

Gintautas Silinskas

Parental Involvement and Children's Academic Skills



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Parental Involvement and Children's Academic Skills

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UNIVERSITY OF JYVÄSKYLÄ

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ABSTRACT

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This dissertation focuses on the predictive relations between parental home-based involvement in children's schooling and the development of children's reading and math skills in kindergarten and in the first two years of primary school (i.e., elementary school). The dissertation investigates (1) the extent to which children's emergent literacy or emergent numeracy skills in kindergarten and in primary school would predict parental home-based involvement; and (2) to what extent parents' home-based involvement in their children's learning during kindergarten and during primary school would predict the subsequent development of their children's academic skills. Additionally, (3) the antecedents of parental involvement and the antecedents of children's academic skills were investigated. The present thesis is based on two data sets. The first of these stems from the *Jyväskylä Entrance into Primary School* study, in which 207 children and their parents were followed up during the children's transition from kindergarten to primary school. The second data set is part of the *First Steps* study, in which circa 2,000 children and their mothers and fathers participated. The mothers and fathers of both data sets completed questionnaires concerning their home-based involvement in the middle of their children's kindergarten year as well as during the subsequent first and second school year. Children's skills were assessed at the beginning and the end of kindergarten, Grade 1, and Grade 2. The results showed that parental home-based involvement was related differently to children's skills in kindergarten and primary school. (1) In kindergarten, the better word reading and math skills children showed, the more teaching of reading, shared reading and teaching of math their parents reported having given. However, in Grade 1, it was children's poor skills in reading and math that activated parents' teaching of reading, shared reading, and teaching of math. Similarly, the worse reading and math skills children showed at the beginning of Grade 1, the more monitoring and help parents reported to be giving later on. Overall, the results suggest that mothers and fathers adjust their teaching to the actual skill level of their children when their children enter primary school. The results show further that (2) of the reading-related activities, mothers' teaching of reading was the best predictor of the development of reading skills among kindergarten children. However, starting in Grade 1, parental involvement was less beneficial for the development of children's reading and math skills. The additional results showed that (3) the lower the socioeconomic status of mothers and fathers, the more teaching of reading and math they reported to be giving. Also, the results further demonstrate that girls (vs. boys), firstborns (vs. later-borns), and children with more highly educated mothers are more likely to become good readers by the end of the kindergarten year.

Keywords: parental involvement, teaching of reading, teaching of math, shared reading, homework, monitoring, help, reading, math, kindergarten, primary school

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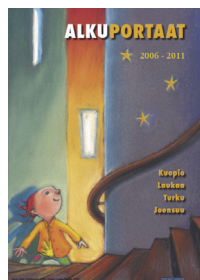
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- I Silinskas, G., Leppänen, U., Aunola, K., Parrila, R., & Nurmi, J.-E. (2010). Predictors of mothers' and fathers' teaching of reading and mathematics in kindergarten and Grade 1. *Learning and Instruction, 20*, 61-71.
- II Silinskas, G., Parrila, R., Lerkkanen, M.-K., Poikkeus, A.-M., Niemi, P., & Nurmi, J.-E. (2010). Mothers' reading-related activities at home and learning to read during kindergarten. *European Journal of Psychology of Education, 25*, 243-264.
- III Silinskas, G., Lerkkanen, M.-K., Tolvanen, A., Niemi, P., Poikkeus, A.-M., & Nurmi, J.-E. (2011). *The frequency of parents' reading-related activities at home and children's reading skills during kindergarten and Grade 1*. Manuscript submitted for publication.
- IV Silinskas, G., Niemi, P., Lerkkanen, M.-K., & Nurmi, J.-E. (2011). *Types of parents' homework assistance and children's academic skills: A longitudinal study from Grade 1 to Grade 2*. Manuscript submitted for publication.

1 INTRODUCTION

According to Bronfenbrenner's ecological systems theory (1979), children's academic skills develop under the influence of proximal (e.g., parenting, schooling, individual) and distal (e.g., socioeconomic, cultural) environmental systems (Bronfenbrenner, 1979). It has been suggested that different systems interact with each other and produce a unique effect on the developing child (Bronfenbrenner, 1979). Therefore, besides instruction at school, also parental involvement in children's schooling is important for the development of children's academic skills (for a review, see Taylor, Clayton, & Rowley, 2004). Given the importance of the role parents play in their children's academic development, it is not surprising that home-based parental involvement in the development of children's skills has received an increasing amount of attention in psychological research.

In the current conceptualization of parenting in academic contexts, three major dimensions are in focus: learning environment, warmth/responsivity, and management/discipline (Morrison, 2009; Morrison, Bachman, & Connor, 2005; Morrison & Cooney, 2002). *Learning environment* refers to parental behaviors in promoting their children's academic development, such as through shared reading, teaching of reading, teaching of mathematics, library visits, and the amount of books at home. *Warmth/responsivity* refers to parents' emotional closeness to their child, as well as their responsiveness to their children's curiosity and opinions. Finally, *management/discipline* refers to parents' attitudes and behaviors concerning their children's transgression, as well as the consistency of such parental behavior. All three dimensions are independent but interact together and produce a complex pattern or relations affecting children's academic and social skills. For instance, for children before school entry, a positive family learning environment has an enhancing effect on children's academic skills. However, parental warmth and management influence children's academic skills indirectly, through children's social skills. Each of these dimensions has unique (domain-specific) impacts on children's reading and math development and interacts with child characteristics such as gender or self-regulation.

The literature on parental involvement makes a clear distinction between parental practices and general styles of parenting (Aunola & Nurmi, 2004; Pomerantz & Eaton, 2001). Parenting styles typically relate to overall parental behaviors over a wide range of situations, whereas parental practices are typically understood as specific strategies or certain behaviors in a specific context or situation (Pomerantz & Eaton, 2001). Parental practices rather than parenting styles were in focus in this dissertation.

Another clear distinction should be made in understanding parental age-appropriate involvement. That is, the role of parents' involvement with young children (e.g., before primary school) is different from their involvement with older children (e.g., in primary school). Environments in which, for example, literacy and numeracy learning takes place at a very young age are respectively referred to as a home literacy environment and home numeracy environment. Both the home literacy environment and home numeracy environment are multifaceted constructs consisting of various interrelated aspects differentially connected to children's emergent literacy and emergent numeracy skills (Bus, van IJzendoorn, & Pellegrini, 1995; Griffin & Morrison, 1997; Leseman & de Jong, 1998; Sénéchal & LeFevre, 2002). However, these environments change as children grow older and become related in different ways to children's skills as they progress in their school career (Pomerantz, Moorman, & Litwack, 2007).

In sum, this dissertation investigated the longitudinal associations between parental home-based involvement and children's reading and math skills during kindergarten and the first two years of primary school. The focus of the thesis was on the reciprocal relationship between parental involvement and children's skills, and on the role of children's age/grade level in this relation. This research expands the existing literature by providing evidence on parental involvement in children's skill development in an orthographically transparent language (i.e., Finnish). Also, the results reported here are based on large-scale longitudinal studies that employed self-reports by both parents and applied a wide array of data analysis techniques.

1.1 Parental involvement

According to the classification proposed by Pomerantz et al. (2007), parents' academic involvement is a multifaceted construct that includes both home-based and school-based involvement (Figure 1; for a review, see Pomerantz et al., 2007). *School-based involvement* has been defined as parents' cooperating with the kindergarten or school. It has been shown that school-based involvement enhances social functioning and decreases problem behavior (El Nokali, Bachman, & Votruba-Drzal, 2010). However, it does not directly predict changes in achievement. *Home-based involvement*, on the other hand, refers to parents' involvement in their children's school-related activities at home, and has been shown to be related to children's achievement (Pomerantz et al., 2007; Jeynes, 2005). Parents' home-based involvement, that is, parental behaviors in

promoting children's academic development (shared reading, teaching of reading, teaching of mathematics), can be seen to represent what Morrison and his colleagues (Morrison, 2009; Morrison, Bachman, & Connor, 2005; Morrison & Cooney, 2002) refer to as *learning environment*. This dissertation focuses on parents' home-based activities and practices that promote their children's learning.

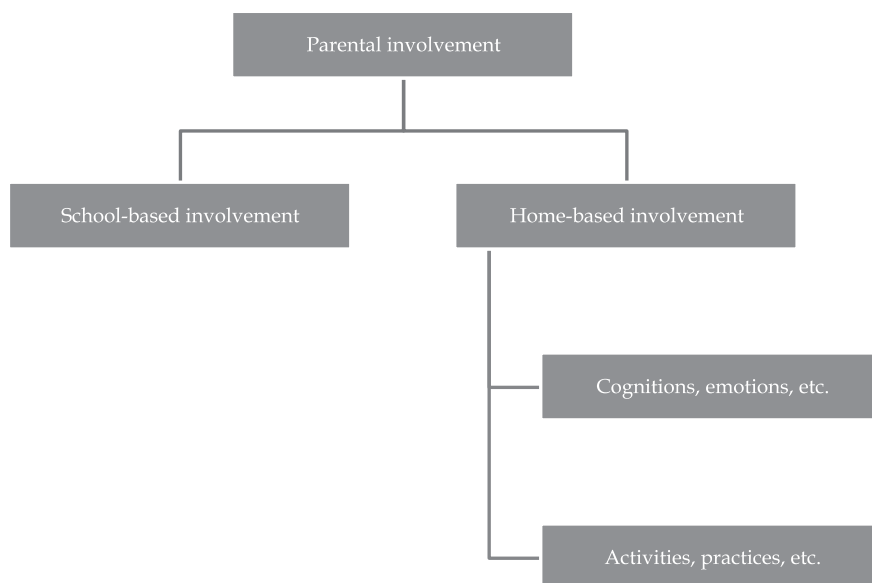


FIGURE 1 Model of Parental Involvement. Based on Pomerantz et al. (2007)

Theories on how parental home-based involvement, that is, the learning environment, is related to children's academic achievement have been introduced in the past. For instance, the Home Literacy Model was developed to relate parents' activities with their children at home to children's skills in the domain of reading (Figure 2). According to this model (Sénéchal & LeFevre, 2002), reading-related parental involvement with children can be broken down into informal and formal reading-related activities at home. Informal reading-related activities are associated with the environment parents create at home, such as, for instance, through the quantity of children's books made available or the amount of shared reading taking place at home. In turn, formal reading-related activities refer to exposing a child to print per se, such as teaching letter names, sounds, or teaching of reading. Previous research has shown that parents engage more often in shared reading than in the teaching of reading with their kindergarten-aged children (e.g., Hood, Conlon, & Andrews, 2008). The Home Literacy Model was created for children learning to read an orthographically inconsistent language, such as English (Sénéchal & LeFevre, 2002; Hood et al., 2008), and also tested children acquiring reading in French (Sénéchal, 2006).

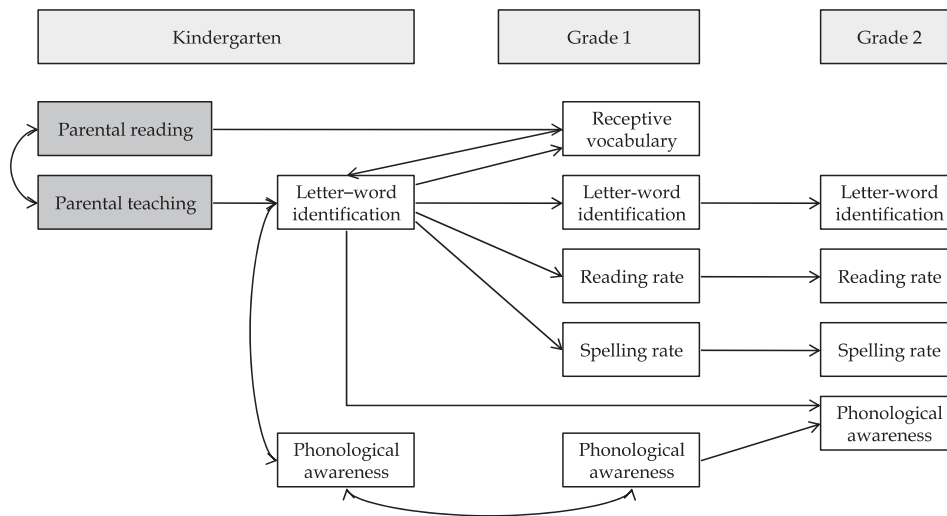


FIGURE 2 The Home Literacy Model. Modified from Hood et al. (2008, p. 264, Fig. 2)

Apart from the learning environment that parents create at home, parental management/discipline has been shown to become manifest in a variety of ways. One of the frequently examined types of such parental involvement is parental homework assistance (Jeynes, 2005; Kuppens, Grietens, Onghena, & Michiels, 2009; Patall, Cooper, & Robinson, 2008; Pomerantz & Eaton, 2001; Pomerantz & Ruble, 1998). Depending on the characteristics of parental homework assistance, it can be understood as control (characterized by pressure, intrusion, and domination) or structure (typified by guidance) (Grolnick & Pomerantz, 2009). In this dissertation, I consider parents' assistance with homework as control over the child rather than structure, since—in the present empirical studies—parents reported the frequency of their involvement without being asked for assistance by their children. Previous research has identified several forms of parental homework assistance. For instance, Pomerantz and Eaton (2001) differentiated two forms: monitoring and help. *Monitoring* is typically defined as checking children's homework, whereas *help* was conceptualized as teaching or guiding a child in completing his or her homework. Monitoring and help are conceptually similar to Morrison et al.'s management/discipline which refers to parents' attitudes and behaviors concerning their children's transgression and to the consistency of such parental behavior. In the present dissertation, the two forms of homework assistance, that is, monitoring and help, were examined in a greater detail.

Some theories have also focused on the factors affecting parental involvement. According to one such theory by Hoover-Dempsey and Sandler (1995, 1997), three major sources affect parental motivation for involvement: parental motivational beliefs, perceptions of invitations for involvement, and personal life context (see Figure 3). In primary school (Grades 1–4), specifically invitations by the child, parental self-efficacy for involvement, role activity

beliefs, and time and energy have been found to be the strongest predictors of parental home-based involvement (Green, Walker, Hoover-Dempsey, & Sandler, 2007). This model, however, does not take into account the role of children's characteristics (e.g., actual skill level).

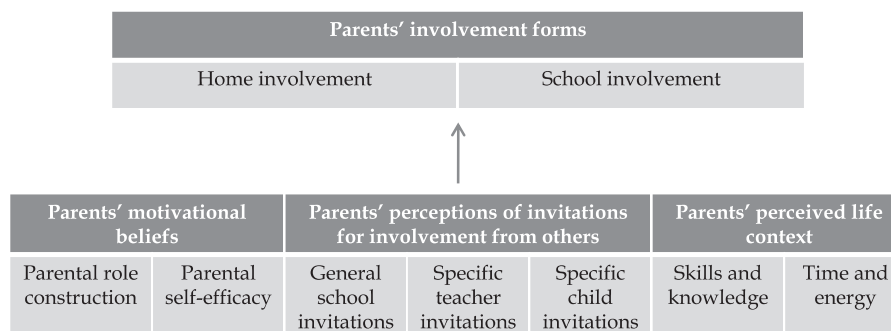


FIGURE 3 The theoretical model of Parental Involvement (Hoover-Dempsey and Sandler, 2005). Modified from Green et al. (2007, p. 533, Fig. 1).

Some current theoretical frameworks also emphasize the importance of children's "evocative impact" on their relationship with significant others (Bell, 1968; Hartup & Laursen, 1991; Pomerantz & Eaton, 2001; Rutter, 1997; Scarr & McCartney, 1983; Stattin & Kerr, 2000). For instance, it has been shown that children's characteristics, such as academic performance or socioeconomic characteristics, can have an impact on the teacher's instruction (Nurmi, in press; Rutter, 1997). In a recent meta-analysis, Nurmi (in press) reported that, first, good academic performance on behalf of children evoked more closeness in the teacher-child relationship and less conflict as well as less child dependency. Moreover, children's external problem behavior, as well as their internal problem behavior, activated an increase in the amount of children's conflict with their teacher and in child dependency, while causing a decrease in the closeness of the teacher-child relationship. Finally, a high level of children's motivation and engagement resulted in less conflict and more closeness in teacher-child relationships. There is some evidence to suggest that parents also react to children's characteristics (Pomerantz & Eaton, 2001; Levin et al., 1997). However, systematic investigation of this possibility throughout children's kindergarten and early primary school stages is missing. Consequently, in this dissertation, I investigated the influence of children's characteristics on their parents' behavior.

