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ABSTRACT

The present thesis focused on the associations between elementary grades children's achievement goal orientations, their achievement behaviour and achievement outcomes. The aims of the present thesis were threefold: first, to examine the associations between children's achievement goal orientations, achievement behaviour and skill development in the school context; second, to examine the developmental associations between children's achievement behaviour and skill development in the homework context as well as associations with parental beliefs about their child's success at school; and third, to examine subgroups of children with different profiles in the development of their achievement behaviour and skill development, as well as the potential antecedents of these developmental profiles. The present thesis is based on four datasets. The first dataset included 179 children from eight classes in Estonia. The participants were in the 2nd and 3rd grade during the first measurement and in the 3rd and 4th grade during the second measurement. The second dataset included 174 children from 16 Estonian schools, who were examined twice during the first school year – at the beginning and at the end of the 1st grade. The third and fourth dataset were the subsamples of the First Steps Study (Lerkkanen, Niemi, Poikkeus, Poskiparta, Siekkinen, & Nurmi, 2006) carried out in Finland. The third dataset included 1267 children, who were followed up from kindergarten until the 2nd grade. The fourth dataset included 448 children examined four times from kindergarten until the 2nd grade. 190 of these children had been identified as at-risk for reading disabilities at the end of their kindergarten year. The results of the present thesis show that poorer skill development creates a basis for the adoption of maladaptive goal orientations in elementary grades. Although the children's goal orientations do not seem to exert a considerable effect on their achievement behaviour, the latter does influence children's skill development with children demonstrating lower effort and higher task-avoidance levels showing poorer skill development. Lower skill development increases children's task-avoidant behaviour both in school and homework contexts. Children's task-avoidance while doing their homework seems to affect parental beliefs about children's school success which, in turn affects children's skill development. However, the associations between task-avoidant behaviour and skill development are not always negative. Applying a person-oriented approach yielded four different developmental profiles, two of which demonstrated a discrepancy from the expected negative association pattern between task-avoidant behaviour and skill development. The results indicated that the pre-reading skills predicted differences in reading fluency levels between the developmental profiles whereas children's social competence in kindergarten predicted differences in task-avoidance levels between the developmental profiles.

Keywords: achievement goals, task-avoidance, reading, math, elementary grades

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CONTENTS

1 INTRODUCTION

The theoretical basis for investigating achievement-related goals and behaviours originates from the recognition that in addition to cognitive abilities motivational and behavioural mechanisms play an important role in children's learning (Pintrich & Schunk, 2002). Children show different behavioural patterns in achievement-related situations already at an early age: some children tend to give up easily when facing difficulties while others tend to exhibit persistence in challenging tasks (Burhans & Dweck, 1995; Cain & Dweck, 1995; Diener & Dweck, 1978). What is more important, these kinds of achievement behaviours have been suggested to have a substantial impact on children's future academic achievement (e.g., Dweck & Leggett, 1988; Onatsu-Arvilommi & Nurmi, 2000).

Early elementary grades are an especially important period in the development of children's motivation as children start to receive more systematic feedback about their performance. Current motivational theories which have been used to explain students' tendency to initiate, persist at, and follow through with certain activities or tasks most prominently include, first, the *achievement goal theory* (Ames & Archer, 1988; Middleton & Midgley, 1997) emphasizing the reasons or purposes that students adopt as they engage in academic tasks, second, the *self-determination theory* (Deci & Ryan, 1985; Ryan & Deci, 2000) explaining motivation as a function of innate psychological needs, i.e., need for competence, relatedness, and autonomy, and, third, the *expectancy-value model* (Eccles, Adler, Futterman, Goff, Kaczala, Meece, & Midgley, 1983; Wigfield & Eccles, 2002) indicating that children's ability self-concepts in a specific domain directly influence their expectations of success and task value in this domain which, in turn, predict their selection of activities and level of commitment to them. These theoretical frameworks are not, however, exclusive of each other. Common to them is that they all view motivation as a multifaceted construct focusing on learners' aspirations displayed for a particular learning activity and predicting their commitment to this activity. Motivation is seen as a dynamic phenomenon, which depends on the context as well as children's own beliefs about the particular achievement situation. In the present thesis

achievement goal theory framework was adopted for investigating children's motivational orientations.

Achievement goals are viewed as exerting a direct proximal influence on students' engagement and behaviour in learning situations (Elliot & Church, 1997). The value placed on effort and persistence versus avoiding failure and succeeding with low effort has been used as the central characteristic differentiating the mastery and performance goal orientations (see Maehr & Midgley, 1996; Pintrich & Shunk, 2002). Low effort and task-avoidance are common forms of behavioural disengagement in learning contexts. Task-avoidance has been described as maladaptive achievement behaviour that students display in response to academic difficulties or challenges (Aunola, Nurmi, Niemi, Lerkkanen, & Rasku-Puttonen, 2002; Onatsu-Arvilommi & Nurmi, 2000). Task-focused behaviour on the other hand is typified by high levels of task-enjoyment, effort and persistence (Lehtinen, Vauras, Salonen, Olkinuora, & Kinnunen, 1995; Onatsu-Arvilommi & Nurmi, 2000). Trying hard, focusing on the task at hand and persisting in challenging achievement situations have been shown to be associated with high levels of academic performance and achievement (Eccles, Wigfield, & Schiefele, 1998; Murphy & Alexander, 2000) whereas avoiding challenging tasks has been documented to have a detrimental impact on children's learning (Cain & Dweck, 1995; Ho & Hau, 2008; Lackaye & Margalit, 2006; Meltzer, Katzir, Miller, Reddy, & Roditi, 2004; Meltzer, Katzir-Cohen, Miller, & Roditi, 2001; Onatsu-Arvilommi & Nurmi, 2000).

