a positive relationship between support for autonomy and student achievement, and (2) a negative association between direct parental involvement and student achievement. These findings are explained by the student's performance at school; parents of low-performing students become more proactively involved with their child's learning, while parents of students doing well at school, are more likely to support the autonomy of their child.

With regard to the role of parental support for homework, it is widely assumed that when parents help their child with homework there are positive effects on student learning and academic achievement; the student will study more efficiently, effectively and with greater focus (Hoover-Dempsey et al. 2001; Patall et al. 2008). In the long term, parental involvement may have a positive effect on student's ability to engage in adaptive self-regulation by promoting the development of learning strategies such as goal-setting, planning, time management, and attentiveness (Patall et al. 2008). Hoover-Dempsey et al. (2001) described three reasons why helping with homework may have these positive effects: (1) modeling, (2) reinforcement, and (3) instruction (see also their general model for parental involvement, mentioned previously). First, while helping their child with homework, parents can serve as salient models. This is based on the idea that children learn through observation. Parents are influential role models because they possess skills and abilities that children value highly. Because there are no direct consequences of the child's performance at home (in contrast to school), home provides a safe environment where the parent becomes an even more powerful role model. The second reason is reinforcement; by providing positive consequences in response to the child's homework behaviors, the child is stimulated to demonstrate similar skills and behaviors again. Parents may even have an advantage over teachers because they have better insight into which reinforcement strategies are the most effective for their child. Finally, helping with homework may have a positive effect on student achievement because parents tend to use the learning strategy "guided or collaborative learning" (Hoover-Dempsey et al. 2001). This includes directing the child to the task at hand, simplifying the task, providing extra explanation, or relating the task to familiar contexts.

However, some scholars argue that parental involvement with homework may also have negative effects (Patall et al. 2008; Dumont et al. 2012). They point out that the involvement may lead to tensions between parents and children, caused by parental frustrations about the child not performing as expected, or by the frustrations of the child who perceives their parents as too controlling. For lower-achieving children, or parents with unrealistically high expectations, these tensions may have a negative impact on the child's self-esteem and performance at school. Helping with homework might also interfere with learning if parents are not

sufficiently equipped to help, if their instruction is very different from that of the school teacher, or if parents are overly involved, for example, completing assignments themselves (Cooper et al. 2000).

2.3 Measuring Parental Involvement

The literature review reveals that parental involvement is a multifaceted construct that includes a variety of parental behaviors and practices. It is important to view and measure parental involvement as a multidimensional concept, because research has indicated that some types of parental involvement may exert more influence on student performance (Jeynes 2005). Most studies tend to focus on parental involvement at home, at school or at both places (Powell et al. 2012). Bakker et al. (2007) discerned three types of parental involvement: (1) parents' behavior towards and activities with their child at home (home-based involvement), (2) parents' participation in school (school-based involvement), and (3) communication between parents and school (home-school communication). An additional distinction sometimes used is school-initiated parental involvement versus parent-initiated involvement (Driessen et al. 2005).

The most commonly used framework for parental involvement was developed by Epstein at the beginning of the 1990s (Epstein 1992; Manz et al. 2004). This framework refers mainly to school-initiated parental involvement, but is also characterized as a holistic approach to student learning: parents or families, schools and communities should work together as a partnership to create a positive learning environment for children (Mattingly et al. 2002). Epstein (1992) defined six types of parental involvement that can be influenced by the school; these also contain the three types of parental involvement identified by Bakker et al. (2007). Epstein (1992) stated that to increase the involvement of parents, schools and teachers should:

- (1) assist parents in child rearing skills (home-based involvement);
- (2) communicate with parents regularly (home-school communication);
- (3) involve parents in school volunteer opportunities (school-based involvement);
- (4) involve parents in home-based learning (home-based involvement);
- (5) involve parents in school-based decision making (home-school communication); and
- (6) involve parents in school-community collaborations (school-based involvement).

The studies reviewed indicate that home-based involvement is mostly measured from the perspective of parents and sometimes from the perspective of students. With regard to communication between parents and schools, and school-based involvement, this can also be measured from the perspective of parents, and the perspective of school principals or teachers. Based on the literature review, we developed a general framework to categorize the studies reviewed (Table 2.1).