1.2 Learning to read and learning math

1.2.1 Emerging literacy and learning to read

Children know a lot about reading already before they begin formal reading instruction, and this knowledge provides the basis for their learning to read and write (Lonigan, Burgess, & Anthony, 2000; Whitehurst & Lonigan, 1998, 2003). Such reading-related pre-skills, knowledge and attitudes develop gradually and are often described as *emergent literacy*. According to Whitehurst and Lonigan (1998), emergent literacy consists of two groups of skills: *inside-out* skills and *outside-in* skills. Inside-out skills refers to the information within the printed word that relates to the ability to translate print into sounds and sounds into print (e.g., phonological awareness, letter knowledge; Whitehurst & Lonigan, 2003). Outside-in skills refers to the sources of information outside the printed word that directly support children's understanding of the meaning of the printed word (e.g., vocabulary, conceptual knowledge, story schemas; Whitehurst & Lonigan, 2003). Whitehurst and Lonigan (2003) see *phonological processing*, *print awareness* (inside-out skills) and *oral language* (outside-in skills) as the key components of emergent literacy. Phonological processing skills can be further broken down into phonological sensitivity, phonological naming, and phonological memory (Wagner & Torgesen, 1987). All of these three phonological processing skills have been shown to be strongly associated with subsequent decoding skills (Burgess & Lonigan, 1998; Kirby, Parrila, Pfeiffer, 2003; Wagner, Torgesen, & Rashotte, 1994; Wagner et al., 1997). In turn, print awareness refers to ability in letter knowledge, decoding, and writing. Print awareness has also been shown to be one of the strongest predictors of subsequent reading skills (Adams, 1990; Stevenson & Newman, 1986).

It has been shown that the strongest proximal predictors of reading (i.e., decoding) skills are letter knowledge and phonological awareness in languages both with consistent (e.g., Finnish; see Lerkkanen, Ahonen, & Poikkeus, 2011; Puolakanaho et al., 2007) and inconsistent orthographies (e.g., English; see Lonigan, Burgess, & Anthony, 2000; Scarborough, 2001; Snow, Burns, & Griffin, 1998). In turn, reading fluency, vocabulary, and listening comprehension have been shown to predict reading comprehension.

The studies in this dissertation were carried out regarding Finnish children. The Finnish language is characterized by an exceptionally regular grapheme-to-phoneme correspondence, making learning to read a relatively rapid process (Holopainen, Ahonen, & Lyytinen, 2001; Lerkkanen, Rasku-Puttonen, Aunola, & Nurmi, 2004; Lyytinen et al., 2006). In Finnish, every word can be read through reliance on this highly bidirectionally consistent phonological strategy. In fact, learning to read Finnish has been shown to progress faster than learning to read more orthographically opaque languages, such as English or French (Seymour, Aro, & Erskine, 2003). Due to these features of the Finnish language, at least 25% of children in Finland learn to

read before starting school (Holopainen, Ahonen, Tolvanen, & Lyytinen, 2000; Lerkkanen et al., 2004), and the vast majority of the remainder learn to read during the first semester of Grade 1 (Leppänen, Niemi, Aunola, & Nurmi, 2004; Lerkkanen et al., 2004). Reading skills have been suggested to develop cumulatively over the first few grades of primary school. This phenomenon is known as the “Matthew effect” (Stanovich, 1986; Stanovich, West, Cunningham, Cipielewski, & Siddiqui, 1996), which proposes that inter-individual differences in reading skills widen over time because children with good skills accelerate faster in their learning to read than children with poorer skills do. The “Matthew effect” was shown to be typical among Finnish kindergarteners, before formal teaching or reading begins. However, after moving on to primary school, Finnish children evidence a tendency opposite to the “Matthew effect”: Inter-individual differences start to decrease substantially as children move up to Grade 1 and then Grade 2 of primary school (Leppänen et al., 2004).

1.2.2 Emerging numeracy and learning mathematics

As in the case of emergent literacy, all number-related skills, knowledge and attitudes acquired before the formal teaching of math begins are described as *emergent numeracy* (Coplan, Barber, & Lagace-Seguin, 1999; Jordan, Kaplan, Oláh, & Locuniak, 2006; Spelke, 2005). Children gradually learn symbolic number representation and numeric phenomena. Emerging numeracy skills comprise an awareness of numbers and beginning to make logical deductions regarding numbers (e.g., learning to count numbers, connecting numbers to their written representation, comparing numbers of objects, combining numbers of objects, sharing objects equally).

Several cognitive antecedents have been suggested to play a role in the development of mathematical skills. One such antecedent is counting ability, namely, children’s understanding of how to count objects and their knowledge of the order of numbers (Aunola, Leskinen, Lerkkanen, & Nurmi, 2004; Geary, Hamson, & Hoard, 2000; Krajewski & Schneider, 2009a, 2009b; LeFevre et al., 2010a). In several studies, mathematical skills have been found to relate to number sequence skills, listening comprehension, verbal skills, nonverbal problem solving, processing speed, attention, metacognitive skills, parents’ educational level and socioeconomic status, and parents’ expectations and beliefs (Aunola, Nurmi, Lerkkanen, & Rasku-Puttonen, 2003; Aunola et al., 2004; Byrnes & Wasik, 2009; Entwisle & Alexander, 1990; Fuchs et al., 2006; Koponen, Aunola, Ahonen, & Nurmi, 2007). As suggested by Lemair and Siegler (1995; see also Geary et al., 2000), counting is a backup strategy in the acquisition of arithmetic knowledge, being reflected in the subsequent level of automatization and accuracy of fact retrieval (i.e., to find the correct answer very fast from long-term memory). After many successful counts, the repeated presentation of arithmetic tasks leads to a stronger activation of the examinee’s answers, enabling children to rely increasingly on the retrieval of solutions instead of counting. In the present study, I focused on children’s basic arithmetic knowledge in performing addition and subtraction tasks within a set time limit.

In contrast to learning to read, learning mathematics progresses in a hierarchical manner. That is, it is only after mastering basic concepts and skills (e.g., addition with one-digit numbers) that children can move on to learn higher level operations (e.g., addition of large numbers) (Aunola et al., 2004; Entwisle & Alexander, 1990; Fuchs et al., 2006). Around one-third of Finnish children are also able to do some basic arithmetic with small numbers when they enter primary school (Aunola, et al., 2004). Mathematical skills have been found to develop cumulatively over the first grades of primary school: Inter-individual differences in mathematical skills grow over time because children with good skills accelerate faster in their learning than children with poorer skills (Aunola et al., 2004; Kikas, Peets, Palu, & Afanasjeva, 2009).

1.2.3 Antecedents of children's academic skills

Socioeconomic status (SES) and parents' education. The importance of the child's socioeconomic background factors in predicting his or her skill development has also been demonstrated in many studies (Ginsburg & Bronstein, 1993; Marjoribanks, 1996; Scarborough & Dobrich, 1994; White, 1982; White, Reynolds, Thomas, & Gitzlaff, 1993). This research has consistently shown that children of parents with a higher SES perform better at school compared to children of families with a lower socioeconomic status. For example, previous research studies have shown that children from families with a low SES had a lower level of emergent literacy skills—such as concerning print concept, alphabet knowledge, word recognition, and phonological awareness—than children from families with a high SES (Hood et al., 2008; Scarborough & Dobrich, 1994). Previous research has also indicated that parents' level of educational qualification has a strong effect on their child's reading and math performance (e.g., Leppänen et al., 2004; Lewis, 2000; McClelland & Morrison, 2003), even much stronger than family income or socioeconomic status (see Melhuis, 2010). For instance, Leppänen et al. (2004) found that mothers of good readers are better educated than mothers of average and poor readers. Moreover, Torppa, Poikkeus, Laakso, Eklund, and Lyytinen (2006) showed that children with delayed letter knowledge development have less educated mothers than tends to be the case for other children. As an explanation for these results, it has been suggested that parents' education has an influence on the quality of the home learning environment, experiences, parental action and investment in resources that promote the children's development (e.g., Guo & Harris, 2000; Sylva, 2010).

As for math development, children from families with a lower SES performed worse on math tasks than children from families with a higher SES. For instance, Jordan et al. (2006) have shown that, at the end of kindergarten, children from low-income families perform significantly worse than children from middle-income families according to a wide array of math outcomes (e.g., counting skills, number recognition, number knowledge, nonverbal calculation, story problems, number combinations). As parents' SES and educational level

play an important role in the development of their child's skills, parental SES and educational level were also considered in this dissertation.

Birth order. Birth order may also be related to the development of children's literacy skills. Castro, Lubker, Bryant, and Skinner (2002) showed that 1st grade students who are firstborns are better at letter-word identification and at reading comprehension than students born later. This relates to the fact that parents tend to devote more time at home to parent-child reading with their firstborns than with their subsequent children (see also Raikes et al., 2006; Westerlund & Lagerberg, 2008). Consequently, the birth order of a child was an important predictor of children's skills.

Child's gender. Research has shown that girls outperform boys in most reading and pre-reading tasks (Halpern, 1997; Halpern & LaMay, 2000; Logan & Johnson, 2009; Lynch, 2002; Phillips, Norris, Osmond, & Maynard, 2002; Robinson & Lubienski, 2011). For example, girls were found to outperform boys in both the acquisition and use of verbal information (Halpern, 1997; Halpern & LaMay, 2000) and to score higher on emergent literacy tasks relating to alphabetical knowledge (Lynch, 2002), reading tasks (Logan & Johnson, 2009; Lynch, 2002) and reading comprehension (Logan & Johnson, 2009). Boys were also overrepresented at the lower end of the distribution of dyslexia and delayed speech (Halpern, 1997; Halpern & LaMay, 2000). Not all studies, however, demonstrate gender-related differences in early reading skills (Harper & Pelletier, 2008; Leppänen et al., 2004).

Although in recent years gender differences in standardized math test have virtually disappeared in the US (e.g., Else-Quest, Hyde, & Linn, 2010; Hyde, Fennema, & Lamon, 1990; Hyde, Lindberg, Linn, Ellis, & Williams, 2008), some longitudinal studies in other countries have demonstrated that the small gender gap appears in later school years favoring boys (e.g., Aunola et al., 2004; Leahey & Guo, 2001; Robinson & Lubienski, 2011). Also, some studies on kindergarteners have found gender differences, favoring boys. For instance, Jordan et al. (2006) found small but significant difference regarding overall number sense, nonverbal calculation, and estimation. However, yet other studies focusing on the early school years, particularly kindergarten or Grade 1, found no gender differences with regard to math performance (e.g., Aunola et al., 2004; Hyde et al., 1990; Hyde et al., 2008; Robinson & Lubienski, 2011).

Consequently, given the possible importance of children's gender in their skill development, child gender was included in the analyses to moderate the effects between parental home-based involvement and children's skills.

1.2.4 The Finnish educational system

In the year of their 6th birthday, Finnish children begin kindergarten. It is usually organized by the local day care centre or primary school. Kindergarten education is voluntary and free of charge, which is why almost all children (96%) participate in it (National Board of Education, 2008). The kindergarten curriculum emphasizes personal and social development, that is, children are not trained systematically in academic skills. Although there is no formal

teaching of reading, spelling or number recognition in Finnish kindergartens, children are nevertheless exposed to print, read to, and encouraged to play with letters. Furthermore, children are introduced to numbers, mathematical concepts, quantities, shapes, and the basics of classification, comparison, and sorting in the form of nursery rhymes and games (National Board of Education, 2000). These informal literacy- and numeracy-related activities may, of course, facilitate the development of children's literacy and numeracy skills.

In the year of their 7th birthday, Finnish children enter Grade 1 of primary school. This is when the formal and systematical teaching of reading and math begins. In the process of learning to decode, the children are first encouraged to learn to recognize single letters and letter-sound correspondences, then to read syllables, and then to unite syllables to form entire words (Lerkkanen, 2007). At the same time, their listening comprehension skills and vocabulary are supported to create the basis for reading comprehension. Children who develop decoding skills already before the 1st grade are considered precocious or early readers. Therefore, in Finnish 1st grade literacy lessons, children often study in small groups according to their stage of reading skill development. In small group situations, the teacher has better opportunities for tailoring the instruction to each child's initial skill level and for giving individual attention to particular children. In Grades 1 and 2, the task of instruction in mathematics is to support the learning of mathematical concepts and the development of mathematical thinking (National Board of Education, 2004). Students learn to use numbers as symbols of amount and order, to apply addition, subtraction, multiplication and division operations, to explain and justify their conclusions, to perform comparisons or classify things, to know the decimal system and simple fractions, and to recognize basic geometrical forms.

1.3 Parental involvement and children's skills

Parental home-based involvement has been investigated by employing a variety of variables, such as shared reading, teaching of reading, teaching of math, and parental homework assistance (e.g., monitoring and help).

1.3.1 The role of parents' involvement in children's skills

Shared reading. Previous research among both kindergarten children and primary school children has shown that shared reading promotes children's oral language skills, such as their vocabulary and syntactic skills (Evans, Show, & Bell, 2000; Foy & Mann, 2003; Frijters, Barron, & Brunello, 2000; Sénéchal & Cornell, 1993; Sénéchal & LeFevre, 2002; Torppa et al., 2006; Whitehurst & Lonigan, 2003). For example, Hood et al. (2008) found that parents' reading practices, including the number of children's books at home, recognition of children's book titles, and the frequency of reading to their children each week contribute to the development of the children's receptive vocabulary in Grade 1.

Moreover, the opportunities for verbal interaction and the active participation of the child during storybook reading have been shown to be related to phonological awareness (Burgess, 1997) and vocabulary (Sénéchal, Thomas, & Monker, 1995).

Previous studies, however, disagree on the magnitude of the effect of shared reading on children's reading skills (Bus et al., 1995; Evans et al., 2000; Foy & Mann, 2003; Scarborough & Dobrich, 1994). For instance, the meta-analysis by Bus et al. (1995) and the literature review by Scarborough and Dobrich (1994) found a positive association between shared reading and children's reading skills. However, the authors interpret their findings differently. Bus et al. (1995) concluded that shared reading makes a mid-range contribution to children's reading, whereas Scarborough & Dobrich (1994) concluded that the contribution is weak.

Parental reading-related teaching. Previous research on the role of the teaching of reading in the development of children's reading skills has yielded conflicting results (see Pomerantz et al., 2007). The findings on this relation seem to differ depending on whether the measurement was taken before or after school entry. In kindergarten, the findings are consistent: The teaching of reading is related to good written language skills, including letter knowledge (Evans et al., 2000; Manolitsis, Georgiou, Stephenson, & Parrila, 2009; Torppa et al., 2006) and word decoding skills (Hood et al., 2008; Sénéchal & LeFevre, 2002). Moreover, parents' teaching to read and write is positively associated with their children's written language development in kindergarten (Sénéchal, LeFevre, Thomas, & Daley, 1998). Similarly, Hood et al. (2008) found that teaching practices at home—including the alphabet, how to write one's name, and reading—predicted children's pre-reading skills before formal education. Also, Torppa et al. (2006) found that less frequent teaching of letter names at the age of 4.5 years predicted delayed letter knowledge at the age of 6.

Later on, after the transition from kindergarten to Grade 1, the results concerning the role of parental home-based involvement in children's reading skills are less clear. Some studies have shown that parental home-based teaching activities have substantial effects on the development of children's more advanced reading skills (Allen, Cipielewski, & Staniwich, 1992; Echols, West, Stanovich, & Zehr, 1996; Evans et al., 2000; Scarborough & Dobrich, 1994; Sénéchal, 2006; Sénéchal & LeFevre, 2002; Stephenson, Parrila, Georgiou, & Kirby, 2008; Whitehurst & Lonigan, 2003). For example, Sénéchal and LeFevre (2002) demonstrated that the more parents involve themselves in reading-related activities with their kindergarten-aged children, the higher are the levels of reading skills that their children acquire by Grade 3. In contrast, other studies have failed to show any association between parental reading-related teaching at home and children's reading skills. For instance, Leppänen et al. (2004) found no differences between "poor" readers, "average" readers, and "good" readers with respect to the mothers teaching letters and reading to their kindergarten-aged children. Moreover, research on homework has shown that parents' help with homework does not contribute—or is negatively related—to children's

academic development (Cooper, Lindsey, & Nye, 2000; Levin et al., 1997). For instance, Chen and Stevenson (1989) reported that 24 out of the 27 correlations found between the amount of time mothers helped with homework and children's achievement were negative. In another study, Levin et al. (1997) showed that mothers' help with homework did not have any effect on children's academic achievement in Grade 1-3.