The purpose of the present thesis is to investigate the goal orientations of young children and deepen our understanding of the developmental interplay between achievement behaviour (i.e., effort; task-avoidance) and learning in school and home contexts. Math and literacy skills constitute the core domains of academic learning in the early elementary grades and thus, the analyses of the present study focused on goal orientations, achievement behaviours and skill development in these two skill areas. The more specific aims of the substudies comprising the present thesis were to, *first*, examine the associations between the children's achievement goal orientations, achievement behaviours and achievement outcomes in the school context, *second*, to examine the cross-lagged associations between children's achievement behaviour and achievement outcomes in homework contexts and associations to parental beliefs, and *third*, to examine developmental profiles of achievement behaviour and skill development and their antecedent correlates (i.e., pre-skills, parents' educational level, child's gender, child's social competence).

1.1 Achievement goals as proximal predictors of achievement behaviour and achievement outcomes

Achievement goal constructs have been defined as reasons or purposes for engaging in achievement-relevant settings (Ames, 1992). Rather than focusing on

the content of *what* people are attempting to achieve, goal orientations refer to *why* and *how* people are trying to achieve various objectives (Anderman & Maehr, 1994) while considering the standards by which the individuals judge their academic performance, success and failure (Ames, 1992). Different goal orientations result in different patterns of cognition, affect, and behavior (Dweck & Leggett, 1988; Urdan & Midgley, 2003).

Early contributions in achievement goal theory conceptualized students' goals within a dichotomous and unidimensional framework. Students' orientations toward learning and understanding, developing new skills, and mastering challenging tasks for the purpose of improving their competence were thought to represent an adaptive end of the motivational continuum, and they were labelled as *learning goals* (Dweck & Leggett, 1988), *mastery goals* (Ames, 1992), or *task-involvement* (Nicholls, 1984) by different researchers. In contrast, students' focus on outperforming their peers and publicly validating their intellectual superiority, labelled as *ability goals* (Midgley, Kaplan, Middleton, Urdan, Maehr, Hicks, Anderman, & Roeser, 1998), *performance goals* (Ames, 1992; Dweck & Leggett, 1988) or *ego-involvement* (Nicholls, 1984) were viewed to represent a maladaptive end. Whereas mastery goal orientation refers to striving for *developing* competence, the focus of performance goals orientation is on *demonstrating* one's competence.

It has been suggested that mastery oriented students perceive the outcomes to be the results of their effort whereas performance-oriented students regard them as depending on their ability (Vermetten, Lodewijks, & Vermunt, 2001). Carol Dweck and her colleagues (Dweck & Leggett, 1988; Dweck, Chiu, & Hong, 1995) proposed that goal orientations originate from individual's theories of the nature of intelligence, that is the determining factor in the adoption of either mastery or performance goals is the belief that one's intelligence is either malleable or a fixed trait respectively. The roots of these lay-theories are assumed to lie in the socialization process in which parents and teachers focus more on evaluation or on learning. This predisposes young children to adopt either an entity or incremental theory of their "goodness" or "badness" (Cain & Dweck, 1995; Heyman, Dweck, & Cain, 1992), which later differentiates into specific domains and provide precursors for goal orientations (Dweck et al., 1995). Hence, performance oriented students may choose to avoid investing effort in challenging tasks because failure in the tasks is perceived by them as indication of their low ability and is a threat to their self-worth (Covington, 2000).

In empirical studies students' performance goals have demonstrated negative, non-significant, or even positive relationships with beneficial student outcomes, such as grades and performance tests scores, which have led several researchers to call for a distinction between the approach and the avoidance properties of a performance goal (Elliot & Harackiewicz, 1996; Middleton & Midgley, 1997; Skaalvik, 1997; Urdan, 2004). Lately the approach-avoidance distinction has been proposed within mastery goals as well (Elliot, 1999; Pintrich, 2000). While mastery–approach goals entail striving to develop one's skills, ad-

vance once learning and master a task, mastery-avoidance goals have been described as a focus on striving to avoid losing one's skills and abilities, forgetting what one has learned or misunderstanding material. Mastery-avoidance goals have been presumed to be less prevalent than the other three goal constructs, especially among school-aged children (Elliot, 2007).

The present thesis applies the three component framework which distinguishes *mastery goal, performance-approach goal and performance-avoidance goal* orientations. In this framework it is assumed that students oriented toward performance-approach goals consider it important to be better than others or to demonstrate their abilities whereas those oriented towards performance-avoidance goals are concerned about the possibility that they might seem less competent than others and try to avoid that situation (Pintrich, 2003). It is also assumed that both mastery and performance-approach goal orientations can lead to a somewhat similar set of positive processes and outcomes.

Mastery goals have consistently been related to high cognitive, behavioural and motivational engagement such as high effort and persistence in challenging learning situations (Elliot, McGregor, & Gable, 1999; Wentzel, 1996; Wolters 2004), deep level learning strategies (Elliot et al., 1999; Kaplan & Midgley, 1997), intrinsic motivation and interest towards learning (Harackiewicz, Barron, Tauer, & Elliot, 2002; Linnenbrink, 2005; Middleton & Midgley, 1997; Pintrich, 2000; Wolters, 2004) as well as positive emotions (Roeser, Midgley, & Urdan, 1996). However, mastery goals are not always related to better achievement outcomes such as grades and performance test scores (Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997, 2000; Senko & Harackiewicz, 2005). The predictive utility of mastery goals on achievement outcomes may also vary with age. Mastery goals have been demonstrated to be positively related to achievement in upper elementary grades (e.g., Kaplan & Maehr, 1999; Ryan, Patrick, & Shim, 2005) but be weakly or not related at college level (see Harackiewicz et al., 2000). Children's mastery goals tend to be high in elementary grades and decline across the transition to middle school (Anderman & Midgley, 1997). Mastery goals tend to be also the most context-specific of the three goal constructs, being moderately correlated across multiple areas (Bong, 2001, 2005).