Table 2.1 General framework of parental involvement

Parent perspective	Dimension 1
	<i>Home-based involvement:</i> e.g., helping with homework, (early) literary activities, parent-child discussion of child's schooling, parenting style, parental monitoring and rule-setting, ensuring school readiness
Student perspective	Dimension 2
	<i>School-based involvement and home-school communication:</i> e.g., attending parent meetings, participating in school activities, parent-teacher interaction
School perspective	Dimension 3
	<i>Home-based involvement:</i> e.g., getting help with homework, parental monitoring and rule-setting, parent-child discussions about school
School perspective	Dimension 4
	<i>School-based involvement and home-school communication:</i> e.g., providing newsletters, asking parents to help at school, individual teacher-parents meetings

In this framework, the different types of involvement and the perspectives by which they are perceived (i.e., parent, student, or school) are combined, resulting in four dimensions. We used this framework to categorize the meta-studies and empirical studies addressing the relationship between the involvement of parents and student attainment.

2.4 The Relation Between Parental Involvement and Student Attainment

As already mentioned, the goal of the literature review was not to present an exhaustive overview of all the available literature on this subject, but to gain insight into the dimensions of parental involvement that show the greatest potential to be related to student attainment, and to examine the role of cultural differences between countries. We identified large variation in outcomes and in the mechanisms used to conduct these studies (Tables 2.2, 2.3, 2.4, 2.5, 2.6 and 2.7). Most studies focused on more than one dimension; we recorded the main characteristics of the meta-studies (Tables 2.2 and 2.3) and individual studies (Tables 2.4, 2.5, 2.6 and 2.7) for each dimension (whenever available).

The outcomes of the meta-studies and the individual studies in this review indicate that parental involvement is generally positively correlated to or has positive effects on student attainment. This is in agreement with the outcomes of a meta-synthesis of nine meta-analyses by Wilder (2013). With regard to the individual dimensions of parental involvement, the results are less definitive. For example, the association between parental involvement with homework and student achievement is positive in some studies, but non-existent or negative in others (Hoover-Dempsey et al. 2001; Patall et al. 2008). Based on a review of literature,

Table 2.2 Overview of meta-studies examining the relation between (dimensions of) parental involvement and student achievement, from the parent perspective

Dimension	Authors	Description	Dependent variable	Main conclusion
Home-based involvement	Castro et al. (2015)	Meta-analysis on parental involvement in kindergarten, primary and secondary education	Achievement in various subjects	In general positive effects: high academic aspirations, communication about school and stimulation of reading habits show strongest positive relation with student achievement. Supervision of homework is unrelated to achievement
	Erion (2006)	Meta-analysis on the effects of parent tutoring in primary and secondary education	Achievement in reading, language and math	Parent tutoring is effective for improving achievement
	Fan and Chen (2001)	Meta-analysis of experimental studies on the effects of parental involvement on achievement in primary and secondary education	Achievement in various subjects	In general positive effects: parental academic aspirations show strongest positive relation with student achievement. Parental monitoring of homework shows a negative relation, direct aid with homework a positive relation. The correlation is lower if the achievement is measured in specific areas, such as math or reading
	Hill and Tyson (2009)	Meta-analysis on parental involvement in	Achievement in various subjects	In general positive effects, academic socialization

(continued)

Table 2.2 (continued)

Dimension	Authors	Description	Dependent variable	Main conclusion
		secondary education		showed the strongest positive relation with achievement. For homework involvement, the results are inconclusive
	Hoover-Dempsey et al. (2001)	Meta-review, parent involvement in homework in primary and secondary education	Achievement in various subjects	Inconclusive, positive and negative relations with or effects on achievement
	Patall et al. (2008)	Meta-analysis, parent involvement in homework in kindergarten, primary education and secondary education	Achievement in various subjects	In general small correlations, often not significant and they vary with students' age. Setting rules about when and where homework should be done has the strongest positive relation with achievement
	Wilder (2013)	Meta-synthesis of nine meta-analyses on parental involvement	Achievement in various subjects	In general positive effects. Parental expectations (beliefs and attitudes towards school teachers and subjects) showed the strongest relationship. No positive relation for help with homework
School-based involvement and home-school communication	Castro et al. (2015)	Meta-analysis on parental involvement in kindergarten, primary and secondary education	Achievement in various subjects	Involvement in school activities is not related to achievement

(continued)

Table 2.2 (continued)

Dimension	Authors	Description	Dependent variable	Main conclusion
	Hill and Tyson (2009)	Meta-analysis on parental involvement in secondary education	Achievement in various subjects	In general positive effects
	Wilder (2013)	Meta-synthesis of nine meta-analyses on parental involvement	Achievement in various subjects	In general positive effects

McNeal Jr (2012) not only concluded that such inconsistencies have become a “standard” in the parental involvement literature, but also that these inconsistent findings cut across grade levels, measures of student attainment and time periods.