Teaching of math. Although a large body of literature has focused on the role of early teaching of reading, some limited research is also available on the early teaching of mathematics (Blevins-Knabe, Austin, Musun, Eddy, & Jones, 2000; Blevins-Knabe & Musun-Miller, 1996; Huntsinger, Jose, Larson, & Krieg, 2000; LeFevre, Clarke, & Stringer, 2002; LeFevre, Polyzoi, Skwarchuk, Fast, & Sowinski, 2010; Skwarchuk, 2009). For instance, it has been found that parents' exposing their child to more advanced numeracy concepts in positive mathematical experiences promotes the child's numeracy before primary school (Skwarchuk, 2009). The frequency of home numeracy activities, such as learning simple sums or mental math, was found to be related to children's numeracy skills (LeFevre et al., 2002; LeFevre et al., 2010b). Moreover, Huntsinger et al. (2000) found that parents teaching mathematics to their children at home during the kindergarten year was positively linked to the children's performance in mathematics in Grades 3 and 4. However, research on parents' role in their children's learning in primary school is lacking.

Parental homework assistance. Previous research on parental assistance with homework has shown contradictory findings. On the one hand, some studies have suggested that parental homework assistance inhibits children's performance at school (e.g., Ginsburg & Bronstein, 1993; Grolnick & Ryan, 1989; Ng, Kenney-Benson, & Pomerantz, 2004; Pomerantz et al., 2007; Steinberg, Lamborn, Dornbursch, & Darling, 1992). Negative relations have been shown between specific forms of homework assistance (i.e., monitoring and help) and children's academic development. For example, Patall et al. (2008) found a small negative correlation between parents' monitoring of homework and children's achievement. Moreover, regarding help given by parents, Cooper et al. (2000) found that more frequent direct parental involvement was related to lower scores on standardized tests. They also found a negative relation between primary school students' grades and direct parental involvement.

By contrast, some other researchers have suggested that parental assistance with homework is positively related to children's achievement in primary school (Jeynes, 2005; Marcon, 1999; Patall et al., 2008; Peressini, 1998). For instance, Pomerantz and Eaton (2001) found that the achievement of children whose mothers used help and monitoring improved over time. In their meta-analyses, Patall et al. (2008) investigated the connections between children's achievement and parental involvement in homework. They found a small but significant average positive correlation for direct aid by parents.

1.3.2 The role of children's skills in parental involvement

Apart from the role played by parents in the development of their offspring's academic skills, children themselves (e.g., their skills) may also have an effect on how and to what extent parents engage in home-based academic activities with their children. On the one hand, children are active agents in initiating interaction with their parents. According to Hoover-Dempsey and Sandler (1995), perceived invitations for involvement from children play a role in parental home-based involvement. For instance, Green et al. (2007) found that the strongest predictor of parents' involvement at home was their perception of requests by their children for parental help and engagement in school-related activities at home. However, in these studies, children's influence was assessed on the basis of parents' perceptions of children's invitations for involvement. On the other hand, child characteristics—such as the child's level of academic performance and engagement—may have an “evocative impact” on parental involvement. In other words, parents reach out to their children in different ways depending on the children's characteristics (Bell, 1968; Hartup & Laursen, 1991).

Previous research on the role of children's academic skills in parents' home-based involvement has yielded mixed results. Again, the associations seem to differ for children's skills before and after school entry. In kindergarten, children's skills and parents' reading-related activities have been found to show either small positive or no associations (Fan & Chen, 2001). In primary school, however, negative associations between parental involvement and children's skills have been found (Chen & Stevenson, 1989; Cooper et al., 2000; Georgiou 1999; Hoglund, Jones, Aber, & Brown, 2009; Levin et al., 1997). For instance, Chen and Stevenson (1989) concluded that children who are doing less well at school receive a greater amount of help from their parents in completing homework. Similarly, Levin et al. (1997) found that mothers whose child was attending Grade 1 helped their child more if the child was doing poorly in school.

1.3.3 Antecedents of parental involvement

Socioeconomic status (SES) and parents' education. Previous research results on the antecedents of parental involvement are conflicting. Some studies have found that parents with a low SES engage less in school-related activities with their children than parents with a high SES. For example, Lonigan (1994) suggested that a high SES serves as a so-called “good things” variable: Families with a high SES may be more motivated to engage in educational activities with their children than those with a low SES. Some studies have found no differences in parental reading-related activities among different SES groups (Leppänen et al., 2004). Finally, some studies have even shown that certain groups of parents who have a low SES engage in teaching activities at home more often than parents who have a higher SES (Christian, Morrison, & Bryant, 1998; for a review, see Saracho, 1997).

Although a few studies have examined the relation between parental SES and children's mathematics performance (Jordan et al., 2006; Saxe, Guberman, & Gearhart, 1987), to the best of my knowledge, no studies have focused on the relation between parental SES and parents' teaching of mathematics at home. Consequently, parental SES was used as an important predictor and control variable in this dissertation.

Parents' learning difficulties and school experiences. *Learning difficulties* refers to a wide range of developmental delays (e.g., speech and language difficulties) that affect students' academic development, such as in learning literacy and mathematics (Ahonen & Holopainen, 2002). Previous research has shown an association between learning difficulties experienced by parents and those experienced by their children (Scarborough, 1989; Torppa et al., 2007), partly reflecting the fact that genetic factors play a role in both reading and mathematics difficulties (Plomin & Kovas, 2005). However, few studies have examined how parents' own learning difficulties are reflected in the ways in which they teach and support their children's academic skills. In one such study, Laakso, Poikkeus and Lyytinen (1999) found that the frequency of letter-name teaching at home and that of parent-child interaction during shared reading did not differ between parents with and without diagnosed reading difficulties (see also Torppa et al., 2007). In another study on children's numeracy, Skwarchuk (2009) found that parental reports of positive personal experiences with math predicted the numeracy scores of kindergarteners. Although the assumption had been that parents with learning difficulties engage less in academic-related activities with their children compared to parents without learning difficulties, it is also possible that parents with learning difficulties are more motivated to help their children to do better at school and hence get involved in their children's school-related activities more than other parents. Thus, parents' own learning difficulties were also examined in this dissertation.

Mothers vs. fathers. The research on parents' home-based involvement with their children has typically relied on data supplied by mothers (Levin et al., 1997; Tracey & Young, 2002). This tradition is probably based on the common belief that mothers involve themselves more with their children than fathers. Other studies have examined the self-reports of the parent who considered himself or herself to be more involved in home-based activities with their children (Evans et al., 2000; Green et al., 2007; Sénéchal, 2006; Sénéchal et al., 1998). This, again, resulted in mostly mothers answering the questionnaires. However, some studies have also reported on fathers' involvement in their children's schooling (Bronstein, 1984; Flouri, 2005; Flouri & Buchanan, 2003; for a review, see Saracho, 2007). For example, Flouri and Buchanan (2003) examined the predictors of fathers' reading to their children. They found that fathers who were manual workers and those with a low level of education read less to their 7-year-olds than was the case for the other fathers. However, no research exists on whether mothers and fathers follow similar patterns of teaching their children in relation to their own academic background. Consequently, this topic was included as one of the aims of this dissertation. As

mothers are, in general, more involved in their children's schooling, it was assumed here that mothers are also likely to engage in, for instance, teaching their children at home more often than fathers are.

Girls vs. boys. Parents differ in the frequency of their reading-related activities with their sons and daughters. For example, during the 1st grade, parents helped their sons more than their daughters in completing homework assignments (Cooper et al., 2000). The same study also found that primary school boys received more parental assistance with their homework than girls did (Cooper et al., 2000). Consequently, this dissertation examined whether the longitudinal associations between parents' academic-related activities with their child at home and their child's skills would be different depending on whether the child is a boy or a girl.

1.3.4 Limitations of previous research on parental home-based involvement and children's skills

Contradictory findings of previous research concerning the relation between parental involvement and children's academic skills may be caused by several conceptual and methodological issues. *First*, most of the previous empirical studies on the role of parental involvement in the development of children's academic skills have been cross-sectional (Patall et al., 2008; Cooper et al., 2000), and, therefore, unable to distinguish the direction of influence between of parental involvement and children's academic outcomes. Moreover, although in some studies children's academic skills were measured several times, parents' academic-related activities with their children at home were measured only once in each study and typically either before the participating children's school entry or at the very beginning of their school entry (Evans et al., 2000; Frijters et al., 2000; Sénéchal & LeFever, 2002; Sénéchal et al., 1998; Sénéchal, 2006), and its effect was assumed to impact the later development of children's skills. Although parental academic involvement has been assumed to contribute to the development of children's skills, it is also possible that children's characteristics trigger parental engagement in their children's academic learning or homework. Some attempts have been made to examine the role of children's influence on their parents' involvement. For example, Pomerantz and Eaton (2001) found that parents' highly frequent involvement was a reaction to their child's poor performance in school. Chen and Stevenson (1989) concluded that children who are doing less well in school receive a greater amount of help from their parents in completing homework. Similarly, Levin et al. (1997) found that mothers of first graders helped their children more if their children were doing poorly at school. Hence, the main aim of the present dissertation was to examine the direction of the longitudinal associations between parental involvement and the development of children's academic skills.

Second, children's age may be a factor that moderates the association between parental academic-related involvement at home and children's skills. For example, when children are in kindergarten the associations may be different compared to when they are in primary school. However, only a few

studies have followed children across different school grades, thereby leaving open the possibility to investigate whether school grade moderates the association between parental teaching and children's skills (Green et al., 2007; Hood et al., 2008; Levin et al., 1997). Because longitudinal follow-ups of parental involvement and children's skills are not available, one purpose of the present thesis was to examine grade-level (i.e., kindergarten, Grade 1, and Grade 2) differences in the relationship between children's skills and parental involvement.

Third, according to the ecological systems theory, distal factors can influence the relationship between parents' home-based involvement and the development of children's academic skills (Bronfenbrenner, 1979). For example, cultural and language characteristics can be important in the association between parental involvement and children's academic skills. Most of the studies on parental reading-related activities have looked at children learning to read English (Evans et al., 2000; Frijters et al., 2000; Hood et al., 2008; Sénéchal & LeFevre, 2002; Stephenson et al., 2008). Only a few attempts have been made to investigate the reading-related activities of parents in more orthographically transparent languages such as Greek (Manolitsis, Georgiou, & Parrila, 2009), Dutch (Leseman & de Jong, 1998), or Finnish (Torppa et al., 2006). Reading-related research conducted on languages that are highly transparent in terms of their orthography has several important implications. For instance, acquiring reading skills in a language such as Finnish is an easier and quicker process compared to learning to read a language with an opaque orthography such as English (Seymour et al., 2003). Also, parental involvement can manifest itself differently in different cultural and language environments. The present thesis expands the existing literature by providing evidence on parental involvement in children's skill development in an orthographically transparent language.

Fourth, the previous research on parental involvement has relied on small sample sizes (Evans et al., 2000; Foy & Mann, 2003; Sénéchal & LeFevre, 2002; Stephenson et al., 2008), which diminished the potential to obtain significant results. The large-scale study presented here allows more reliable conclusions to be drawn about the role of parents in their children's skill development. It also allows the application of a wider range of data analysis techniques, such as identifying certain groups of children or applying multi-group procedures.

Fifth, most of the previous studies have used reports by mothers only (Levin et al., 1997; Tracey & Young, 2002) or by the parent who considers himself/herself as the one more involved in the child's schooling (Chen & Stevenson, 1989; Evans et al., 2000; Foy & Mann, 2006; Sénéchal & LeFevre, 2002; Stephenson et al., 2008). This may not provide a full picture of parental home-based involvement as both parents can influence their child's literacy and numeracy development. Fathers, as well as other members of the family, have also been shown to have an impact on the development of children's skills (Fluori, 2005; Fluori & Buchman, 2003; for a review, see Saracho, 2007). As most research has solely investigated the involvement of mothers, little is known about whether mothers and fathers differ in their types of involvement, or

about whether they differ in their ways of treating their sons and daughters (Lindberg, Hyde, & Hirsch, 2008; Rogers, Theule, Ryan, Adams, & Keating, 2009). Consequently, investigating also fathers' (not only mothers') home-based involvement was one of the aims of this dissertation.

1.4 Aims of the empirical studies

This doctoral dissertation investigates how mothers' and fathers' home-based involvement is related to children's reading and math skills during the transition from kindergarten to primary school. Accordingly, four main research questions (RQ) were formulated (Figure 4):

- RQ1: To what extent do children's emergent literacy and emergent numeracy skills in kindergarten predict their parents' home-based involvement?
 RQ2: To what extent do children's academic skills in primary school predict their parents' home-based involvement?
 RQ3: To what extent does parents' home-based involvement in kindergarten predict the subsequent development of their children's academic skills?
 RQ4: To what extent does parental home-based involvement predict the subsequent development of their children's academic skills in primary school?

Additionally, the antecedents of parental involvement and the antecedents of children's academic skills were investigated (RQ5).

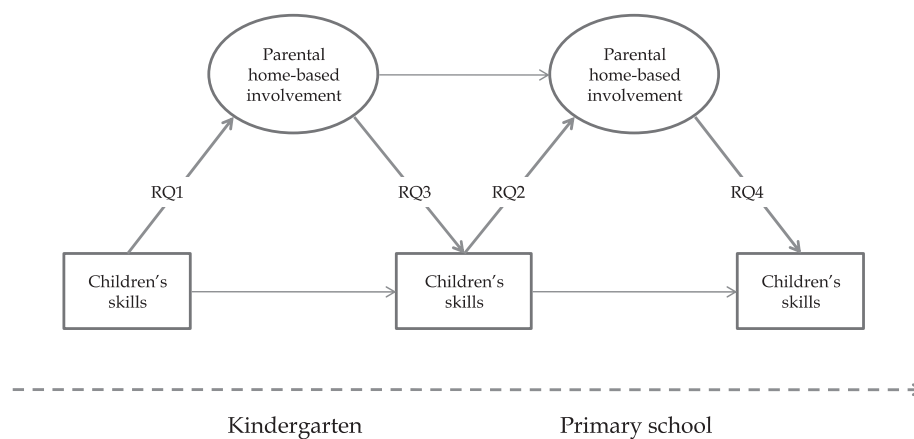


FIGURE 4 The main research questions

Four studies were conducted to answer these research questions:

Study I examined the extent to which children's academic skills, parents' socioeconomic level, and parents' own learning difficulties predict their

teaching of reading and mathematics to their child at home when children are enrolled in kindergarten and 1st grade. The study also examined to what extent mothers and fathers differ in the amount of teaching they engage in with their children at home.

Study II focused on the trajectories of children's reading development in kindergarten. The main question concerned the influence of mothers' home-based involvement (i.e., shared reading, teaching letters, and teaching of reading) on the learning trajectory of children's reading in kindergarten (i.e., those who master the basics of reading before kindergarten, those who learn reading during the kindergarten year, and nonreaders). Also, the role of demographics was investigated (i.e., mothers' educational level, children's birth order, and child gender) in predicting children's reading skills in kindergarten.

Study III examined the extent to which children's reading skills influence their parents' home-based involvement (i.e., shared reading and teaching of reading) and whether parents' home-based involvement predicts the development of their child's reading skills differently when comparing the kindergarten and Grade 1 stages.

Study IV examined the extent to which mothers' and fathers' homework assistance (i.e., monitoring and help) is interrelated with their child's reading and math skills during Grades 1 and 2.

2 OVERVIEW OF THE ORIGINAL STUDIES

2.1 Method

2.1.1 Jyväskylä Entrance into Primary School Study

Study I formed part of the Jyväskylä Entrance into Primary School (JEPS) study (Nurmi & Aunola, 1999). In the JEPS study, 207 (111 boys, 96 girls) 5- to 6-year-old kindergarten children ($M = 75$ months old, $SD = 3.30$ months) and their parents were followed up during the children's transition from kindergarten to primary school. The original cohort consisted of all children from two medium-size districts in Central Finland who were born in 1993 ($n = 210$). Permission to gather data from the children was obtained in each case.

Children. Data on children's performance in reading and mathematics were gathered on two occasions: at the beginning of kindergarten (October 1999) ($N = 207$) and at the beginning of Grade 1 (October 2000; $N = 212$). The number of children at the second measurement point was larger than that at the first measurement point due to the fact that first graders who had not attended kindergarten were also invited to participate in the study. At both times, a similar test battery was used to assess the children's reading and mathematics performance. Trained investigators administered the tests in suitable facilities at each school. Children who were absent from school at the time of the study completed the tests as soon as they returned to school. The participating children stemmed from a total of 21 kindergarten classes and 17 Grade 1 classes in 13 different schools.