Performance-avoidance goals have in a relatively stable way predicted low motivational engagement such as procrastination and lower persistence (Wolters, 2004), avoiding seeking help (Middleton & Midgley, 1997), low intrinsic motivation (Skaalvik, 1997), high anxiety (Middleton & Midgley, 1997; Skaalvik, 1997), and poor achievement (Church, Elliot, & Gable, 2001; Skaalvik, 1997). Evidence concerning the links between performance-approach goals and achievement outcomes has been somewhat controversial. Some studies have found a positive relationship between performance-approach goals, effective learning strategies, and achievement outcomes (Church et al., 2001; Elliot & Church, 1997; Pintrich, 2000), whereas other studies have shown a negative relationship between these variables (Linnenbrink, 2005; Ryan & Pintrich, 1997; Skaalvik, 1997). Bong (2001, 2005, 2009) showed that performance-approach goals are positively related to mastery goals and self-efficacy beliefs across dif-

ferent domains. Harackiewicz and colleagues (2000, 2002) and Wolters (2004), however, demonstrated that performance-approach goals positively predict students' grades but not interest toward the subject.

Possible explanations for these somewhat contradictory results may be that performance-approach goals contribute to better outcomes among older students (Pajares, Britner, & Valiante, 2000) and when the learning tasks are relatively easy or the student feels confident about his or her capabilities (Barron & Harackiewicz, 2001; Darnon, Harackiewicz, Butera, Mugny, & Quiamzade, 2007). However, in challenging learning situations when success is not certain, performance-avoidance goals and engagement in task-avoidant behaviours are more likely. Middleton, Kaplan and Midgley (2004) demonstrated that performance-approach goal orientation among sixth-graders predicted the adoption of performance-avoidance goal orientation a year later. The findings by Bong (2001, 2005, 2009) showed strong correlations across different domains for performance-approach and performance-avoidance goal orientations suggesting that these two goals are influenced by personality dispositions. Fear of failure has emerged as a common antecedent of both performance-approach and performance-avoidance goals (Conroy & Elliot, 2004; Conroy, Elliot, & Hofer, 2003; Elliot & Church, 1997; Elliot & McGregor, 2001), giving further support to the trait-like nature of performance goals.

However, perceived competence has been demonstrated to affect the valence of the achievement goals (Cury, Elliot, Da Fonseca, & Moller, 2006), suggesting that depending on the particular task and perceived competence in that particular task, different goal orientation may be adopted. Low perceived competence may increase students' worries about not doing well and their social comparison concerns, which, in turn, affect the level of difficulty that a child is willing to attempt in a problem-solving situation (Harter, 1992). Furthermore, classroom level goal structures, i.e., mastery goal structure reflected in a classroom focus on learning and understanding versus performance goal structure reflected in a classroom focus on normative evaluation and competition, have been shown to affect the students' personal goal orientations (Church et al., 2001; Midgley, Anderman, & Hicks, 1995; Roeser et al., 1996; Turner, Midgley, Meyer, Gheen, Anderman, Kang, & Patrick, 2002; Wolters, 2004). Hence, students' goal orientations are also situation specific and malleable to a certain extent.

Achievement goal orientations have been studied mainly in older students and only few studies have concerned children at elementary grades (Bong, 2009; Shim et al., 2008). Consequently, the first aim of the present thesis was to investigate the associations between children's achievement goal orientations, their achievement behaviour (i.e., effort; task-avoidance) and skill development (Study I and Study II).

1.2 Developmental dynamics between achievement behaviour and skill development and their antecedents

Children's effort and persistence on one hand and task-avoidance on the other hand have been suggested to influence their achievement and learning outcomes. It has been found that students with high achievement outcomes typically work hard and demonstrate higher levels of effort, whereas less successful students show lower effort and higher task-avoidant behaviours (Lackaye & Margalit, 2006; Meltzer et al., 2004; Meltzer et al., 2001; Ho & Hau, 2008; Meece & Holt, 1993). Children's task-focused versus task-avoidant behaviour has been found to predict their subsequent skill development even after the children's prior skill level is controlled (Georgiou, Manolitsis, Nurmi, & Parrila, 2009; Hirvonen, Georgiou, Lerkkanen, Aunola, & Nurmi, 2010; Kikas, Peets, Palu, & Afanasjev, 2009; Stephenson, Parrila, Georgiou, & Kirby, 2008). Studies investigating cross-lagged associations between achievement behaviour and educational outcomes have demonstrated that children's task-avoidant behaviours and their skill development form cumulative cycles in which children's skill level has an effect on their task-avoidance and task-avoidance has an effect on subsequent skill development. Such reciprocal relationships between task-focused versus task-avoidant behaviour and skill development have been found both for reading (Aunola et al, 2002; Hughes, Luo, Kwok, & Loyd, 2008; Lepola, Niemi, Kuikka, & Hannula, 2005, Lepola, Poskiparta, Laakkonen, & Niemi, 2005; Lundberg & Sterner, 2006; Onatsu-Arvilommi & Nurmi, 2000) and math skill development (Hughes, Luo, Kwok, & Loyd, 2008; Lepola, Niemi, Kuikka, & Hannula, 2005; Lundberg & Sterner, 2006). Some of these studies have also shown that the effect of task-focused versus task-avoidant behaviours on skill development is somewhat stronger than vice versa (Aunola et al, 2002; Lundberg & Sterner, 2006).

Most of the studies investigating children's effort and task-focused versus task-avoidant behaviours have used teacher-reports of these behaviours and only a few have used children's self-reports (Onatsu-Arvilommi, Nurmi, & Aunola, 2002). In teacher-reports differences have emerged in children's task-avoidance levels between boys and girls. According to teachers, boys tend to engage more in task-avoidant behaviours than girls (Hughes et al., 2008; Midgley & Urdan, 1995; Onatsu-Arvilommi & Nurmi, 2000; Urdan, Midgley, & Anderman, 1998). It has been assumed that teachers may hold stereotypical views about boys being less attentive and persistent (Beaman, Wheldall, & Kemp, 2006). However, boys have been shown to demonstrate poorer behavioural self-regulation both as assessed with teacher-ratings and in self-regulation tasks (Matthews, Ponitz, & Morrison, 2009), suggesting that the differences in task-avoidance levels between boys and girls may be linked with differences in behavioural self-regulation skills. Both teacher evaluations and children self-evaluations of task-avoidance have been shown to be relatively stable (Aunola et al, 2002; Onatsu-Arvilommi & Nurmi, 2000; Onatsu-Arvilommi et al., 2002).