One of the explanations for the mixed results is the complexity of the parental involvement concept (Fan and Chen 2001; Hill and Tyson 2009; Castro et al. 2015). Both the meta-studies and our literature review indicated that measurement of parental involvement dimensions differed considerably among studies. According to Fan and Chen (2001), it is the multidimensional nature of parental involvement that has led to a lack of agreement about definitions and measurement inconsistencies, making it difficult to compare findings across studies. For example, “helping with homework” includes providing space and materials (such as a

Table 2.3 Overview of meta-studies examining the relation between (dimensions of) parental involvement and student achievement, from the school perspective

Dimension	Authors	Description	Dependent variable	Main conclusion
School-based involvement and home-school communication	Mattingly et al. (2002)	Meta-review of evaluations of parental involvement programs	Achievement in various subjects	Inconclusive
	Sénéchal and Young (2008)	Meta-analysis of (quasi) experimental studies on encouragement and training programs for parent-child reading activities and reading ability in kindergarten and primary school	Achievement in reading literacy	Positive effects found for parents helping children to read

Table 2.4 Overview of research literature examining the relation between home-based parental involvement (dimension 1) and student achievement from the parent perspective

Authors	Description	Country	Dependent variable	Main conclusion
Bakker et al. (2007)	Survey, parents' and teachers' perception of parental involvement at home and at school	Netherlands	Achievement in different subjects	Parents' perception is positively related to reading achievement
Barnard (2004)	Survey, parents' and teachers' perception of parental involvement at home and at school	USA	School dropout and highest grade completed at age 20	Parental involvement at home is not related to educational attainment
Driessen et al. (2005)	Survey, school principals' perception of parental involvement at school and policy towards parental involvement, parents' perception of parental involvement at home	Netherlands	Achievement in math and language, school-supportive home climate, well-being and self-confidence	A negative direct effect of help with homework on students' achievement in language and math
Kloosterman et al. (2011)	Survey, parents' perception of parental involvement at home and at school, teachers' perception of parental involvement at school	Netherlands	Achievement in math and language	Parents reading activities are most relevant for child's language achievement in later grades of primary school, parental reading instruction is beneficial for language achievement at the start as well as during primary school
Galindo and Sheldon (2012)	Survey, parents' perception of parental	USA	Gains in math and reading in kindergarten	Activities at home showed no association with

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Table 2.4 (continued)

Authors	Description	Country	Dependent variable	Main conclusion
	involvement at home and at school			math and reading gains
Lau et al. (2011)	Survey, parents' perception parental involvement at home and at school	China	Achievement in tests for readiness for school including reading literacy at kindergarten and entering primary school level	Language and cognitive home-based activities are positively related to reading literacy
Myrberg and Rosen (2009)	Survey, parents' perception of parental involvement at home (early reading activities)	Sweden	PIRLS-2001 reading literacy test, parents perception of early reading abilities	Early reading activities affect early reading abilities. Educational level of the parents has an effect on reading literacy, via books at home and early reading activities
Powell et al. (2012)	Survey, changes in parents involvement in activities at home and at school from pre-K, kindergarten and grade 1	USA	Achievement in language, reading literacy and math	The degree of within-family change in several dimensions of parents' home-based involvement is related to math achievement but not to reading and literacy skills in grade 1
Senechal and LeFevre (2002)	Survey, parents perception of parental involvement at home (early literacy activities)	Canada	Achievement in language and reading literacy at grade 1 and 3	Storybook reading positively related to children's receptive language development, teaching reading by parents positively

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Table 2.4 (continued)

Authors	Description	Country	Dependent variable	Main conclusion
				related to children (early) literacy skills, parental involvement not related to phonological awareness skills
Stylianides and Stylianides (2011)	Survey, parent-child interactions (including early literacy activities)	USA	Achievement in different subjects in kindergarten	Low parent-child interaction relates negatively with achievement (incl. reading)
Xu et al. (2010)	Survey, parents perception parental involvement at home and at school	USA	Self-regulated learning perceived by teachers, achievement in reading literacy	TV-rules and help with homework negative relation with reading achievement. Involvement in school, parental educational expectations, engaging children in their homework and encouraging children's' extracurricular participation positive relation with reading achievement

computer), monitoring whether homework is completed, having rules about when and where homework is done, and responding to questions and providing direct homework instruction (Hoover-Dempsey et al. 2001). In the meta-study of Hoover-Dempsey et al. (2001), it was clear that some of these dimensions were more effective than others; this may account for the mixed results.