Parents. In the middle of their children's kindergarten year (December 1999) and again in the middle of Grade 1 (December 2000), parents completed a questionnaire concerning their home-based involvement (i.e., teaching of reading and teaching of mathematics). Parents also answered questions concerning their own level of education and their own learning difficulties. At both times, parents were asked to complete the questionnaires independently, that is, without conferring with each other. During the children's kindergarten

year, 189 mothers (91.30%) and 166 fathers (80.19%), and in Grade 1 a total of 180 mothers (84.90%) and 155 fathers (73.11%), filled in the questionnaires. The families studied were as follows: children living with both parents (83.2% of cases), children living with one biological parent plus that parent's new spouse (9.9% of cases), and children living with a single mother (6.8% of cases). The number of children per family ranged from 1 to 11 ($M = 2.80$, $SD = 1.50$).

2.1.2 The First Steps Study

Studies II, III, and IV were part of the First Steps study (Lerkkanen et al., 2006) in which around 2,000 children and their families were followed from kindergarten to Grade 4. The First Steps study is a longitudinal investigation of children's development during their kindergarten and primary school enrolment, considering both family and school contexts. The original sample was drawn from four Finnish municipalities. In three of the municipalities, the parents of all of the children enrolled in kindergarten (the whole age cohort) were contacted, and their consent was requested for their children's participation. In one municipality, the parents of half the age cohort of children were contacted and asked for their consent. Only those children were tested whose parents gave their written consent to participate in the study. One municipality was mainly urban, one mainly rural, and two were mixed urban and semi-rural environments.

Children. Children were examined at five measurement points: at the beginning (T1; September 2006; $n = 1,867$) and at the end (T2; April 2007; $n = 1,826$) of their kindergarten year, at the beginning (T3; September 2007; $n = 1,970$) and at the end (T4; April 2008; $n = 2,048$) of Grade 1, and at the end of Grade 2 (T5; April 2009; $n = 2,001$). Trained investigators administered the individual pre-reading and reading tests in suitable facilities at each kindergarten. Both in Grades 1 and 2, group tests in reading and math were performed in the children's classrooms. Children who were absent from school on the day of testing were tested as soon as they came back to school.

A total of 54 children dropped out of the study after the first measurement point in the Fall semester of kindergarten because their families had moved, and 13 new children joined the study at the second measurement point. Moreover, 144 new children joined the study in Grade 1. The reasons for the increase in the number of participants in Grade 1 were that not all of the children attended kindergarten, new families had moved into these locations when school started, and some children who were one year older than the others had dropped out of Grade 2 and were repeating Grade 1. Also, the number of participants decreased at the fifth measurement point (Grade 2) due to the fact that some children had dropped out of Grade 2 and were repeating Grade 1. The drop-out analyses also showed some differences with respect to the major study variables between children who joined and later dropped out of the study and those who did not drop out of the study. For instance, children whose data were available at the beginning of kindergarten scored higher on initial phoneme identification ($p < .01$) and phoneme blending ($p < .05$) at the

beginning of Grade 1 than children whose data for the beginning of kindergarten were missing. However, the children did not differ in their reading or basic arithmetic skills at the beginning of Grade 1. Also, children whose data were available at the beginning of Grade 1 had had significantly higher scores in kindergarten with regard to initial phoneme identification ($p < .001$), letter knowledge ($p < .001$), reading of words ($p < .05$), and number sequences ($p < .001$) than children whose Grade 1 data were not available. Finally, children whose data were available at the end of Grade 2 were compared with those who had missing values regarding the variables of interest. The results showed that children for whom data were available in Grade 2 had scored higher than children with missing Grade 2 data in regard to initial phoneme identification ($p < .001$), letter knowledge ($p < .001$), word reading ($p < .05$), and number sequences ($p < .001$) at the beginning of kindergarten. No significant difference was found in the Grade 1 reading and math variables.

Analysis of the differences between classrooms showed a small variation between kindergarten classrooms concerning children's phonological awareness ($ICC = .04, p < .01$) and number sequences ($ICC = .04, p < .01$) at the beginning of kindergarten. However, the kindergarten classrooms did not differ in connection with children's letter knowledge ($ICC = .02, p$ ns.), word reading skills at the beginning of kindergarten ($ICC = .02, p$ ns.), or word reading skills at the end of kindergarten ($ICC = .03, p < .05$). Moreover, the findings suggested some small variation between classrooms at the beginning of Grade 1 with regard to children's reading skills ($ICC = .08, p < .001$) and skills in basic arithmetic ($ICC = .11, p < .001$). Similarly, at the end of Grade 2, classrooms differed with regard to children's reading skills ($ICC = .12, p < .001$) and basic arithmetic ($ICC = .15, p < .001$).

Parents. The mothers and fathers of the children were also asked to fill in questionnaires in the Spring semesters of kindergarten (March 2007), Grade 1 (March 2008), and Grade 2 (March 2009). Parents independently completed the questionnaires at home, that is, they were asked to fill in the questionnaires without consulting each other. Of the parents who consented to their children's participation in the study, a total of 1,571 mothers and 1,121 fathers filled in the questionnaires at the kindergarten measurement point. In Grade 1, filled-in questionnaires were received from 1,484 mothers and 1,029 fathers. In Grade 2, completed questionnaires were received from 1,456 mothers and 1,014 fathers. Analyses were then conducted to compare the performance of children whose parents' reports were available with the performance of children whose parents' reports were missing. The results showed that, at the kindergarten stage, mothers with missing data had lower performing children concerning initial phoneme identification ($p < .001$), letter knowledge ($p < .001$), word reading ($p < .001$), and number sequences ($p < .001$) than mothers without missing data. The same was true for fathers. Mothers whose reports were not available for Grade 1 had children who performed worse in reading ($p < .05$) and math ($p < .05$) compared to mothers for whom reports were available. The

difference in children's reading and math skills was even more marked between fathers with missing data and fathers with complete data ($p < .001$). In Grade 2, the pattern was the same ($p < .001$), with one exception: Mothers with missing data did not differ from mothers with complete data in regard to their children's reading performance in Grade 2.

Based on the Grade 1 data, the ages of the mothers ranged from 25 to 56 ($M = 38.41$, $SD = 5.27$), and the ages of the fathers ranged from 27 to 69 ($M = 41.05$, $SD = 5.76$). A total of 75.2% of the children were from families with two parents living at home; 9.1% of children were from families consisting of the mother or father living with her or his new spouse and the spouse's offspring/s; 13.9% of the children were living with their mother who was single at the time; and 1.8% were part of families with shared parenthood after divorce or separation. The number of children in a family ranged from one to eleven ($M = 2.45$, $SD = 1.17$). A total of 74.1% of mothers and 93.2% of fathers were in employment at the time of their child's 1st grade enrolment.

A total of 5% (general population 6%) of the mothers in the sample had a basic education (nine years of formal education, Grades 1-9), 26% (general population 30%) had a secondary education (high school or vocational school, Grades 10-12), 39% (general population 35%) had a vocational college degree or a bachelor's degree (three-year education at a college or university), and 30% (general population 29%) had a master's degree (five-year education at university) or higher university degree (i.e., licentiate or doctoral degree). The sample was fairly representative of the Finnish population in terms of mothers' education, although the mothers showed a somewhat higher level of education than the general population (Statistics Finland, 2012).

The methods of the four studies are summarized in Table 1.

TABLE 1 Summary of the participants, measurements, and methods used in the original studies (I to IV)

Study	Participants	Procedure	Variables	Data analyses
I				
Predictors of mothers' and fathers' teaching of reading and mathematics during kindergarten and Grade 1	207 children, 189 mothers, 166 fathers	Longitudinal: kindergarten and Grade 1	<ul style="list-style-type: none"> - mothers' and fathers' teaching of reading ($\alpha = .85-.92$) - mothers' and fathers' teaching of mathematics ($\alpha = .78-.85$) - mothers' and fathers' socioeconomic status (SES) - mothers' and fathers' own learning difficulties - children's performance in reading and mathematics 	<ul style="list-style-type: none"> - Hierarchical regression analysis - 3-way repeated measures ANOVA
II				
Mothers' reading-related activities at home and learning to read during kindergarten	1,529 children, 1,529 mothers	Longitudinal: kindergarten	<ul style="list-style-type: none"> - mothers' shared reading - mothers' teaching letters - mothers' teaching of reading - mothers' educational level - children's birth order - children's word reading ($\alpha = .92-.96$) - children's phonological awareness ($\alpha = .78$) - children's letter knowledge ($\alpha = .95$) 	<ul style="list-style-type: none"> - Multinomial regression - Path modeling
III				
The frequency of parents' reading-related activities at home and children's reading skills during kindergarten and Grade 1	1,436 child-mother-father triads	Cross-lagged longitudinal: kindergarten to Grade 1	<ul style="list-style-type: none"> - mothers' and fathers' shared reading - mothers' and fathers' teaching of reading ($\alpha = .74-.78$) - children's word reading and reading skills ($\alpha = .91-.97$) - children's visuo-spatial thinking ($\alpha = .91$) - parents' education 	<ul style="list-style-type: none"> - SEM - Multi-group procedure

<p>IV Types of parents' homework assistance and children's academic skills: A longitudinal study from Grade 1 to Grade 2</p>	<p>2,261 children, their mothers and fathers</p>	<p>Cross-lagged longitudinal: Grade 1 to Grade 2</p>	<ul style="list-style-type: none"> - mothers' and fathers' monitoring of homework ($\alpha = .85-.90$) - mothers' and fathers' help with homework ($\alpha = .88-.92$) - children's reading skills ($\alpha = .97$) - children's math skills ($\alpha = .77-.98$) - demographic background characteristics - children's vocabulary ($\alpha = .61$) - children's visuo-spatial thinking ($\alpha = .81$) 	<ul style="list-style-type: none"> - SEM - Multi-group procedure
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2.2 Studies

2.2.1 Study I: Predictors of mothers' and fathers' teaching of reading and mathematics during kindergarten and Grade 1

Aims. The main aim of Study I was to investigate the predictors of mothers' and fathers' teaching of reading and teaching of math to their children at home during kindergarten and Grade 1. Four research questions were examined: (1) Do the levels of children's reading and math skills predict their mothers' and fathers' teaching of reading and math to them at home during kindergarten and Grade 1? (2) Does the socioeconomic status (SES) of mothers and fathers predict their teaching of reading and math to their children at home during kindergarten and Grade 1? (3) Do mothers' and fathers' own, self-reported learning difficulties predict the extent to which they teach reading and math to their children at home during kindergarten and Grade 1? (4) Do mothers and fathers differ in the amount of their teaching of reading and math to their children at home during kindergarten and Grade 1?

Results. The results regarding parents' school-related activities with their children at home were as follows. *First*, in kindergarten, the lower the socioeconomic status of mothers was, the more teaching of reading and the more teaching of math they reported engaging in with their children at home. *Second*, the higher the children's performance in math was at the beginning of kindergarten, the more teaching of mathematics mothers reported to be providing at home in the middle of the kindergarten year. The corresponding analyses of fathers' engaging in teaching with their children at home during kindergarten showed no significant results.

For Grade 1, the results showed that, *first*, the lower the children's performance was in reading at the beginning of Grade 1, the more teaching of reading their mothers reported to be engaging in with their children at home. Similar effects were found for mothers' teaching of math, fathers' teaching of reading, and fathers' teaching of math to their children at home during Grade 1. *Second*, the lower the socioeconomic status of mothers was, the more teaching of math they engaged in with their children at home. This effect, however, did not remain significant after controlling for the previous levels of math teaching that the mothers reported having provided to their children at home. *Third*, the more personal learning difficulties in math mothers reported themselves to have had, the more teaching of mathematics they engaged in with their children at home. *Fourth*, the analyses showed that mothers taught significantly more reading to their children at home during kindergarten and Grade 1, and more math during Grade 1, than fathers did. Also, mothers taught significantly more reading to their children at home during kindergarten and Grade 1 compared to math, whereas fathers taught more math than reading to their children at home during Grade 1. The comparison of the amount of parents' teaching of reading and mathematics to their children at home during kindergarten and Grade 1

showed that only mothers' teaching of mathematics to their children at home increased in Grade 1.

Overall, the results showed that mothers and fathers end up teaching academic skills to their children at home when they perceive that their offspring is doing poorly at school. Also, parents with a lower SES reported engaging in more teaching of reading and math with their children at home than parents with a higher socioeconomic status did.

2.2.2 Study II: Mothers' reading-related activities at home and learning to read during kindergarten

Aims. The main aim of Study II was to examine the role of mothers' reading-related activities with their children in predicting the children's word reading trajectories in kindergarten. Three research questions were addressed: (1) Do mothers' home-based reading-related activities with their children at home (i.e., shared reading, teaching letters, and teaching reading) predict their children's learning to read (operationalized as one of three reading trajectories: precocious reader, kindergarten reader, and nonreader)? (2) Do background factors (i.e., mothers' educational level, children's birth order, and child gender) predict the child's learning to read, that is, his or her kindergarten reading trajectory? (3) Do the levels of the children's word reading skills at the beginning of kindergarten predict their mothers' reading-related activities with them at home?

Results. As regards the kindergarten year, three word reading trajectories were identified according to the children's level of word reading at the beginning and at the end of kindergarten. (1) *Precocious readers* ($n = 217$, 14.2%) could already read at the beginning of kindergarten and scored high on the word reading tests at both measurement points. (2) *Kindergarten readers* ($n = 207$, 13.5%) had no reading skill at the beginning of kindergarten but became accurate readers by the end of kindergarten. (3) *Nonreaders* ($n = 528$, 34.5%) could not read and therefore scored low on the word reading tests at both measurement points.

The results, with regard to parents' reading-related activities with their children's at home, showed that shared reading and mothers' teaching significantly predicted their child's membership in one of the three identified reading trajectories. Mothers of nonreaders read to their children significantly less than mothers of precocious readers did. Furthermore, nonreaders received less maternal teaching than either the kindergarten readers or precocious readers. However, precocious readers did not differ from kindergarten readers in any of the measures of their mothers' reading-related activities with them.

The results for child and family demographics showed that nonreaders were more likely to have mothers with a lower level of education than would the precocious or kindergarten readers. In addition, firstborn children were more likely to be among the precocious readers than nonreaders. Another result was that girls were more likely than boys to be kindergarten readers than

nonreaders, and they were more likely to be precocious readers than kindergarten readers. Phonological awareness and letter knowledge, however, significantly differentiated all three trajectories from each other: Nonreaders performed worse in both of these skill areas compared to precocious or kindergarten readers, and kindergarten readers performed worse in both of these skills compared to precocious readers.

The results showed further that the better the children's word reading skills were at the beginning of kindergarten, the more shared reading was reported to have been applied by their mothers. Also, the more shared reading mothers reported, the better their child's word reading skills were at the end of kindergarten. Moreover, mothers' teaching of letters to their child at home did not predict their children's word reading skills at the end of kindergarten. Further, the better the children's word reading skills were at the beginning of kindergarten, the more teaching of reading at home their mothers reported to be providing. Similarly, the more home-based teaching of reading mothers reported, the better their children's word reading skills were at the end of kindergarten.

Overall, the results of the study showed that maternal teaching of reading at home contributed to the development of children's reading skills while the children were enrolled in kindergarten. However, mothers were found to teach reading at home in particular when their children had already mastered the basics of reading.

2.2.3 Study III: The frequency of parents' reading-related activities at home and children's reading skills during kindergarten and Grade 1

Aims. The main aim of Study III was to examine the cross-lagged associations between parents' reading-related activities with their children at home and their children's reading skills during kindergarten and Grade 1. The following research questions were investigated: (1) Do children's reading skills predict their parents' reading-related activities with them at home, that is, teaching of reading and shared reading? (2) Do parents' reading-related activities with their children at home, that is, teaching of reading and shared reading, contribute to the development of their children's reading skills? (3) Does children's gender moderate the longitudinal associations between parents' reading-related involvement with their children at home and their children's reading skills?

Results. The analyses of the longitudinal associations showed that children's word reading at the beginning of kindergarten positively predicted their parents' shared reading activities with them: The better the children's word reading skills were at the beginning of kindergarten, the more shared reading the children were engaged in by their parents at home. Moreover, word reading at the beginning of kindergarten positively predicted parents' teaching of reading to their children at home: The better the word reading skills of children were at the beginning of kindergarten, the more parental teaching of reading they had subsequently received at home. Also, the more the boys were taught

to read, the better their word reading skills were at the end of kindergarten. The latter association was not present for girls, since this path for girls did not reach statistical significance. At the end of kindergarten and at the beginning of Grade 1, however, children's reading skills negatively predicted parents' reading-related activities with them: The less skills children had in reading, the more parental teaching of reading they received. Similarly, the less reading skills children had at the beginning of Grade 1, the more shared reading the parents reported to be engaging in with their children at home. Further, parents' teaching of reading to their children at home negatively predicted their children's word reading at the end of Grade 1. As the last step in the analyses, I included measures of children's nonverbal ability and parental education as control variables. Including control variables in the model did not change any of the aforementioned results.