Dweck and her colleagues (Cain & Dweck, 1995; Heyman et al., 1992) have suggested that the maladaptive achievement beliefs and behaviours, which children deploy at school have their developmental basis in the early childhood adult-child and peer interactions related to experiences of mastery and success in tasks providing feedback on achievement. Numerous studies have shown that social and family background risks, including low parental education and SES are linked to poorer school readiness skills in domains of early emotional, behavioural, and academic competence (Brooks-Gunn & Duncan, 1997; Curenton & Justice, 2008; Janus & Duku, 2007; McLoyd, 1998; Myrberg & Rosén, 2008, 2009; Pungello, Kupersmidt, Burchinal, & Patterson, 1996). It has been argued that the quality of relationships within the child's home environment has an important effect on the child's subsequent school performance (Caldas, 1993). Parents with lower educational level have been shown to hold lower expectations concerning their children's success and educational attainment, to express less warmth towards their children, and be less involved in their children's educational process (Davis-Kean, 2005), as well as to provide less encouragement to their children (Bois, Sarrazin, Brustad, Trouilloud, & Cury, 2005). Lack of support and encouragement might lead to children's lower self-perceptions and task-avoidant behaviours in challenging situations. It has been demonstrated that children's own self-perceptions about their abilities are more strongly associated with their parents' beliefs about their abilities than with their previous performance (Jacobs, 1991). Aunola and colleagues (Aunola et al., 2002, 2003) showed that parents' general beliefs about children's school success were associated with children's task-avoidant behaviour in the classroom which in turn had an effect on children's skill development.

In addition to early family environment, children's social relations and adjustment are acknowledged to be strong predictors of their classroom involvement and academic progress. Children with high behavioural engagement (e.g., constructive and cooperative participation in classroom tasks and activities) and high emotional engagement (e.g., school liking as opposed to avoidance) across the primary grades have been shown to demonstrate greater academic progress (Ladd & Dinella, 2009) than children with lower behavioural and emotional engagement. On the other hand, chronic peer rejection produces rapid rates of descent in children's classroom participation (Ladd, Herald-Brown, & Reiser, 2008). Children with high social and emotional competence are successful in selecting and using behavioural strategies that are effective in achieving interactional goals in the classroom (Odom, McConnell, & Brown, 2008), they tend to follow instructions, communicate effectively with others (Ladd, 1990; Peth-Pierce, 2001) and attend to tasks at hand (Curby, Rudasill, Rimm-Kaufman, & Konold, 2008). These competencies can be assumed to lead to successful school adjustment (Cummings, Kaminski, & Merrell 2008; Gettinger, 2003). Poorer social competence, in turn, might be expected to result in less effective school-adjustment and also eventually task-avoidant behaviour in achievement tasks. Junttila, Vauras, and Laakkonen (2007) for example have

shown that lower social competence appear to result in less adaptive motivational orientation, loneliness and lower academic skills.

Although a plethora of studies has investigated the associations between the achievement behaviours and skill development, the interplay between them is not fully understood. There are several limitations in the previous studies. The interplay between task-avoidant behaviour and skill development has mainly been studied in the school context. However, parents have abundant opportunities to observe their children's achievement-related behaviours in the homework context. Studies using adolescents' self-reports have demonstrated that the ways in which the adolescents approach their homework affects their school performance with greater investments of effort in the homework being associated with higher achievement (Trautwein, 2007; Zimmerman & Kitsantas, 2005). Consequently, the present thesis focuses on the developmental dynamics of children's achievement behaviour rated by their parents in homework context and children's skill development during the first two school years (Study III). Associations with parent's beliefs about their children's school success were investigated as well.

Another limitation of the studies concerning the associations between task-avoidant behaviour and children's skill development is that these associations have been studied almost exclusively by using a variable oriented approach. There are some studies which have examined the varying developmental trajectories of children's reading (Lepola, Salonen, & Vauras, 2000) and reading and math skills (Niemi, Nurmi, Lyyra, Lerkkanen, Lepola, Poskiparta, & Poikkeus, in press) and the differences in task-focused *versus* task-avoidant behaviours between these trajectories. Lepola et al. (2000) found that despite divergent reading careers, children with matching pre-skills did not differ with respect to preschool task-focus. Niemi et al. (in press) demonstrated that task-avoidance was a significant predictor of membership in the most slowly progressing group in reading and math over and above cognitive prerequisites. However, this predictive capacity of task-avoidance disappeared when parental learning difficulties were included in the regression. The major advantage of the person-oriented approach (Bergman & Magnusson, 1991) in comparison to the variable-oriented framework is that this approach does allow identifying subgroups of individuals hidden under group means and correlations between the variables. Identification of such subgroups and examination of explanations for the differences may provide deeper understanding of the mechanisms that associate task-avoidant behaviour and skill development. Therefore, person-oriented approach was applied in one of the substudies of the present thesis to identify subgroups of children who would show different profiles in the development of their task-avoidant behaviour and reading skills (Study IV). The potential antecedents of these developmental profiles were also examined.

1.3 The aims of the present thesis

The purpose of the four substudies of the present thesis was to investigate the dynamics between children's goal orientations, achievement behaviours and academic development in math and reading skills. All of the studies were longitudinal and included children in years between kindergarten and Grade 4. Both variable-oriented and person-oriented approaches were applied, and depending on the substudy the context was either Estonia or Finland. The more specific aims and the corresponding studies are the following:

First, examining the associations between the children's achievement goal orientations, achievement behaviours and skill development in school context (Study I and Study II).

Second, examining the cross-lagged associations between children's achievement behaviour and skill development in homework contexts as well as their associations to parental beliefs about child's school success (Study III).