Not only is the measurement of dimensions of parental involvement often very different among studies, the explanation or justification for the measurements used is also frequently absent. Although many studies use Epstein's (1992) framework as a starting point, most scholars in the field have developed their own indicators for parental involvement, and do not seem interested in developing or using existing

Table 2.5 Overview of research literature examining the relation between school-based involvement and home-school communication (dimension 2) and student achievement from the parent perspective

Authors	Description	Country	Dependent variable	Main results
Bakker et al. (2007)	Survey, parents' and teachers' perception of parental involvement at home and at school	Netherlands	Achievement in different subjects	Contact with the school is negatively related to achievement in general, there is no relation for reading achievement
Barnard (2004)	Survey, parents' and teachers' perception of parental involvement at home and at school	USA	School dropout and highest grade completed at age 20	Parent involvement at school is not correlated to educational attainment
Domina (2005)	Survey, mothers' perception of parental involvement at school and students perception of parental involvement at home	USA	Cognitive (reading and math) and behavioral development	A positive effect for preventing behavioral problems was found, but no effect of school-based involvement on achievement
Galindo and Sheldon (2012)	Survey, parents' perception of parental involvement at home and at school	USA	Gains in math and reading in kindergarten	Activities at school show positive association with math and reading gains
Kloosterman et al. (2011)	Survey, parents' perception of parental involvement at home and at school, teachers' perception of parental involvement at school	Netherlands	Achievement in math and language	School-based involvement positively affects students' language and math achievement at start of primary school, but the impact diminishes in subsequent primary school years

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Table 2.5 (continued)

Authors	Description	Country	Dependent variable	Main results
Lau et al. (2011)	Survey, parents' perception parental involvement at home and at school	China	Achievement in school readiness tests including reading literacy at kindergarten and entering primary school level	Communication with the school is positively related to reading literacy
Okpala et al. (2001)	Survey, parents' volunteering hours at school	USA	Math achievement grade 3–12	Parental volunteering hours at school is not related to math achievement
Powell et al. (2012)	Survey, changes in parents' involvement in activities at home and at school from pre-K, kindergarten and grade 1	USA	Achievement in language reading literacy and math	The degree of within-family change in several dimensions of parents' school-based involvement is related to math achievement but not to reading and literacy skills in grade 1

empirically-tested measures and scales. This is an important limitation in conducting meta-studies, and makes it complicated to draw general conclusions about the relationship between dimensions of parental involvement and student attainment.

However, the measurement of parental involvement is not the only reason why parental involvement is a complex concept. Although it seems logical to assume that parental support has positive effects on student achievement, it may also be reasonable to assume that low-achieving children need and receive more support and interference from their parents, resulting in a negative influence (Castro et al. 2015). This phenomenon is called the “reactive hypothesis,” where parents of students with learning or behavioral problems react by intensifying their involvement in their children’s education (McNeal Jr 2012). McNeal Jr (2012) examined the relationship between achievement and parental involvement from grade 8 to grade 12 and concluded that there was no empirical evidence to support the reactive hypothesis, which seems to be largely championed by scholars who may be unwilling to believe that parental involvement could (also) have negative effects (McNeal Jr 2012). Conversely, some studies do seem to provide support for the

Table 2.6 Overview of the research literature on the relation between home-based parental involvement (dimension 3) and student achievement, student perspective

Authors	Description	Country	Dependent variable	Main results
Domina (2005)	Survey, mothers' perception of parental involvement at primary school and students perception of parental involvement at home	USA	Cognitive (reading and math) and behavioral development	No effect found for home-based involvement on achievement
Dumont et al. (2012)	Survey, students' perception of parental involvement with homework	Germany	Achievement in math and reading, academic self-concept and homework self-efficacy	Positive effects found for perceived parental competence to help with homework and parental support on student outcomes, negative effect of perceived homework conflict on achievement

reactive hypothesis. When the association between parental involvement and achievement is controlled for the initial ability, intelligence or the SES of the student, the association is more likely to be positive (Wilder 2013; Castro et al. 2015).