Overall, the main results of this study highlighted the fact that—at the kindergarten stage—parents provide more frequent teaching of reading and shared reading to their children at home if their children have relatively good early reading skills. By contrast, when children move up to Grade 1, parents especially begin to get more involved in their children's learning if their children exhibit poor reading skills.

2.2.4 Study IV: Types of parents' homework assistance and children's academic skills: A longitudinal study from Grade 1 to Grade 2

Aims. The main aim of Study IV was to investigate in what way parents' types of assistance with homework are longitudinally related to their children's reading and math skills. The following research questions were addressed: (1) To what extent do children's academic skills (i.e., reading and math) predict the type of homework assistance (i.e., monitoring and help) their parents engage in with them? (2) To what extent does the type of homework assistance provided by parents relate to the development of their children's academic skills? (3) Does parents' gender moderate the associations between the two types of homework assistance (i.e., monitoring and help) and their children's skills (i.e., reading and math)?

Results. The results showed that reading skills at the beginning of Grade 1 negatively predicted both types of parental involvement: The less reading skills the children's had, the more their parents monitored and helped them. Both the types of parental involvement and children's reading skills were highly stable during Grades 1 and 2. Also, reading skills at the end of Grade 1 negatively predicted monitoring and help in Grade 2, but only weakly. The results of the study also showed that none of the types of parental involvement had direct benefits for the development of children's reading skills. There was a small negative effect of parental help on the development of children's reading skills in both Grades 1 and 2. The results were similar for mothers and fathers. The results showed further that boys' math skills were more stable across Grade 1 than those of girls. Finally, the results showed that demographic background

characteristics and children's early cognitive skills did appear as significant predictors, however, they did not change any of the main results of the study.

Overall, the results suggested that both mothers' and fathers' increased assistance with their children's homework (i.e., monitoring and help) was a reaction to the children's poor performance at the beginning of the school career.

3 GENERAL DISCUSSION

This dissertation examined the cross-lagged associations between parents' home-based involvement in their children's learning and the development of their children's reading and math skills. Overall, the results showed that parental home-based involvement is differently related to children's skills in kindergarten compared to primary school. In kindergarten, children's good word reading skills increased their parents' shared reading and teaching of reading at home. Similarly, good math skills increased parental teaching of math. Also, parental home-based involvement promoted their children's reading in kindergarten. In contrast, in Grade 1, the parents of children with poorer reading and math skills engaged more in shared reading, teaching of reading and teaching of math at home than did the parents of children with better reading and math skills. Moreover, poor skills demonstrated by children in reading and math triggered parents' increased assistance with homework through monitoring and direct help. The results showed further that parents' home-based involvement with their children during primary school was not directly related to the subsequent development of their children's reading or math skills.

3.1 The role of children's academic skills in parental home-based involvement

3.1.1 Effects in kindergarten

The first research question of the dissertation asked to what extent children's emergent literacy skills and emergent numeracy skills in kindergarten predict parental home-based involvement (RQ1). The results showed that children's reading and math skills positively predicted their parents' home-based involvement. For example, in Study I, the better the children's math skills were in kindergarten, the more their mothers were teaching math to them at home.

However, reading performance was not related to mothers' teaching of reading. Also, neither reading nor math performance was significantly related to fathers' teaching. In Study II, however, a more in-depth investigation was performed focusing on the effect of children's skills on parents' reading-related involvement. That is, instead of using a composite score of parents' teaching behaviors, three distinct types of parental involvement in their children's learning at home were examined: shared reading, parents' teaching of letters, and parents' teaching of reading. The results showed that word reading progress in kindergarten had a positive effect on home-based shared reading and teaching of reading by mothers. Moreover, Study III showed that children's word reading skills positively contributed to the amount of shared reading and teaching of reading their mothers and fathers engaged in with them at home.

At least two explanations can be proposed for why parents involve themselves more in shared reading, in the teaching of reading, and in teaching math if their child exhibits a high level of word reading skill at the beginning of kindergarten. *First*, children with relatively good word reading and math skills are likely to be more interested in reading- and math-related activities. This may then lead these children to initiate interactions with their parents in reading- and math-related activities. Similarly, children may also trigger their parents' engagement in joint reading- and math-related activities (see Green et al., 2007; Hoover-Dempsey et al., 2001). The findings are in accordance with the suggestion by Hoover-Dempsey and Sandler (1995) that perceived invitations for involvement from children play a role in parental home-based involvement. For instance, Green et al. (2007) found that specific child invitations were the strongest predictor of parents' home-based involvement in primary school. However, their study was based on parents' perceptions and did not consider children's skill level.

Second, parents may engage in academic-related activities more frequently if they consider their children to be ready for more demanding academic-related tasks. By engaging more with children with better skills, parents foster the widening of individual differences in children's early skills (the "Matthew effect"; Stanovich, 1986). This phenomenon has been shown to be typical among Finnish kindergarteners (Aunola et al., 2004; Leppänen et al., 2004).

Overall, these results regarding kindergarteners and their parents differ from those found in a number of other studies (Chen & Stevenson, 1989; Cooper et al., 2000) that address the school-age years. The results of the present study are important as they suggest that in kindergarten parents involve themselves in their children's learning for different reasons as compared to the early years of their children's formal education.

3.1.2 Effects in primary school

The second research question set for this dissertation asked to what extent children's academic skills in primary school predict parental involvement (RQ2). Overall, the results indicate that in Grade 1 parents start to adapt their behaviors to their children's current level of performance. For instance, the

results of Study I showed that children's reading performance at the beginning of Grade 1 negatively predicted their mothers' teaching to them at home during Grade 1. The same was true for mothers' teaching of math, fathers' teaching of reading, and fathers' teaching of math to their children at home. In Study III, mothers' and fathers' engagement in shared reading and teaching of reading with their children at home was negatively predicted by the previous level of their child's reading skills. Moreover, in Study IV, children's reading and math skills at the beginning of Grade 1 negatively predicted the mothers' and fathers' monitoring their children and helping their children with homework assignments.

The results of the featured studies (Study I, Study III) with respect to first graders are in line with those of some previous research suggesting that parents react to their school-aged children's poor performance with increased engagement in reading- and math-related activities at home (Chen & Stevenson, 1989; Cooper et al., 2000; Hoglund et al., 2009; Levin et al., 1997). For instance, Levin et al. (1997) found that mothers of poorly performing students helped their children with homework more than mothers with well performing children, particularly in 1st grade. Similarly, Chen and Stevenson (1989) found that children who are doing less well at school receive a greater amount of help from their parents in completing homework. Similar results were found in the featured Study IV when parents' type of homework-related involvement was taken into account. In Grade 1, the poorer their children's skills were, the more parents monitored those skills and the more they tried to help their children. This suggests that when children have problems at school, parents employ all means they know to support their children. In Grade 2, however, children's skills only weakly predicted parents' monitoring and help, although these results also showed that parents of children with poor academic skills showed higher levels of monitoring and help. Overall, these findings suggest that the level of children's skills in Grade 1 is an important factor triggering parents' choice regarding their type and amount of engagement. After Grade 1, parents' types and amount of engagement become relatively stable.

One explanation for the findings of the present dissertation is that mothers and fathers are more likely to teach their child academic skills if the child experiences difficulties at school. The majority of Finnish children know the most frequently used letters in the Finnish language and at least 25% of children are able to decode simple words already before entering 1st grade (Holopainen et al., 2001; Lerkkanen et al., 2004; Lyytinen et al., 2006). Consequently, parents who perceive that their child is a slow learner in decoding may become concerned about their child's school achievement and consequently begin to support their child's development by engaging in shared reading and teaching of reading at home.

There is also an alternative explanation for why children's skill level was found to predict parental involvement. In Grade 1, teacher's evaluations and feedback concerning children's academic progress increase. Therefore, the feedback and advice by the teacher on how parents can support their children's

literacy and numeracy development at home may subsequently encourage parents to engage in shared reading as well as teaching of reading and math with their children at home. Unfortunately, the featured study did not ask to what extent parents were influenced by teachers, in particular.

3.2 The role of parental home-based involvement in children's academic skills

3.2.1 Effects in kindergarten

The third research question addressed by this dissertation asked to what extent parents' home-based involvement in kindergarten predicts the subsequent development of their children's academic skills (RQ3). The results showed that, in kindergarten, parental home-based involvement had a positive effect on children's academic skills. For instance, in Study II, shared reading and teaching of reading at home had a positive effect on word reading skills. In Study III, only teaching of reading had a positive effect on children's word reading skills. Moreover, this effect was present for boys, but not for girls. Also, in Study II, I asked whether mothers' home-based reading-related activities—teaching of reading, teaching letters, and shared reading—during their children's kindergarten year would influence their children's reading trajectory. As expected, mothers taught less reading to nonreaders than to precocious or kindergarten readers. Even after controlling for background factors (i.e., mothers' educational level, children's birth order, and child gender), the home-based teaching of reading remained a significant predictor in differentiating nonreaders from precocious and kindergarten readers.

These findings are in accordance with previous research which shows that parents' formal reading-related activities with their children are associated with their children's emergent literacy skills, such as phonological awareness (Foy and Mann, 2003; Frijters et al., 2000), letter knowledge (Evans et al., 2000; Frijters et al., 2000; Manolitsis et al., 2009; Stephenson et al., 2008; Torppa et al., 2006), and word decoding (Hood et al., 2008; Manolitsis et al., 2009; Sénéchal & LeFevre, 2002). In another Finnish study, Torppa et al. (2006) found that parental teaching of letter names predicted how children's knowledge of letters developed later on. Similarly, Hood et al. (2008) found that a composite score of parents' teaching at home—including teaching of the alphabet, teaching writing one's own name, and the teaching of reading—predicted kindergarten letter-word identification. Finally, Sénéchal and LeFevre (2002) found that teaching children to write and to read words was associated with written language skills. However, Study II did not find evidence for an impact regarding mothers' teaching letters to their children, that is, mothers' teaching of letters did not differentiate between nonreaders, precocious readers, and kindergarten readers.

Interestingly, the results showed that mothers read less to nonreaders than to precocious readers (Study II). However, after controlling for the background variables (i.e., mothers' level of education, children's birth order, and child gender), shared reading was no longer associated with reading skills in kindergarten. These results suggest that the mother's level of education and the child's birth order have an initial impact on the amount of shared reading, which then contributes to the child's reading development. Namely, the post hoc comparisons of shared reading according to mothers' education showed that highly educated mothers read more to their children than less educated mothers. Therefore, the children of highly educated mothers were also more likely than other children to show substantial progress in their reading skills during the kindergarten year. Moreover, post hoc comparisons showed that shared reading was related to children's birth order. Mothers read more to their firstborns than to their subsequent children. According to previous research, shared reading contributes in particular to the development of oral language skills (e.g., vocabulary) rather than written language skills (Sénéchal & LeFevre, 2002). Consistent with the previous literature (Hood et al., 2008; Sénéchal & LeFevre, 2002), the results of Study III also showed that shared reading had no direct effect on word decoding skills.

Study III showed that during the kindergarten year, parental home-based teaching of reading was more likely to contribute to the development of word reading skills among boys. This result might be due to the fact that literacy skills develop earlier in girls than boys (Silvén, Poskiparta, & Niemi, 2004). As boys have poorer skills than girls, they may benefit more than girls from being taught reading by their parents.

3.2.2 Effects in primary school

The fourth research question of this dissertation addressed the extent to which parents' involvement in their children's school-related activities at home predicts the subsequent development of their children's academic skills in primary school (RQ4). The results showed that parents' home-based involvement did not have an effect on the development of their children's academic skills. For example, the results of Study III showed that parents' teaching of reading at home negatively predicted the subsequent development of their children's reading skills. This negative effect was stronger among boys. Also, Study IV showed that mothers' and fathers' help with homework was negatively, though weakly, related to the subsequent development of their children's reading and math skills. A negative association between home-based parental involvement in children's schooling and children's reading skills has also been found in previous studies (Chen & Stevenson, 1989; Cooper et al., 2000; Levin et al., 1997). For instance, Levin et al. (1997) showed that mothers' help with homework had no effect on their children's academic outcomes. Moreover, in their recent literature review, Pomerantz et al. (2007) suggested that the frequency of parental home-based involvement contributes to

children's general intellectual abilities, yet it does not impact children's actual academic development.

It would be unrealistic to assume that parental involvement is in vain or even detrimental to children's skill development. Instead, the results of the present dissertation showing that parental involvement in children's homework does not benefit the subsequent development of the children's reading skills (Study III and Study IV) and math skills (Study IV) may have several underlying causes. *First*, children who do poorly in reading and mathematics may suffer from relatively serious problems in learning that are typically diagnosed only in 3rd grade. Therefore, their reading and math skills develop more slowly than those of their classmates despite of the amount of help, monitoring, or teaching they receive from their parents. *Second*, some children's problems in reading and math may also be too severe for parents to handle alone, and thus facilitating their learning requires help from professionals. *Third*, parents of slow learners might be poor learners themselves, and thus the support they are able to give their children with homework may simply be too unskilled. In connection with this, an important challenge for special education would be to provide such parents with information on how they can help and support their children in the most effective way.

Fourth, another possible explanation is connected with parenting styles. The way parents engage in help with homework might be too intrusive. As shown in previous research, intrusive involvement does not benefit children's achievement or skills (Pomerantz et al., 2007). For instance, parenting that is controlling may lead to a decreased sense of autonomy and to a decreased feeling of oneself as an effective agent in the learning process (Pomerantz et al., 2007). It has been shown in the previous literature that children of controlling parents do not have enough experience with solving problems on their own (Pomerantz et al., 2007). However, the present dissertation concentrated on parental practices instead of their parenting styles. *Fifth*, any kind of parental involvement in the child's homework when unrequested by the child can create a negative tension in the parent-child relationship. That is, any kind of unsolicited help on the part of parents may be perceived by their child as an intrusive act. Children may already know that their skill level is lower than that of their classmates. In these situations, children might perceive extra help from parents as a confirmation of their poor performance. Consequently, children may try to evade such situations. If a child perceives that a parent is investing a lot of effort in helping him or her, the child may develop unfavorable cognitions such as a low self-concept of ability (Aunola, Leskinen, Onatsu-Arviolommi, & Nurmi, 2002; Frome & Eccles, 1998). This may lead the child to disengage or try less, which in turn could lead to an even lower skill level in comparison to other children further down the line (Hirvonen, Georgiou, Lerkkanen, Aunola, & Nurmi, 2010; Onatsu-Arviolommi, & Nurmi, 2000).

However, even if parental involvement may not have any impact on children's academic skills, it may have a positive influence of another kind. Numerous studies report beneficial effects of parental involvement on

children's schooling in terms of other academic and behavioral outcomes. For example, parental involvement may have an effect on achievement-related outcomes, such as homework completion rates and the frequency of problems with homework (Patall et al., 2008). Similarly, parents' involvement may also increase their children's overall school effort (Kristjánsson & Sigfúsdóttir, 2009), decrease their children's problem behaviors at school (El Nokali et al., 2010), increase their children's daily school attendance (Adams & Christiansen, 2000), and lower possible chronic absenteeism (Epstein & Sheldon, 2002). Also, parents' home-based involvement has been shown to have positive outcomes with respect to their children's adaptive behavior (Marcon, 1999) and social competency (Parker, Boak, Griffin, Ripple, & Peay, 1999).

Some of the unpublished results not included into this dissertation provide further understanding of the impact of parental involvement on children's skills. Namely, there is some evidence to suggest that there is a group of first graders who do benefit from parental teaching of reading in terms of their academic skill development. A positive effect of maternal teaching of reading on the development of reading skills was evidenced among a group of children with low levels of reading skills. This positive effect was evidenced when mothers engaged in high levels of controlling behavior but stayed positively supportive on the emotional level during homework sessions (Silinskas et al., 2012).

3.3 Antecedents of parental home-based involvement

Socioeconomic status (SES) and parents' education. This dissertation also examined the role of mothers' and fathers' SES and education in their home-based involvement with their children's school-related activities. The results showed, for example, that mothers and fathers with a lower SES reported more teaching of reading and mathematics at home than those with a higher SES (Study I). In turn, Study II showed that highly educated mothers read more to their children than less educated mothers did. Moreover, mothers' and fathers' education positively predicted the amount of shared reading at home in Study III. Study IV reported that both mothers' and fathers' own education was negatively related to the help and monitoring they applied in the context of their children's homework during Grade 1. The findings are in line with the well-established fact that family characteristics, such as income, have an impact on what kind of child-rearing methods are used by parents (Lareau, 2002). For example, less educated parents rely more on traditional teaching techniques (teaching), whereas more literate parents apply a more child-centered approach (e.g., shared reading; see Cooper et al., 2000; DeBaryshe, 1995; Saracho, 1997). The findings are also in line with a review by Saracho (1997), suggesting that low-income families might place a higher value on education than high-income families: Parents with a low SES invest a lot of effort in promoting their children's future academic development and engage more in teaching of

reading at home and helping with homework, whereas middle-income parents tend to engage more in playful print-related activities.