Third, examining developmental profiles of achievement behaviour and skill development as well as their antecedent correlates (i.e., pre-skills, parents' educational level, child's gender, child's social competence) using a person-oriented subgroup analysis (Study IV).

2 METHOD

2.1 Participants and procedures

In the present thesis the investigation of children's achievement goals and behaviours, their antecedents, correlates and consequences has been studied in Estonian samples (Study I and Study II) as part of study supported by the Estonian Science Foundation, and in two subsamples (Study III and Study IV) of the Finnish First Steps Study (Lerkkanen, Niemi, Poikkeus, Poskiparta, Siekkinen, & Nurmi, 2006). The data gatherings in studies I-IV are summarised in Table 1.

There are a number of similarities in educational systems in Estonia and Finland (see Kikas & Lerkkanen, 2010). For example, in both countries, compulsory formal education consists of 9 years of comprehensive school, starting at age of 7, which is later than in many other countries. In both countries there is also a national core preschool curriculum for 6-year-old children to prepare them for formal schooling. In a cross-cultural comparison study it has been shown that both Estonian and Finnish teachers value high professional competence and child-centred teaching practices in which children are active learners (Hytönen, Krokfors, Talts, & Vikat, 2003). However, achieving concrete, measurable learning results in children's skill development appears to be more important for the Estonian teachers whereas the Finnish teachers place a stronger emphasis on developing the children's positive self-concept and social skills and promoting their learning potential (Hytönen et al., 2003).

In **Study I** the participants were 179 children (93 boys and 86 girls) from four municipal primary schools situated in a medium size town in southern Estonia. Most children came from working- and middle-class socio-economic backgrounds. Their home language was Estonian. The study involved two waves of data collection. The children were in Grades 2 (age of 8) and 3 (age of 9) at Time 1, and in Grades 3 and 4 (age of 10) at Time 2. Children's achievement goal orientations were measured using a self-report questionnaire in March at Time 1 and in November at Time 2. Classroom teachers ($N = 8$) were asked to provide ratings of the achievement behaviours (i.e., effort) that the

children demonstrated in the classroom at Time 1 and 2. Teacher-assigned end-of-school-year grades (Time 1 and Time 2) and a math test (Time 2) were used as measures of math achievement. The math test was administered in April and end-of-school-year math grades were collected at the end of May.

In **Study II** the participants were 174 Estonian children (80 boys and 94 girls) from 16 schools in different parts of Estonia. Most children came from working- and middle-class socio-economic backgrounds. Their home language was Estonian. Children's mean age at the outset of the study was 7.1 years (SD = .33). Assessments were carried out twice during the first school year: in October (Time 1) and in April (Time 2). Children's performance-approach goal orientations, task-avoidant behaviour and conceptual knowledge were assessed at Time 1. Self-reports of achievement goal orientation and achievement behaviour (i.e., task-avoidance) were obtained in an individually conducted child interview. The classroom teachers (N = 25) were asked to provide ratings of students' achievement behaviour (i.e., task-avoidance). Children's conceptual knowledge was assessed with both a group test (written form) and an individual test (oral form). Assessments of math and literacy skills (including both reading and writing tasks) were conducted in Time 2.

Study III and Study IV are part of the First Steps Study which is a follow-up of about 2000 children from the beginning of Kindergarten year to the end of the 4th grade, with simultaneous data gathering from the children's parents and teachers in 2006-2011. The sample is drawn from four municipalities in different parts of Finland. In three of them the whole age cohort participated, and in the fourth, the participating children comprise about a half of the age cohort. The sample is representative of the Finnish speaking population in Finland.

In **Study III** the sample consisted of 1,267 children (604 girls and 663 boys) who were 6 to 7 years old at the outset of the study. The data of the present analyses involved reports of the mother (N = 1,239) or father (N = 851) or both parents, who participated in the study when the child was in Kindergarten (Time 0), and Grade 1 (Time 1, April) and 2 (Time 2, April). Data for families in which parents decided not to complete parental questionnaires although they gave their permission for their child's participation were excluded from the final sample. The children of parents who provided questionnaire data had slightly better math and reading skills at the end of Kindergarten year compared to the children whose parents did not fill out parental questionnaires. Children's pre-skills in reading and math were assessed individually at the end of the Kindergarten year (Time 0, April). School-age reading and math skills were investigated at the end of Grade 1 (Time 1, April) and Grade 2 (Time 2, April) using group administered tests in classroom situations by a trained research assistant. Parents were asked to complete questionnaires on their beliefs about their child's school success and to provide ratings of task-avoidant behaviour displayed by the child in homework situations at home. Parental ratings were obtained at the end of Kindergarten (Time 0, April, 1,239 mothers and 851 fathers), and at the end of Grade 1 (Time 1, April, 1,239 mothers and 851 fathers) and Grade 2 (Time 2, April, 1,087 mothers and 743 fathers).

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In **Study IV** the participants were 448 children (6-7 years old at the beginning of the study), a subsample of the more than 2000 children in the First Steps Study follow-up. In addition to the yearly group assessments administered to all participants this subset of children participated in a more detailed follow-up containing individually administered measures of achievement (reading, spelling, and math tests), language and cognitive skills (e.g., vocabulary, short-term memory span) and motivation. 190 of these children had been identified as at-risk for reading disabilities at the end of their Kindergarten year. The remaining 258 children were randomly selected classmates of the at-risk children at the beginning of Grade 1. Children's pre-reading skills (i.e., phonemic awareness, letter knowledge, rapid automatized naming) were measured in Kindergarten Spring (Time 0, April). Children's reading fluency was measured three times: Grade 1 Fall (Time 1, October,); Grade 1 Spring (Time 2, April,) and Grade 2 Spring (Time 3, April). Classroom teachers (N = 127) were asked to rate the children's task-avoidant behaviour three times: Grade 1 Fall (Time 1, October,); Grade 1 Spring (Time 2, March,) and Grade 2 Spring (Time 3, March). Kindergarten teachers (N = 163) were asked to fill in questionnaires about the children's social competence in Kindergarten Spring (Time 0, March). Parents (409 mothers and 409 fathers) filled in family background questionnaires in Kindergarten Spring (Time 0, March).