A study by Domina (2005) found that the initial positive effects of parents' involvement in school and at home on the reading and math achievement of primary school students, changed to non-significant or even negative effects when controlled for student background characteristics. This indicates that the effects of student background characteristics on the relation between parental involvement and student outcomes are also unclear. While most studies show a positive relationship between SES and parental involvement (Cooper et al. 2000; Fan and Chen 2001; Mattingly et al. 2002), a study of Dutch parents of primary school students (Stoep et al. 2002) revealed that home-based involvement was higher among lower SES parents than among high SES parents. Yet another Dutch study found no relation between the educational level of the parents of primary school children and involvement in their child's education (Bakker et al. 2007).

Whether the reactive hypothesis should be rejected or not, the lack of consensus confirms the difficulties introduced in proposing that parental involvement influences student attainment. One of the meta-studies focused specifically on the effects of parental involvement programs offered by schools (Mattingly et al. 2002). The results were disappointing; according to Mattingly et al. (2002), studies evaluating the effectiveness of these programs did not provide convincing evidence that these

Table 2.7 Overview of the research literature on the relation between school-based involvement and home-school communication (dimension 4) and student achievement, school perspective

Authors	Description	Country	Dependent variable	Main results
Bakker et al. (2007)	Survey, parents' and teachers' perception of parental involvement at home and at school	Netherlands	Achievement in different subjects	Teacher perception of parental involvement is positively related to reading achievement
Barnard (2004)	Survey, parents' and teachers' perception of parental involvement at home and at school	USA	School dropout and highest grade completed at age 20	Teacher perception of parental involvement is positively related to educational attainment
Driessen et al. (2005)	Survey, primary school principals' perception of parental involvement at school and policy towards parental involvement, parents' perception of parental involvement at home	Netherlands	Achievement in language and math, school-supportive home climate, well-being and self-confidence	No direct effect on student outcomes found for school activities to involve parents

programs had any positive effects on student achievement or other achievement-related outcomes. Furthermore, most of these studies were correlational or had other design limitations, which made it difficult to determine whether there was a causal effect.

Another limitation that may have contributed to the inconsistencies in outcomes apparent in this field of research was mentioned by Hoover-Dempsey et al. (2005). In their review of parental motivations for involvement, they recognized that much research on parental involvement has relied on single-source reports. Parents' perception of their school-based involvement can be different from the school's perception of parental involvement. Students and parents may also differ in their perception of home-based involvement. Using parent, as well as student and school information, enables triangulation of essential perspectives on involvement, and thereby allows a more precise determination of parental involvement and its influence on student outcomes.

In our literature review, we also focused on whether cultural differences in parental involvement could also explain some of the differing research results. However, most of the studies reviewed were conducted in the USA, and none of the

meta-studies explicitly incorporated this factor. A study comparing the definition of parental involvement for European-American parents versus that of immigrant-Chinese parents in the USA revealed that European-American parents were more involved in school-based activities while the immigrant-Chinese parents focused more on systematic teaching of their children at home (Huntsinger and Jose 2009). Another study compared the home-based and school-based parental involvement of Jewish and Arab parents in Israel, using the parental involvement model of Hoover-Dempsey and Sandler (1995) for both populations. This study showed that Arab parents were more involved with their child's education than Jewish parents. However, the intensity of the invitation of the child to be involved ("your child has asked you to ...") was higher among Jewish parents. Although these two examples did not compare different countries, they do suggest that is very likely that cultural differences in the perception of parental involvement exist. For international comparative studies in education, such as PIRLS, the Programme for International Student Assessment (PISA), or the Trends in International Mathematics and Science Study (TIMSS), this could mean that different parental perceptions of what is important for the education of their child can also have consequences for how survey questions about parental involvement are interpreted.

The next chapters report the results of two strains of analysis exploring the possible cultural differences in perceptions of parental involvement among the PIRLS countries: first by looking at the country-item interactions in scales measuring components of parental involvement, then by the variation in the relation between different parental involvement components and student achievement across countries.

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