The results of the present dissertation, however, might have other possible explanations. For instance, it has been suggested that parents who have a lower SES typically express a stronger belief that their children have to have better knowledge of reading and mathematics before entering school, whereas parents who have a high SES report more child-centered attitudes that might lead to greater motivation and more positive attitudes about their children's learning (DeBaryshe, 1995; Evans et al., 2000). Also, parents vary in their strategies and differ in the quality of their behaviors through which they promote their children's literacy and numeracy (Cooper et al., 2000; DeBaryshe, 1995; de Jong & Leseman, 2001; Saracho, 1997; Tracey & Young, 2002). For instance, more educated parents read more to their children instead of teaching them letter names (Evans et al., 2000). Lower levels of teaching at home by mothers with a high SES may reflect the mothers' confidence that the home itself provides a rich enough literacy and numeracy environment, such as by having a lot of books and by the child seeing his or her parents read, as well as by making frequent visits to the local library (Saracho, 1997). In contrast, mothers with a low SES have greater confidence in the benefits of teaching their children school-related content at home, which also requires less time and resources (DeBaryshe, 1995; Tracey & Young, 2002).

Mothers' and fathers' learning difficulties. The results of Study I showed that mothers' own difficulties in math positively predicted their teaching math to their children at home during 1st grade, indicating an attempt to prevent their children from repeating their own failure in math. This fact is also supported in the literature (Skwarchuk, 2009). However, no association was found between mothers' reading difficulties and teaching their children to read. One possible explanation for this is that acquiring reading skills differs from acquiring math skills. For instance, once a child masters the basics of reading and writing, reading skills develop rapidly, especially among Finnish children as the majority of them, due to the transparent nature of the language, learn to read before the end of Grade 1 (Leppänen et al., 2004; Lerkkanen et al., 2004). Consequently, parents seldom think they need to help their children with reading. However, with respect to math, there is no obvious point beyond which parents may conclude that their child has finally acquired the skill (Aunola et al., 2004), which may be the case in learning to read (i.e., decoding). Thus, mothers who experienced difficulties in math during their own school career may be more sensitive to their children's math performance during Grade 1 compared to mothers who have experienced reading difficulties.

Parents' gender. The results of the dissertation showed that mothers taught more reading to their children at home during kindergarten and Grade 1, and more mathematics during Grade 1, than fathers did (Study I). This fact is in accordance with what is commonly believed, but, as far as I know, has never been tested empirically. The results also indicated that mothers react to poor performance on the part of their child by providing more help than fathers do

(Study IV). Also, mothers' helping behavior was found to show more inter-individual stability than fathers' help across Grades 1-2 (Study IV).

3.4 Antecedents of the development of reading skills

The findings of Study II showed that girls, firstborns, and children with more highly educated mothers are more likely than other children to develop their reading skills substantially by the end of the kindergarten year. The results showed that, for example, the higher educated children's mothers were, the more rapidly children's reading skills developed during the kindergarten year (Study II). This result is in line with research findings by others (Leppänen et al., 2004; Scarborough & Dobrich, 1994; Torppa et al., 2006) stating that children of more highly educated parents score higher regarding literacy and math skills. These findings are not surprising given that children from highly educated families grow up in literacy- and numeracy-rich home environments.

The results also showed that firstborns have a greater probability of being precocious readers than nonreaders (Study II). This can be explained by the fact that mothers involve themselves significantly more in reading-related activities with their firstborns than with their subsequent children (Castro et al., 2002; Raikes et al., 2006; Westerlund & Lagerberg, 2008). This was also the case in the featured Study II: Firstborns received more maternal teaching of letters and reading, and were read to more often, than subsequent children. Previous research has also shown that mothers provide less stimulation for intellectual activities at home to their subsequent children than to their firstborns (Belmont & Marolla 1973; Blake, 1981).

The results of Study II showed that girls were likely to be better readers than boys were. This finding is in line with other studies indicating that, in the early school years, girls outperform boys in reading skills (Lynch, 2002; Phillips et al., 2002). The results showed further that, in kindergarten, girls received significantly more maternal home-based teaching of letters and teaching of reading than boys did. The fact that mothers teach their girls more might be one of the reasons why girls, in more cases than boys, develop their reading skills considerably by the end of kindergarten. However, the results also showed that mothers read equally often to their boys and girls.

4 LIMITATIONS

The results of this dissertation should be interpreted with caution. *First*, the four studies on which the dissertation is based were carried out in a particular cultural and social environment, Finland. According to the ecological systems theory, distal factors (e.g., socioeconomic, cultural) influence the relationship between parental home-based involvement and children's skill development. For instance, because of differences in educational systems, the association between home-based involvement and children's performance in reading and mathematics may follow a different pattern in other cultural and educational environments (Chao, 1994; Power, Kobayashi-Winata, & Kelley, 1992). In Finland, children start primary school at the age of 7, that is, the transition from kindergarten to primary school takes place later than in most other countries.

Also, the present study was carried out regarding Finnish-speaking children. The regular orthography of the Finnish language may influence the level of children's reading abilities and subsequently parents' reading-related activities with their children (Aro & Wimmer, 2003). Because of the transparent orthography of the Finnish language, the majority of Finnish children learn to read within the first half-year of Grade 1, some even before that (Leppänen et al., 2004; Lerkkanen et al., 2004). As learning to read in Finnish is a relatively quick and easy task compared to learning to read in English, for example, Finnish parents possibly do not worry about teaching reading at home to the same extent that parents in other language environments might. Consequently, one needs to be careful in generalizing the results of the present thesis to languages for which more time to learn the basics of decoding is required.

Second, self-report questionnaires were used to measure parental home-based involvement and background characteristics (e.g., learning difficulties). This has several implications for the results. For example, the measures of the frequency and the types of parental home-based involvement may not cover the full richness of children's literacy and numeracy environment at home. However, measures similar to the ones reported in this dissertation have been used in previous studies (e.g., Haney & Hill, 2002; Hood et al., 2008; Sénéchal & LeFevre, 2002). Also, parents' reading-related activities assessed by self-reports

may be a less valid instrument than home observations (Tracey & Young, 2002) or the diary method (Pomerantz & Eaton, 2001; Aunola & Nurmi, 2007). That is, the data may have been distorted by social desirability. Also, the results may be biased due to habits of responding or the abilities of certain socioeconomic groups to provide accurate answers (Dickinson & DeTemple, 1998).

Third, the variables used in Study II and Study III to assess mothers' reading-related activities were measured using single items, which may not reflect the richness of the constructs, and be quite unreliable. However, similar measures have been used in previous studies (e.g., Haney & Hill, 2004). In their meta-analysis, Bus et al. (1995) reported that the strength of the relation between shared reading and children's reading is similar whether a single item or a composite measure is used.

Finally, other factors that were not studied in the present dissertation may also have had an influence on parents' home-based involvement and children's academic development. For example, parenting styles (Aunola & Nurmi, 2004) or parents' beliefs, such as parents' expectations of their children's academic outcomes, may affect the parents' home-based activities with their children (Aunola et al., 2003; Fan & Chen, 2001; Morrison & Cooney, 2002). Other factors that might be reflected in parents' home-based involvement are parents' values (Tulviste & Ahtonen, 2007) and trust toward their children's teacher (see Lerkkanen, Kikas, Pakarinen, Poikonen, & Nurmi, in press). For instance, how parents value their children's education may influence their interpretation of their children's academic achievement as well as their involvement in their children's school work (Lareau, 2000).

5 PRACTICAL IMPLICATIONS

This dissertation also has some practical implications. *First*, the results of the present dissertation showed that during the kindergarten year, children with relatively good early reading skills received more home-based teaching of reading and shared reading from their parents than did the children with less skills. Also, parents' teaching of reading at home contributed to the development of children's reading skills in kindergarten. By contrast, when children moved up to Grade 1, in particular children who showed less reading skills began to receive more attention from their parents. This indicates that parents' role in the development of children's reading skills is particularly important during the kindergarten year. As low pre-reading skills before school entry may be a signal that children will encounter challenges in reading in Grade 1, parents should engage in reading-related activities with their children when they notice that the child exhibits poor literacy skills. Reading-related activities may include informal exposure to books, print, and language (e.g., reading to a child, playing with sounds, rhymes, letters, and words). By engaging in reading-related activities with their children, parents can provide a good springboard for their children's academic career (e.g., promote motivation for learning, early reading skills, self-concept of ability) which will help their children not to lag behind their peers in early primary grades. Similarly, parents may want to engage into math-related activities at home before their child enters Grade 1. Activities focusing both on numbers (e.g., counting objects, practicing number names, printing numbers) and real-world tasks (e.g., playing card and board games that involve numbers, and even cooking that involves measurements) can promote early numeracy.

Second, teachers should view parents as partners in facilitating children's learning (see Bronfenbrenner, 1979; NAEYC, 2009). The lack of a positive association between parents' involvement and their children's skill development during the first few grades of primary school suggests a need for the provision of professional advice and guidance for some of the parents who feel they need to give their child extra academic support at home. Many parents lack knowledge of the key principles of teaching and instruction and are,

therefore, very likely to benefit from tips on how to improve their child's academic development and support their learning.

Third, the results of this dissertation showed that being a girl (vs. boy), a firstborn (vs. being born later), and having a more highly educated mother increased the odds of being a good reader as early as by the end of kindergarten. These results suggest that less educated parents should be a particular target group for any intervention. They should be encouraged to engage in reading-related activities with their child as one way to help their child. Moreover, mothers should be encouraged to engage in reading-related activities with children born later (vs. firstborns) and with their sons (vs. daughters).

Finally, the system used to teach reading in Finland has been reformed (Lerkkanen, 2007). The parents of the present sample of children were most likely taught by means of a letter-based system, whereas nowadays children are taught using phoneme-based reading instruction. A major methodological difference between being taught at school and at home might confuse some children, particularly in the early stages of learning to read. Therefore, teachers should inform parents about how they teach reading at school and what they expect the parents to be able to do at home to best support their children's skill development.

6 FUTURE DIRECTIONS

The results of this dissertation also suggest some future directions for research on parental home-based involvement and children's academic skills. *First*, parental involvement in their children's homework was measured by parents' self-reports. As self-reports do not allow the social desirability effect to be controlled for, observational studies on the topic are needed as well. This would enable the assessment not only of parental perceptions of their involvement, but would also shed light on what is actually happening in everyday parent-child interaction that can enhance or suppress children's academic development. Moreover, there is a great need to develop measures that more precisely capture parental literacy- and numeracy-related behaviors at home and the characteristics of a good literacy and numeracy environment.

Second, the results of the study possibly depend on the kind of outcome measures that were used. For instance, the fact that variables of parental involvement negatively predict children's academic skills in Grades 1 and 2 may be due to the limited amount of variables related to children's skills. For instance, previous research has indicated that academic achievement in terms of a global indicator such as GPA (grade point average) is more strongly related to measures of parents' involvement in comparison to subject-specific indicators (e.g., reading or math skills; Fan & Chen, 2001). In these studies, only children's word reading and math skills were measured. Consequently, other aspects of academic skills were not investigated. Therefore, future studies should include measures of other kinds of academic skills, such as reading comprehension and complex math skills, as well as measures of motivation.

Third, the studies only spanned the school career from kindergarten to Grade 2. An interesting future research question to examine would be whether the association between type of parental involvement and children's academic performance changes as children proceed further along their educational paths. It has been shown, however, that parental involvement decreases with children's age. This may be due to the fact that parents are able to help their child in mastering the basics of reading or math, but they may not be able to

help their child with, for example, more advanced math tasks or in some other subject areas (e.g., chemistry, physics, foreign languages).

Finally, the studies in the present dissertation only showed cross-lagged associations between parents' home-based involvement and their children's academic performance. However, future research should seek to identify the major mechanisms through which parental home-based activities contribute to children's learning. For instance, the questionnaire did not include questions about parents' rationales for increasing or decreasing their reading-related activities; this remains a challenge for future research. Also, the studies did not examine the role of motivation in children's learning process in the home environment, which would be another interesting factor to investigate in future research.

7 CONCLUSIONS

The main results of this dissertation suggest that parental home-based involvement is related to children's reading and math skills differently in kindergarten as compared to primary school. In kindergarten, parents provide more teaching of reading, shared reading and teaching of math to their children if their children have relatively good early reading and math skills. By contrast, when children move up to the 1st grade, both mothers' and fathers' greater involvement in their children's homework is a reaction to their children's poor performance at the beginning of the school career. The results show that the teaching of reading at home contributes to the development of children's reading skills during kindergarten, whereas parental home-based involvement during the 1st grade is less beneficial.

SUMMARY IN FINNISH (TIIVISTELMÄ)

Tässä väitöskirjatutkimuksessa tarkasteltiin vanhempien sitoutumisen (ts. missä määrin vanhemmat tukivat ja opettivat lapsilleen lukemiseen ja matematiikkaan liittyviä taitoja kotona) yhteyttä lasten lukutaidon ja matematiikan taitojen kehitykseen esi- ja alkuopetuksen aikana. Tavoitteena oli selvittää: (1) Missä määrin lasten kehittyvä lukutaito ja laskutaito ennustavat vanhempien kotiympäristössä tapahtuvaa sitoutumista lasten taitojen tukemiseen esi- ja alkuopetuksessa? (2) Missä määrin vanhempien sitoutuminen lasten taitojen tukemiseen esi- ja alkuopetuksen aikana ennustaa lasten myöhempää akateemisten taitojen kehitystä? ja (3) Mitkä tekijät ennustavat vanhempien sitoutumista ja lasten akateemisia taitoja?

Väitöstutkimus koostui neljästä osatutkimuksesta. Tutkimuksissa käytettiin kahden laajan pitkittäisseurannan tutkimusaineistoa. Ensimmäinen tutkimusaineisto oli osa Koulutaitojen ja motivaation kehitys - tutkimusta (Jyväskylä Entrance into Primary School). Tässä aineistossa lapsia (n = 207) ja heidän vanhempiaan seurattiin lasten siirtyessä esiopetuksesta kouluun. Toinen tutkimusaineisto oli osa Alkuportaati-seurantatutkimusta (First Steps study), jossa seurattiin noin 2000 lasta vanhempineen esiopetuksessa ja koulun ensimmäisillä luokilla. Molemmissa seurantatutkimuksissa sekä äidit että isät vastasivat joka kevät kyselyyn koskien kotiympäristössä tapahtuvaa lapsen akateemisten taitojen tukemista ja opettamista. Lasten taitoja testattiin esiopetuksen alussa ja lopussa sekä 1. ja 2. luokan päätyessä.

Tulokset osoittivat, että vanhempien sitoutuminen oli eri tavalla yhteydessä lasten taitojen kehitykseen esiopetusvaiheessa kuin kouluiässä. Mitä parempi lasten lukutaito oli, sitä enemmän vanhemmat lukivat lapsille ja opettivat heille lukemista esiopetuksen aikana. Sen sijaan mitä heikompi lukutaito ja matematiikan taidot lapsilla oli ensimmäisellä luokalla, sitä enemmän vanhemmat lukivat lapselle ja opettivat lasta lukemaan kouluiässä. Vastaavasti mitä heikompi lukutaito ja matematiikan taidot lapsilla oli ensimmäisen luokan alussa, sitä enemmän vanhemmat seurasivat lastensa kotitehtävien tekoa ja auttoivat lasta kotitehtävissä 1.-2. luokan aikana.

Tulokset osoittivat, että vanhemmat mukauttivat omaa toimintaansa suhteessa lasten taitotasoon sen jälkeen, kun lapset menivät kouluun. Havaittiin, että äitien suorittama lukemaan opettaminen ennusti vahvemmin lasten lukutaidon kehitystä esiopetuksessa kuin äidin lapselle lukeminen tai äidin suorittama kirjainten opettaminen. Havaittiin myös, että mitä matalampi sosioekonominen status vanhemmillä oli, sitä enemmän he opettivat lapsille kotona lukemista ja matematiikkaa. Lisäksi tytöillä, perheen ensimmäisillä lapsilla ja korkeasti koulutettujen äitien lapsilla oli muita parempi lukutaito esiopetuksen päätyessä. Tämän tutkimuksen tulokset antavat viitteitä siitä, että vanhempien sitoutuminen ja lasten saama vanhempien tuki on erityisen hyödyllistä lasten akateemisten taitojen kehitykselle lasten ollessa esiopetuksessa.