TABLE 1 Data gathering in Studies I – IV

Study	Country	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4
Study I (N = 179)	Estonia			x	x	x
Study II (N = 174)	Estonia		x			
Study III (N = 1267)	Finland	x	x	x		
Study IV (N = 448)	Finland	x	x	x		

2.2 Measures

Achievement goal orientations were measured with items based on the scales from Midgley et al. (2000) and Elliot and Church (1997). Mastery (Study I), performance-approach (Study I-II) and performance-avoidance (Study I) goal orientations were assessed with questionnaires administered in classroom in written form (Study I) or with an individually conducted interview (Study II).

In order to measure children's achievement behaviour in classroom (Study I, II, IV) or homework situations (Study III), effort (Study I) or task-focused versus task-avoidant behaviour (Study II-IV, Behaviour Strategy Rating Scale, Onatsu & Nurmi, 1995; Onatsu-Arvilommi & Nurmi, 2000; Study II, items adapted from Strategy and Attribution Questionnaire for Children, see Fyrsten, Nurmi, & Lyytinen, 2006) was assessed. The ratings were made by the classroom teacher (Study I, II, IV) and/or child him or herself (Study II) or parents (Study III). In the Study I we initially aimed at measuring the teacher's evalua-

tions on children's mastery and performance orientations and engagement in class work. However, the high correlations between the teachers' responses on these three items indicated that it might be difficult for them to differentiate between the possible reasons of children's engagement and *effort*. A similar conclusion was drawn by Onatsu-Arvilommi and Nurmi (2000) when they were unable to differentiate between children's passive avoidance, task irrelevant active avoidance and lack of persistence by teacher-ratings and consequently used the term *task-focused versus task-avoidant behavior*. Hence, while talking about children's achievement related behaviours we use the terms 'low effort' and 'task-avoidance' interchangeably or refer to task-focused versus task-avoidant behaviours in the present thesis.

Children's skill development was assessed in math, reading or both (as an exception, in Study II the performance test included also writing skills). Math skills were evaluated by teacher-awarded grades (Study I), a performance test (Study I and Study II) or a test of arithmetics (Aunola & Räsänen, 2007, Study III). Literacy skills were evaluated with performance test (Study II) and reading skills with reading comprehension (TOSREC; Lerkkanen & Poikkeus, 2008, Study III) and reading fluency (ALLU; Lindeman, 1998, Study III-IV) tests.

Various predictors and correlates were used in the different substudies:

Conceptual Knowledge (Study I) was assessed with two tests – Concepts-Drawing in group situation (a modified version of Controlled Drawing Observation; see Krogh, 1977) and Concepts-Guessing individually (Kikas, Männamaa, Kumari, & Ulst, 2008; Männamaa, Kikas, & Raidvee, 2008).

Reading pre-skills were assessed individually with Phoneme Identification (subtest of the ARMI; Lerkkanen, Poikkeus, & Ketonen, 2006, Study III-IV), Letter Knowledge (subtest of the ARMI; Lerkkanen et al., 2006, Study III-IV) and Rapid Serial Naming (Denckla & Rudel, 1976, Study IV) tests. *Math pre-skills* were assessed with Number sequence elaboration task (the task was very similar to the one used by Räsänen, Salminen, Wilson, Aunio, & Dehaene, 2009, Study III).

Children's social competence was rated by the Kindergarten teachers (Study IV) by using the Multisource Assessment of Social Competence Scale (MASCS; Kaukiainen, Junttila, Kinnunen, & Vauras, 2005; see also Junttila, Voeten, Kaukiainen, & Vauras, 2006) which is adapted to Finnish context based on the School Social Behaviour Scale (SSBS; Merrell, 1993). The MASCS consists of two main dimensions (Prosocial and Antisocial), each divided into two sub-dimensions: Cooperating skills, Empathy, Impulsivity, and Disruptiveness.

Parental beliefs about their child's school success (Study III) were assessed with two questions modified from previous studies (Aunola et al., 2002; Frome & Eccles, 1998; Parsons et al., 1982).

Family background variables including parent's educational level (Study III-IV), number of children in the family and family structure (Study IV). The child's mother and father were asked to fill in questionnaires at the end of Kindergarten year.

Measures applied in studies I-IV are summarised in Table 2. More detailed descriptions of the measures and methods can be found in the original articles I-IV.

TABLE 2 Measures in Studies I-IV

Measure	Study I	Study II	Study III	Study IV
Achievement goal orientations				
- Mastery goal	x			
- Performance-approach goal	x	x		
- Performance-avoidance goal	x			
Achievement behaviour				
- effort / task-focus vs. task-avoidance	x[1]	x[1,2]	x[3]	
Achievement outcomes				
- Math performance	x	x	x	
- Reading performance		x[4]	x	
Correlates: Children's skills				
- Conceptual knowledge		x		
- Reading pre-skills			x	
- Math pre-skills			x	
- Social competence				
Correlates: Family factors				
- Parental beliefs			x	
- Parents' educational level			x	x
- Family structure				x
- Number of children in the family				x

Note. [1]teacher-rated; [2]self-rated; [3]parent-rated; [4]includes reading and spelling.

2.3 Statistical methods

Four different kinds of statistical analysis were used in the present set of studies (see Table 3). Structural equation modelling and latent profile analyses were carried out with the Mplus statistical package (Muthén & Muthén, 1998-2010) and ANOVAs with SPSS.

TABLE 3 Statistical analyses conducted in studies I-IV

Statistical analysis	Study	Purpose of the analyses
Structural equation modelling	I, II	Testing measurement and structural models
Structural equation modelling: cross-lagged design	III	Testing measurement and structural models: investigating cross-lagged associations
Mixture modelling: latent profile analyses	IV	Identifying different developmental profiles
ANOVA	IV	Mean comparisons between the profile groups

3   SUMMARY OF THE RESULTS

3.1   Study I: Relations between achievement goal orientations and math achievement in primary grades: a follow-up study

The study aimed to examine Estonian primary grade children's math-specific achievement goal orientations and to explore the relation between children's math achievement, effort, and their goal orientations at two time points. Children's self-reports of their goal orientations and teachers' evaluations of children's effort were used. The following research questions were addressed: 1) To what extent are children's self-reports of their goal orientation and teacher-reports of children's effort investments related? 2) To what extent are children's math-specific achievement goal orientations related to math achievement in the primary grades? 3) To what extent are teacher reports of children's effort investments related to children's achievement outcomes?

First, we did not find significant cross-lagged relations between children's self-reported goal orientations and teacher-reports of children's effort investments. Weak positive associations were demonstrated between children's self-reported mastery goal orientation and teacher-reported effort within the same measurement time. Second, we found that children's self-reported performance-avoidance goal orientation negatively predicted math grade at the first time point and that math grade, in turn, predicted subsequent performance-avoidance goal orientation at the second time point. However, performance-avoidance goal orientation did not have an effect on math grade when the effect of previous achievement was taken into account, suggesting that it is mainly achievement measured by performance grades that has an effect on the performance-avoidance goal orientation, but not vice versa. Third, the results supported our expectations that teachers' evaluations of children's effort have a reciprocal relationship with children's achievement outcomes: math grades predicted teachers' evaluations of children's effort and teachers' evaluations predicted the following year's math grades if the effect of the previous year's math grade was also taken into account.

Overall, the results of this longitudinal study suggested that how children manage in math provides a basis for their subsequent goal orientations and their positive investment in effort in the primary grades. The investment of effort also seems to have a positive effect on children's future achievement. These are important findings, because they suggest that addressing children's learning problems in math as early as possible is important not only for their skill development but also in respect of the achievement goal orientations they are likely to adopt.

3.2 Study II: Performance-approach goals, task-avoidant behaviour and conceptual knowledge as predictors of first graders' school performance

The aim of the study was to investigate first graders' performance-approach goal orientation, task-avoidant behaviour and conceptual knowledge at the beginning of the school year, and their performance in mathematics and literacy skills at the end of the school year. First, we examined the relations between children's performance-approach goal orientation and their self-reported and teacher-rated achievement behaviours. We assumed the performance-approach goal orientation to predict children's task-avoidant behaviours positively. Second, we explored to what extent children's achievement behaviours and conceptual knowledge at the beginning of the first grade predicted their subsequent math- and literacy-related performance at the end of the school year.

First, we found that performance-approach goal orientation positively predicted children's self-reported task-avoidant behaviours; in addition, a trend towards moderate positive relationship with teacher-rated task-avoidance could be found. Second, we found that teacher-rated task-avoidant behaviours were by far the strongest predictors of subsequent school achievement. Also, children's self-reported task-avoidance had a weak negative effect on their later achievement outcomes. Conceptual knowledge had a positive effect on children's achievement. More specifically, the impact was significant only for conceptual knowledge assessed by individual interviews demanding verbal answers (concepts-guessing) but not for knowledge assessed in classroom with drawing tasks (concepts-drawing).

In summary, the results suggest that performance-approach goals have negative rather than positive effect on children's achievement behaviour at the beginning of school. Task-avoidance behaviour, in turn, had a negative effect on children's achievement outcomes at the end of the first grade. This effect was even greater than the positive influence of conceptual knowledge. Hence, teachers are valuable informants of children's achievement behaviour very shortly after the beginning of school, but children's own self-reports also seem to add valuable information. Children's self-reports may reflect the strategies which are less overt and hence, not so easily observable by the teacher.

3.3 Study III: The cross-lagged relations between children's academic skill development, task-avoidance, and parental beliefs about success

This study aimed at investigating the cross-lagged associations between children's academic skill development, children's task-avoidant behaviour in the context of homework, and parental expectations of success from Kindergarten to Grade 2. The following research questions were investigated: 1) To what extent do children's reading and math skills predict their task-avoidant behaviour while doing their homework; 2) To what extent does children's task-avoidant behaviour in doing homework predict the development of their reading and math skills; 3) To what extent do mothers' and fathers' beliefs about their child's school success predict child's task-avoidant behaviour in homework situations; 4) To what extent does children's task-avoidant behaviour in the context of homework predict their mothers' and fathers' beliefs about success; 5) To what extent do the mothers' and fathers' beliefs about school success predict the development of their child's reading and math skills; and 6) To what extent do child's reading and math skills predict their mothers' and fathers' beliefs about school success?

The results showed, first, that child's kindergarten-age pre-skills in reading and math predicted both mother-rated and father-rated task-avoidant behaviour in homework situations. When the autoregressive effect of parent-rated task-avoidance was taken into account, the children's reading and math skills in Grade 1 predicted only mother-rated, not father-rated task-avoidance in Grade 2. Second, we did not find an effect of task-avoidance in homework situations on the children's subsequent academic skills. Third, the results of the present study showed that parental beliefs about their child's school success at the end of the kindergarten year, as well as the children's pre-skills in reading and mathematics, predicted children's task-avoidant behaviour in Grade 1. However, only fathers' beliefs in Grade 1 predicted children's task-avoidant behaviour in Grade 2. Fourth, the results indicated that children's task-avoidant behaviour predicted both mothers' and fathers' beliefs, even when the autoregressive effect was taken into account. This means that the more task-avoidance the parents observed their child demonstrating at home, the lower were the parental beliefs regarding their child's school success. Fifth, our results indicated that parental beliefs predicted children's development of math skills even after the effect of previous skill levels had been taken into account. However, parental beliefs predicted children's development of reading skills from Kindergarten to Grade 1 but not from Grade 1 to Grade 2 when the autoregressive effects were taken into account. And finally, both reading and math skills predicted parental beliefs, even after the autoregressive effects had been taken into account.