REFERENCES

- Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. (2nd ed.). Cambridge, MA: The MIT Press.
- Adams, K. S., & Christenson, S. L. (2000). Trust and the family-school relationship examination of parent-teacher differences in elementary and secondary grades. *Journal of School Psychology, 38*, 477-497.
- Ahonen, T., & Holopainen, L. (2002). Erityiset oppimisvaikeudet. [Special learning disabilities]. In M. Jahnukainen (Ed.), *Lasten erityishuolto ja opetus Suomessa* (pp. 239-249) Helsinki: Lastensuojelun keskusliitto.
- Allen, L., Cipielewski, J., & Stanovich, K. E. (1992). Multiple indicators of children's reading habits and attitudes: Construct validity and cognitive correlates. *Journal of Educational Psychology, 84*, 489-503.
- Aro, M., & Wimmer, H. (2003). Learning to read: English in comparison to six more regular orthographies. *Applied Psycholinguistics, 24*, 621-635.
- Aunola, K., Leskinen, E., Lerkkanen, M.-K., & Nurmi, J.-E. (2004). Developmental dynamics of math performance from preschool to Grade 2. *Journal of Educational Psychology, 96*, 699-713.
- Aunola, K., Leskinen, E., Onatsu-Arvilommi, T., & Nurmi, J.-E. (2002). Three methods of studying developmental change: A case of reading skills and self-concept. *British Journal of Educational Psychology, 72*, 343-364.
- Aunola, K., & Nurmi, J.-E. (2004). Maternal affection moderates the impact of psychological control on a child's mathematical performance. *Developmental Psychology, 40*, 965-978.
- Aunola, K., & Nurmi, J.-E. (2007). VALO [The Light Study: Parents, teachers, and children's learning study]. University of Jyväskylä, Finland.
- Aunola, K., Nurmi, J.-E., Lerkkanen, M.-K., & Rasku-Puttonen, H. (2003). The roles of achievement-related behaviors and parental beliefs in children's mathematical performance. *Educational Psychology, 23*, 403-421.
- Bell, R. Q. (1968). A reinterpretation of the direction of effects in studies of socialization. *Psychological Review, 75*, 81-95.
- Belmont, L., & Marolla, F. A. (1973). Birth order, family size, and intelligence. *Science, 198*, 1096-1101.
- Blake, J. (1981). Family size and the quality of children. *Demography, 18*, 421-442.
- Blevins-Knabe, B., Austin, A. M. B., Musun, L., Eddy, A., & Jones, R. M. (2000). Family home care providers' and parents' beliefs and teachings concerning mathematics with young children. *Early Child Development and Care, 165*, 41-58.
- Blevins-Knabe, B., & Musun-Miller, L. (1996). Number use at home by children and their parents and its relationship to early mathematical performance. *Early Development and Parenting, 5*, 35-45.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

- Bronstein, P. (1984). Differences in mothers' and fathers' behaviors toward children: A cross-cultural comparison. *Developmental Psychology, 20*, 995-1003.
- Burgess, S. R. (1997). The role of shared reading in the development of phonological awareness: A longitudinal study of middle to upper class children. *Early Child Development and Care, 127-128*, 191-199.
- Burgess, S. R., & Lonigan, C. K. (1998). Bidirectional relations of phonological sensitivity and prereading abilities: Evidence from a preschool sample. *Journal of Experimental Child Psychology, 70*, 117-141.
- Bus, A. G., van IJzendoorn, M. H., & Pellegrini, A. D. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy. *Review of Educational Research, 65*, 1-21.
- Byrnes, J.P., & Wasik, P.A. (2009). Factors predictive of mathematics achievement in kindergarten, first and third grades: An opportunity-propensity analysis. *Contemporary Educational Psychology, 34*, 167-183.
- Castro, D. C., Lubker, B. B., Bryant, D. M., & Skinner, M. (2002). Oral language and reading abilities of first-grade Peruvian children: Associations with child and family factors. *International Journal of Behavioral Development, 26*, 334-344.
- Chao, R. K. (1994). Beyond parental control and authoritarian parenting style: Understanding Chinese parenting through the cultural notion of training. *Child Development, 65*, 1111-1119.
- Chen, C., & Stevenson, H. W. (1989). Homework: A cross-cultural examination. *Child Development, 60*, 551-561.
- Christian, K., Morrison, F. J., & Bryant, F. B. (1998). Predicting kindergarten academic skills: Interaction among child care, maternal education, and family literacy environments. *Early Childhood Research Quarterly, 13*, 501-521.
- Cooper, H., Lindsay, J. J., & Nye, B. (2000). Homework in the home: How student, family, and parenting-style differences relate to the homework process. *Contemporary Educational Psychology, 25*, 464-487.
- Coplan, R. J., Barber, A. M., & Lagace-Seguin, D. G. (1999). The role of child temperament as a predictor of early literacy and numeracy skills in preschoolers. *Early Childhood Research Quarterly, 14*, 537-553.
- DeBaryshe, B. (1995). Maternal belief system: linchpin in the home reading process. *Journal of Applied Developmental Psychology, 16*, 1-20.
- de Jong, P. F., & Leseman, P. P. M. (2001). Lasting effects of home literacy on reading achievement in school. *Journal of School Psychology, 39*, 389-414.
- Dickinson, D. K., & DeTemple, J. (1998). Putting parents in the picture: Maternal reports of preschool literacy as a prediction of early reading. *Early Childhood Research Quarterly, 13*, 41-261.
- Echols, L. D., West, R. F., Stanovich, K. E., & Zehr, K. S. (1996). Using children's literacy activities to predict growth in verbal cognitive skills: A longitudinal investigation. *Journal of Educational Psychology, 88*, 296-304.

- El Nokali, N. E., Bachman, H. J., & Votruba-Drzal, E. (2010). Parent involvement and children's academic and social development in elementary school. *Child Development, 81*, 988-1005.
- Else-Quest, N. M., Hyde, J. S., & Linn, M. C. (2010). Cross-national patterns of gender differences in mathematics and gender equity: A meta-analysis. *Psychological Bulletin, 136*, 103-127.
- Entwisle, D. R., Alexander, K. L. (1990). Beginning school math competence: Minority and majority comparisons. *Child Development, 61*, 454-471.
- Epstein, J. L., & Sheldon, S. (2002). Present and accounted for: Improving student attendance through family and community involvement. *Journal of Educational Research, 95*, 308-318.
- Evans, M. A., Show, D., & Bell, M. (2000). Home literacy activities and their influence on early literacy skills. *Canadian Journal of Experimental Psychology, 54*, 67-75.
- Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational Psychology Review, 13*, 1-22.
- Flouri, E. (2005). *Fathering and child outcomes*. Chichester, UK: Wiley.
- Flouri, E., & Buchanan, A. (2003). What predicts fathers' involvement with their children? A prospective study of intact families. *British Journal of Developmental Psychology, 21*, 81-98.
- Foy, J. G., & Mann, V. (2003). Home literacy environment and phonological awareness in preschool children: Differential effects for rhyme and phoneme awareness. *Applied Psycholinguistics, 24*, 59-88.
- Frijters, J. C., Barron, R. W., & Brunello, M. (2000). Direct and mediated influences of home literacy and literacy interest on prereaders' oral vocabulary and early written language skill. *Journal of Educational Psychology, 92*, 466-477.
- Frome, P. M., & Eccles, J. S. (1998). Parents' influence on children's achievement-related perceptions. *Journal of Personality and Social Psychology, 74*, 435-452.
- Fuchs, L. S., Fuchs, D., Compton, D. L., Powell, S. R., Seethaler, P. M., Capizzi, C., . . . Fletcher, J. M. (2006). The cognitive correlates of third-grade skill in arithmetic, algorithmic computation, and arithmetic word problems. *Journal of Educational Psychology, 98*, 29-43.
- Geary, D. C., Hamson, C. O., & Hoard, M. K. (2000). Numerical and arithmetical cognition: A longitudinal study of process and concept deficits in children with learning disability. *Journal of Experimental Child Psychology, 77*, 236-263.
- Georgiou, S. N. (1999). Parental attributions as predictors of involvement and influences on child achievement. *British Journal of Educational Psychology, 69*, 409-429.
- Ginsburg, G. S., & Bronstein, P. (1993). Family factors related to children's intrinsic/extrinsic motivational orientation and academic performance. *Child Development, 64*, 1461-1474.

- Green, C. L., Walker, J. M. T., Hoover-Dempsey, K. V., & Sandler, H. M. (2007). Parents' motivations for involvement in children's education: An empirical test of a theoretical model of parental involvement. *Journal of Educational Psychology, 99*, 535-544.
- Griffin, E. A., & Morrison, F. J. (1997). The unique contribution of home literacy environment to differences in early literacy skills. *Early Child Development and Care, 127*, 33-243.
- Grolnick, W. S., & Pomerantz, E. M. (2009). Issues and challenges in studying parental control: Toward a new conceptualization. *Child Development Perspectives, 3*, 165-170.
- Grolnick, W. S. & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence at school. *Journal of Educational Psychology, 81*, 143-154.
- Guo, G., & Harris, K. M. (2000). The mechanisms mediating the effects of poverty on children's intellectual development. *Demography, 37*, 431-447.
- Halpern, D. F. (1997). Sex differences in intelligence: Implications for education. *American Psychologist, 52*, 1091-1102.
- Halpern, D. F., & LaMay, M. L. (2000). The smarter sex: A critical review of sex differences in intelligence. *Educational Psychology Review, 12*, 229-246.
- Haney, M., & Hill, J. (2004). Relationships between parent-teaching activities and emergent literacy in preschool children. *Early Child Development and Care, 174*, 215-228.
- Harper, S. N., & Pelletier, J. P. (2008). Gender and language issues in assessing early literacy: Group differences in children's performance on the test of early reading ability. *Journal of Psychoeducational Assessment, 26*, 185-194.
- Hartup, W. W., & Laursen, B. (1991). Relationships as developmental contexts. In: R. Cohen & A. W. Siegel (Eds.), *Context and Development* (pp. 253-279). Hillsdale: Lawrence Erlbaum Associates.
- Hirvonen, R., Georgiou, G. K., Lerkkanen, M.-K., Aunola, K., & Nurmi, J.-E. (2010). Task-focused behaviour and literacy development: A reciprocal relationship. *Journal of Research in Reading, 33*, 302-319.
- Hoglund, W. L. G., Jones, S. M., Aber, J. L., & Brown, J. L. (2009, April). Family home- and school-based involvement in the inner-city context: Transactions with child school adjustment. In *Family involvement in schooling among racially/ethnically diverse, low-income families: Determinants and child school adjustment*. Symposium conducted at the biennial meeting of the Society for Research in Child Development, Denver, Colorado, USA.
- Holopainen, L., Ahonen, T., & Lyytinen, H. (2001). Predicting delay in reading achievement in a highly transparent language. *Journal of Learning Disabilities, 34*, 401-413.
- Holopainen, L., Ahonen, T., Tolvanen, A., & Lyytinen, H. (2000). Two alternative ways to model the relation between reading accuracy and phonological awareness at preschool age. *Scientific Studies of Reading, 4*, 77-100.

- Hood, M., Conlon, E., & Andrews, G. (2008). Preschool home literacy practices and children's literacy development: A longitudinal analysis. *Journal of Educational Psychology, 100*, 252-271.
- Hoover-Dempsey, K. V., Battiato, A. C., Walker, J. M. T., Reed, R. P., DeJong, J. M., & Jones, K. P. (2001). Parental involvement in homework. *Educational Psychologist, 36*, 195-209.
- Hoover-Dempsey, K. V., & Sandler, H. M. (1995). Parental involvement in children's education: Why does it make a difference? *Teacher's College Record, 97*, 310-331.
- Hoover-Dempsey, K. V., & Sandler, H. M. (1997). Why do parents become involved in their children's education? *Review of Educational Research, 67*, 3-42.
- Huntsinger, C. S., Jose, P. E., Larson, S. L., & Krieg, D. B. (2000). Mathematics, vocabulary, and reading development in Chinese American and European American children over the primary school years. *Journal of Educational Psychology, 92*, 745-760.
- Hyde, J. S., Fennema, E., & Lamon, S. J. (1990). Gender differences in mathematics performance: A meta-analysis. *Psychological Bulletin, 107*, 139-155.
- Hyde, J. S., Lindberg, S. M., Linn, M. C., Ellis, A., & Williams, C. (2008). Gender similarities characterize math performance. *Science, 321*, 494-495.
- Jeynes, W. H. (2005). A meta-analysis of the relation of parental involvement to urban elementary school student academic achievement. *Urban Education, 40*, 237-269.
- Jordan, N. C., Kaplan, D., Oláh, L. N., & Locuniak, M. N. (2006). Number sense growth in kindergarten: A longitudinal investigation of children at risk for mathematics difficulties. *Child Development, 77*, 153-175.
- Kikas, E., Peets, K., Palu, A., & Afanasjeva, J. (2009). The role of individual and contextual factors in the development of maths skills. *Educational Psychology, 29*, 541-560.
- Kirby, J. R., Parrila, R. K., & Pfeiffer, S. L. (2003). Naming speed and phonological awareness as predictors of reading development. *Journal of Educational Psychology, 95*, 453-464.
- Koponen, T., Aunola, K., Ahonen, T., & Nurmi, J.-E. (2007). Cognitive predictors of single-digit and procedural calculation skills and their covariation with reading skill. *Journal of Experimental Child Psychology, 97*, 220-241.
- Krajewski, K., & Schneider, W. (2009a). Exploring the impact of phonological awareness, visual-spatial working memory, and preschool quantity-number competencies on mathematics achievement in elementary school: Findings from a 3-year longitudinal study. *Journal of Experimental Child Psychology, 103*, 516-531.
- Krajewski, K., & Schneider, W. (2009b). Early development of quantity to number-word linkage as a precursor of mathematical school achievement

- and mathematical difficulties: Findings from a four-year longitudinal study. *Learning and Instruction*, 19, 513–526.
- Kristjánsson, Á. L., & Sigfúsdóttir, I. D. (2009). The role of parental support, parental monitoring, and time spent with parents in adolescent academic achievement in Iceland: A structural model of gender differences. *Scandinavian Journal of Educational Research*, 53, 481–496.
- Kuppens, S., Grietens, H., Onghena, P., & Michiels, D. (2009). Measuring parenting dimensions in middle childhood: Multitrait-multimethod analysis of child, mothers, and father ratings. *European Journal of Psychological Assessment*, 25, 133–140.
- Laakso, M.-L., Poikkeus, A.-M., & Lyytinen, P. (1999). Shared reading interaction in families with and without genetic risk for dyslexia: implications for toddlers' language development. *Infant and Child Development*, 8, 179–195.
- Lareau, A. (2000). Social Class and the daily lives of children. *Childhood*, 7, 155–171.
- Lareau, A. (2002). Invisible inequality: Social class and childrearing in black families and white families. *American Sociological Review*, 67, 747–776.
- Leahey, E., & Guo, G. (2001). Gender differences in mathematical trajectories. *Social Forces*, 80, 713–732.
- LeFevre, J.-A., Clarke, T., & Stringer, A. P. (2002). Influences of language and parental involvement on the development of counting skills: Comparisons of French- and English-speaking Canadian children. *Early Child Development and Care*, 172, 283–300.
- LeFevre, J., Fast, L., Skwarchuk, S. L., Smith-Chant, B. L., Bisanz, J., Kamawar, D., & Penner-Wilger, M. (2010a). Pathways to mathematics: Longitudinal predictors of performance. *Child Development*, 81, 1753–1767.
- LeFevre, J.-A., Polyzoi, E., Skwarchuk, S.-L., Fast, L., & Sowinski, C. (2010b). Do home numeracy and literacy practices of Greek and Canadian parent predict the numeracy skills of kindergarten children? *International Journal of Early Years Education*, 18, 55–70.
- Lemaire, P., & Siegler, R. S. (1995). Four aspects of strategic change: Contributions to children's learning of multiplication. *Journal of Experimental Psychology: General*, 124, 83–97.
- Leppänen, U., Niemi, P., Aunola, K., & Nurmi, J.-E. (2004). Development of reading skills among preschool and primary school pupils. *Reading Research Quarterly*, 39, 72–93.
- Lerkkanen, M.-K. (2007). The beginning phases of reading literacy instruction in Finland. In P. Linnakylä, & I. Arffman, (Eds.), *Finnish reading literacy. When quality and equity meet*, (pp. 154–173). University of Jyväskylä. Institute for Educational Research.
- Lerkkanen, M.-K., Ahonen, T., & Poikkeus, A.-M. (2011). The development of reading skills and motivation and identification of risk at school entry. In E. Hujala, E. Kikas, P.K. Smith, M. Veisson, & M. Waniganayake (Eds.). *Global perspectives in early childhood education: Diversity, challenges and*

- possibilities. *Baltische Studien zur Erziehungs- und Sozialwissenschaft*. (pp. 237–258). Frankfurt am Main: Peter Lang.
- Lerkkanen, M.-K., Kikas, E., Pakarinen, E., Poikonen, & Nurmi, J.-E. (in press). Mothers' Trust Toward Teachers in Relation to Teaching Practices. *Early Childhood Research Quarterly*.
- Lerkkanen, M.-K., Niemi, P., Poikkeus, A.-M., Poskiparta, M., Siekkinen, M., & Nurmi, J.-E. (2006). *The First Steps Study [Alkuportaati]*, ongoing. University of Jyväskylä. Finland.
- Lerkkanen, M.-K., Rasku-Puttonen, H., Aunola, K., & Nurmi, J.-E. (2004). Predicting reading performance during the first and the second year of primary school. *British Educational Research Journal*, 30, 67–92.
- Leseman, P. P. M., & de Jong, P. F. (1998). Home literacy: Opportunity, instruction, cooperation and social-emotional quality predicting early reading achievement. *Reading Research Quarterly*, 33, 294–318.
- Levin, I., Levy-Shiff, R., Applebaum-Peled, T., Katz, I., Komar, M., & Meiran, N. (1997). Antecedents and consequences of maternal involvement in children's homework: A longitudinal analysis. *Journal of Applied Developmental Psychology*, 18, 207–227.
- Lewis, A. C. (2000). "Playing" with equity and early education. *Phi Delta Kappan*, 1, 563–564.
- Lindberg, S. M., Hyde, J. S., & Hirsch, L. M. (2008). Gender and mother-child interactions during mathematics homework. *Merrill-Palmer Quarterly*, 54, 232–255.
- Logan, S., & Johnson, R. (2009). Gender differences in reading ability and attitudes: Examining where those differences lie. *Journal of Research in Reading*, 32, 199–214.
- Lonigan, C. J. (1994). Reading to preschoolers exposed: Is the emperor really naked? *Developmental Review*, 14, 303–323.
- Lonigan, C. J., Burgess, S. R., & Anthony, J. L. (2000). Development of emergent literacy and early reading skills in preschool children: evidence from a latent-variable longitudinal study. *Developmental Psychology*, 36, 596–613.
- Lynch, J. (2002). Parents' self-efficacy beliefs, parents' gender, children's readers self-perceptions, reading achievement and gender. *Journal of Research in Reading*, 25, 54–67.
- Lyytinen, H., Erskine, J., Tolvanen, A., Torppa, M., Poikkeus, A.-M., & Lyytinen, P. (2006). Trajectories of reading development: A follow-up from birth to school age of children with and without risk for dyslexia. *Merrill-Palmer Quarterly*, 52, 514–546.
- Manolitsis, G., Georgiou, G., & Parrila, R. (2011). Revisiting the home literacy model of reading development in an orthographically consistent language. *Learning and Instruction*, 21, 496–505.
- Manolitsis, G., Georgiou, G., Stephenson, K., & Parrila, R. (2009). Beginning to read across languages varying in orthographic consistency: Comparing the effects of non-cognitive and cognitive predictors. *Learning and Instruction*, 19, 466–480.

- Marcon, R. A. (1999). Positive relationships between parent school involvement and public school intercity preschoolers' development and academic performance. *School Psychology Review*, 28, 395-412.
- Marjoribanks, K. (1996). Family socialization and children's school outcomes: an investigation of a parenting model. *Education Studies*, 22, 3-11.
- McClelland, M., & Morrison, F. (2003). The emergence of learning-related social skills in preschool children. *Early Childhood Research Review Quarterly*, 18, 206-224.
- Melhuis, E. (2010). Why children, parents and home learning are important. In K. Sylva, E. Melhuish, P. Sammons, I. Siraj-Blatchford, & B. Taggart, B. (Eds.), *Early childhood matters. Evidence from the effective pre-school and primary education project* (pp. 44-69). London: Routledge.
- Morrison, F. J. (2009). Parenting and academic development. *Merrill-Palmer Quarterly*, 55, 361-372.
- Morrison, F. J., Bachman, H. J., & Connor, C. M. (2005). *Improving Literacy In America: Guidelines From Research*. Yale University Press.
- Morrison, F. J., & Cooney, R. R. (2002). Parenting and academic achievement: Multiple paths to early literacy. In J. G. Borkowski, S. L. Ramey, & M. Bristol-Power (Eds.), *Parenting and the child's world: Influences on academic, intellectual, and social-emotional development* (pp. 141-160). Mahwah, NJ: Erlbaum.
- NAEYC (National Association for the Education of Young Children) (2009). Developmentally appropriate practice in early childhood programs serving children from birth through age 8. A position statement of the National Association for the Education of Young Children. Retrieved from www.naeyc.org/DAP.
- National Board of Education. (2000). Core curriculum for pre-school education in Finland 2000. Helsinki, Finland: Yliopistopaino/University Press. Retrieved from http://www.oph.fi/english/sources_of_information/publications.
- National Board of Education. (2004). National core curriculum for basic education 2004. Vammala, Finland: Vammalan Kirjapaino Oy. Retrieved from http://www.oph.fi/english/sources_of_information/publications.
- National Board of Education. (2008). Retrieved December 15, 2008, from <http://www.oph.fi/english>.
- Ng, F. F.-Y., Kenney-Benson, G. A., & Pomerantz, E. M. (2004). Children's achievement moderates the effects of mothers' use of control and autonomy support. *Child Development*, 75, 764-780.
- Nurmi, J.-E. (in press). Students' Characteristics and Teacher-child Relationships in Instruction: A Meta-analysis. *Educational Research Review*.
- Nurmi, J.-E., & Aunola, K. (1999). *Jyväskylä Entrance into Primary School study (JEPS)*. University of Jyväskylä, Finland.
- Onatsu-Arviolommi, T., & Nurmi, J.-E. (2000). The role of task-avoidant and task-focused behaviors in the development of reading and mathematical

- skills during the first school year: A cross-lagged longitudinal study. *Journal of Educational Psychology*, 93, 478–491.
- Parker, F. L., Boak, A. Y., Griffin, K.W., Ripple, C., & Peay, L. (1999). Parent-child relationship, home learning environment, and school readiness. *School Psychology Review*, 28, 413–425.
- Patall, E. A., Cooper, H., & Robinson, J. C. (2008). Parent involvement in homework: A research synthesis. *Review of Educational Research*, 78, 1039–1101.
- Peressini, D. D. (1998). The portrayal of parents in the school mathematics reform literature: Locating the context for parental involvement. *Journal for Research in Mathematics Education*, 29, 555–582.
- Phillips, L. M., Norris, S. P., Osmond, W. C., & Maynard, A. M. (2002). Relative reading achievement: A longitudinal study of 187 children from first through sixth grades. *Journal of Educational Psychology*, 94, 3–13.
- Plomin, R., & Kovas, Y. (2005). Generalist genes and learning disabilities. *Psychological Bulletin*, 131, 592–617.
- Pomerantz, E. M., & Eaton, M. M. (2001). Maternal intrusive support in the academic context: Transactional socialization processes. *Developmental Psychology*, 37, 174–186.
- Pomerantz, E. M., Moorman, E. A., & Litwack, S. D. (2007). The how, whom, and why of parents' involvement in children's academic lives: More is not always better. *Review of Educational Research*, 77, 373–410.
- Pomerantz, E. M., & Ruble, D. N. (1998). The role of maternal control in the development of sex differences in child self-evaluative actors. *Child Development*, 69, 458–478.
- Power, T. G., Koboyashi-Winata, H., & Kelley, M. L. (1992). Childrearing patterns in Japan and the United States: A cluster analytic study. *International Journal of Behavioral Development*, 15, 185–205.
- Puolakanaho, A., Ahonen, T., Aro, M., Eklund, K., Leppänen, P., Poikkeus, A.-M., ... Lyytinen, H. (2007). Very early phonological and language skills: Estimating individual risk of reading disability. *Journal of Child Psychology and Psychiatry*, 48, 923–931.
- Raikes, H., Luze, G., Brooks-Gunn, J., Raikes, H. A., Pan, B. A., Tamis-LeMonda, C. S., . . . Rodrigues, E. T. (2006). Mother-child bookreading in low-income families: Correlates and outcomes during the first three years of life. *Child Development*, 77, 924–953.
- Robinson, J. P., & Lubienski, S. T. (2011). The Development of Gender Achievement Gaps in Mathematics and Reading During Elementary and Middle School: Examining Direct Cognitive Assessments and Teacher Ratings. *American Educational Research Journal*, 48, 268–302.
- Rogers, M. A., Theule, J., Ryan, B. A., Adams, G. R., & Keating, L. (2009). Parental involvement and children's school achievement. *Canadian Journal of School Psychology*, 24, 34–57.
- Rutter, M. (1997). Nature-nurture integration: The example of antisocial behavior. *American Psychologist*, 52, 390–398.

- Saracho, O. N. (1997). Perspectives on family literacy. *Early Child Development and Care, 127-128*, 3-11.
- Saracho, O. N. (2007). Fathers and young children's literacy experiences in a family environment. *Early Child Development and Care, 177*, 403-415.
- Saxe, G. B., Guberman, S. R., & Gearhart, M. (1987). Social processes in early number development. *Monographs of the Society for Research in Child Development, 52*, 1-137.
- Scarborough, H. S. (1989). Prediction of reading disability from familial and individual differences. *Journal of Educational Psychology, 81*, 101-108.
- Scarborough, H. S. (2001). Connecting early language and literacy to later reading (dis)abilities: Evidence, theory and practice. In S. Neuman & D. Dickinson (Eds.), *Handbook of early literacy research* (pp. 97-110). New York: Guilford Press.
- Scarborough, H. S., & Dobrich, W. (1994). On the efficacy of reading to preschoolers. *Developmental Review, 14*, 245-302.
- Scarr, S., & McCartney, K. (1983). How people make their own environments: A theory of genotype → environment effects. *Child Development, 54*, 424-435.
- Sénéchal, M. (2006). Testing the home literacy model: Parent involvement in kindergarten is differentially related to grade 4 reading comprehension, fluency, spelling, and reading for pleasure. *Scientific Studies of Reading, 10*, 59-87.
- Sénéchal, M., & Cornell, E. H. (1993). Vocabulary acquisition through shared reading experiences. *Reading Research Quarterly, 28*, 360-375.
- Sénéchal, M., & LeFevre, J.-A. (2002). Parental involvement in the development of children's reading skills: A five-year longitudinal study. *Child Development, 73*, 445-460.
- Sénéchal, M., LeFevre, J.-A., Thomas, E. M., & Daley, K. E. (1998). Differential effects of home literacy experiences on the development of oral and written language. *Reading Research Quarterly, 33*, 96-116.
- Sénéchal, M., Thomas, E. M., & Monker, J. A. (1995). Individual differences in 4-year-old children's acquisition of vocabulary during storybook reading. *Journal of Educational Psychology, 87*, 218-229.
- Seymour, P. H. K., Aro, M., & Erskine, J. M. (2003). Foundation literacy acquisition in European orthographies. *British Journal of Psychology, 94*, 143-174.
- Silinskas, G., Kiuru, N., Tolvanen, A., Niemi, P., Lerkkanen, M.-K., & Nurmi, J.-E. (2012). *Patterns of maternal teaching of reading and children's reading skills: Predictors of Positive and negative associations*. Manuscript submitted for publication.
- Silvén, M., Poskiparta, E., & Niemi, P. (2004). The odds of becoming a precocious reader of Finnish. *Journal of Educational Psychology, 96*, 152-164.
- Skwarchuk, S.-L. (2009). How do parents support preschoolers' numeracy learning experiences at home? *Early Childhood Education Journal, 37*, 189-197.

- Spelke, E. S. (2005). Sex differences in intrinsic aptitude for mathematics and science? A critical review. *American Psychologist*, *60*, 950–958.
- Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Stanovich, K. E. (1986). Matthew effect in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, *21*, 360–407.
- Stanovich, K. E., West, R. F., Cunningham, A. E., Cipelewski, J., & Siddiqui, S. (1996). The role of inadequate print exposure as a determinant of reading comprehension problems. In C. Cornoldi & J. Oakhill (Eds.), *Reading comprehension difficulties. Processes and intervention* (pp. 15–32). Mahwah: Erlbaum.
- Statistics Finland. (2012). Statistical database. Retrieved from http://www.stat.fi/tup/tilastotietokannat/index_en.html.
- Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development*, *71*, 1072–1085.
- Steinberg, L., Lamborn, S. D., Dornbusch, S. M., & Darling, N. (1992). Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development*, *63*, 1266–1281.
- Stephenson, K. A., Parrila, R. K., Georgiou, G. K., & Kirby, J. R. (2008). Effects of home literacy, parents' beliefs, and children's task-focused behavior on emergent literacy and word reading skills. *Scientific Studies of Reading*, *12*, 24–50.
- Stevenson, H. W., & Newman, R. S. (1986). Long-term prediction of achievement and attitudes in mathematics and reading. *Child Development*, *57*, 646–659.
- Sylva, K. (2010). Re-thinking the evidence-base for early years policy and practice. In K. Sylva, E. Melhuish, P. Sammons, I. Siraj-Blatchford, & B. Taggart, B. (Eds.), *Early childhood matters. Evidence from the effective pre-school and primary education project*. (pp. 223–235). London: Routledge.
- Taylor, L. C., Clayton, J. D., & Rowley, S. J. (2004). Academic socialization: Understanding parental influences on children's school-related development in the early years. *Review of General Psychology*, *8*, 163–178.
- Torppa, M., Poikkeus, A.-M., Laakso, M.-L., Eklund, K., & Lyytinen, H. (2006). Predicting delayed letter knowledge development and its relation to grade 1 reading achievement among children with and without familial risk for dyslexia. *Developmental Psychology*, *42*, 1138–1142.
- Torppa, M., Poikkeus, A.-M., Laakso, M.-L., Tolvanen, A., Leskinen, E., Leppänen, P. H. T., . . . Lyytinen, H. (2007). Modeling the early paths of phonological awareness and factors supporting its development in children with and without familial risk of dyslexia. *Scientific Studies of Reading*, *11*, 73–103.
- Tracey, D. H., & Young, J. H. (2002). Mothers' helping behaviours during children's at-home oral-reading teaching: Effects of children's reading

- ability, children/s gender, and mothers' educational level. *Journal of Educational Psychology, 94*, 729-737.
- Tulviste, T., & Ahtonen, M. (2007). Child-rearing values of Estonian and Finnish mothers and fathers. *Journal of Cross-Cultural Psychology, 38*, 137-155.
- Wagner, R. K., & Torgesen, J. K. (1987). The natural of phonological processing and its causal role in the acquisition of reading skills. *Psychological Bulletin, 101*, 192-212.
- Wagner, R. K., Torgesen, J. K., & Rashotte, C. A. (1994). Development of reading-related phonological processing abilities: New evidence of bi-directional causality from a latent variable longitudinal study. *Developmental Psychology, 30*, 73-87.
- Wagner, R. K., Torgesen, J. K., Rashotte, C. A., Hecht, S. A., Barker, T. A., Burgess, S. R., . . . Garon, T. (1997). Changing relations between phonological processing abilities and word-level reading as children develop from beginning to skilled readers: A 5-year longitudinal study. *Developmental Psychology, 33*, 468-479.
- Westerlund, M., & Lagerberg, D. (2008). Expressive vocabulary in 18-month-old children in relation to demographic factors, mother and child demographics, communication style and share reading. *Child: Care, Health and Development, 34*, 257-266.
- White, K. R. (1982). The relation between socioeconomic status and academic achievement. *Psychological Bulletin, 91*, 461-481.
- White, S. B., Reynolds, P. D., Thomas, M. M., & Gitzlaff, N. J. (1993). Socioeconomic status and achievement revised. *Urban Education, 28*, 328-343.
- Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development, 69*, 848-872.
- Whitehurst, G. J., & Lonigan, C. J. (2003). Emergent Literacy: Development from prereaders to readers. In S. B. Neuman & D. K. Dickinson (Eds.), *Handbook of early literacy research* (pp. 11-29). New York: The Guilford Press.

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