To conclude, the results showed that children with poorer skills demonstrate higher levels of task-avoidant behaviour in homework situations. The task-avoidant behaviour that children deployed in homework situations did not

contribute to their skill development, but it did predict the parents' subsequent beliefs regarding their children's school success. Parental beliefs, in turn, predicted children's subsequent development of math skills. According to Jacobs and Eccles (2000), parents' beliefs about the individual child are conveyed to children themselves through parent behaviours (e.g., providing encouragement and guidance, involvement in activities). Hence children's task-avoidance in the homework context may have a more indirect rather than direct effect on children's further skill development.

3.4 Study IV: Developmental profiles of task-avoidant behaviour and reading skills during Grade 1 and Grade 2: a person-oriented approach

The aim of this study was to identify subgroups of children with different profiles in the development of their task-avoidant behaviour and reading skills. We investigated the relationship between children's task-avoidant behaviour and reading skills during Grade 1 and Grade 2 by taking a person-oriented approach (Bergman et al., 2003). This kind of approach complements previous studies which have been using variable-oriented framework. We addressed the following research questions: 1) Can we identify subgroups of children who show different profiles in the development of their task-avoidant behaviour and reading skills; 2) Do the profile groups reveal gender differences; and 3) To what extent do children's pre-reading skills (i.e., phonological awareness, letter knowledge, and rapid serial naming), social competence and family background variables (i.e., the parents' educational level, family structure, and the number of children in the family) predict the membership in these profile groups?

First, by using latent profile analyses we identified four distinctive developmental profiles of task-avoidant behaviour (TA) and reading fluency (R): (1) *highTA-lowR* (33%), (2) *lowTA-lowR* (44%), (3) *highTA-highR* (9%), and (4) *lowTA-highR* (14%). Two of these developmental profiles – the *highTA-lowR* and *lowTA-highR* – were in line with the findings of the previous correlation studies where task-avoidance and reading skills have been found as negatively related to each other (Aunola et al., 2003; Hirvonen, Georgiou, Lerkkanen, Aunola, & Nurmi, 2010; Onatsu-Arvilommi & Nurmi, 2000). However, our results contribute to previous research by showing that a number of children show a discrepancy between their task-avoidant behaviour and reading skills development. This discrepancy was clearest in the smallest profile group (9%) who demonstrated very high level reading fluency but was also reported to have high task-avoidance levels by their teachers. As expected, boys were overrepresented in *highTA-lowR* profile group and girls were overrepresented in *lowTA-highR* profile group.

The results indicated that the pre-reading skills predicted differences in reading fluency levels between the developmental profiles. The *highTA-lowR* profile group performed significantly poorer in all of the pre-reading skills compared to the other groups. The *lowTA-lowR* profile group in turn had poorer pre-reading skills than both of the *highR* profile groups. Moreover, children's social competence in kindergarten – especially its antisocial dimensions – predicted task-avoidance behaviour in school. The *highTA-lowR* profile group was rated by their kindergarten teacher as having significantly lowest cooperative skills. The *highTA-lowR* and *highTA-highR* profile groups both had significantly lower empathy levels and significantly higher impulsivity and disruptiveness levels compared to other two groups with *lowTA*.

The analyses concerning the associations between family background variables and developmental profiles indicated that both mothers' and fathers' educational levels were associated with the developmental profiles of task-avoidance and reading skills. Children belonging to the *highTA-lowR* profile group came more often from homes with low-educated parents, whereas children from the *lowTA-highR* profile group came more often from homes with high-educated parents. We also found that children from the *highTA-lowR* profile group were more often from families with four or more children, whereas children in the *highTA-highR* profile group came more often from families with one child and less often from families with two to three children compared to the other profile groups.

Overall, the study demonstrated that task-avoidance and reading skills are not always negatively related. A discrepancy in the relationship between task-avoidant behaviour and reading skill development exists in some groups of children and needs further attention in future studies. Boys with poorer pre-skills seem to be in greater risk for falling into the most detrimental developmental profile, whereas high pre-skill level seems to protect against the negative effect of task-avoidance on further skill development. It would be important to educate teachers and parents to recognise deficits in reading pre-skills early in order to be able to offer children adequate support (e.g., enhance their phoneme identifications skills). Children with high task-avoidance level may also benefit from implementation of programs designed to enhance children's self-regulatory or social skills (e.g., Holsen, Smith, & Frey, 2008; Webster-Stratton, Reid, & Hammond 2001).

4 GENERAL DISCUSSION

The purpose of the thesis was to elucidate the dynamics between children's achievement goal orientations, achievement behaviours and math and reading skill development and the associated predictors in longitudinal studies of children in years between kindergarten and Grade 4. Both variable-oriented and person-oriented approaches were applied, and depending on the substudy the context was either Estonian or Finnish.

The results of the present thesis suggest that how children manage at school with respect to learning and achievement appears to create a basis for the achievement goals they adopt, and the behaviours that they display at challenging tasks. Failure experiences in early school years appear to foster the adoption of performance-avoidance goal orientation. At onset the emerging achievement goal orientations did not seem to have a discernible influence on children's achievement-related choices in classroom situations. However, children's achievement behaviours as rated by teachers do already early on predict children's skill development and vice versa. Children with lower skill levels seem to demonstrate higher task-avoidance in the school context as well as in the home context while doing their homework. Yet, task avoidant behaviour and skill development are not always negatively related and it seems that high pre-skill level may protect against the negative effect of task-avoidance on further skill development.

4.1 Associations between achievement goal orientations, achievement behaviour and skill development in the school context

The first aim of the present thesis was to examine the associations between children's achievement goal orientations, achievement behaviour and skill development in the school context (Study I and Study II). It has been assumed that mastery goals exert a positive and performance-avoidance goals a negative ef-

fect on students' persistence and effort (Elliot, 1999; Elliot, McGregor, & Gable, 1999; Ho & Hau, 2008). However, only few studies have demonstrated these effects while taking into account the autoregressive effects and prior levels of achievement or both (Wentzel, 1996; Wolters, 2004). In addition, little is known about the achievement goals and their effects in early elementary grades (Bong, 2009; Shim et al., 2008).

The results of the present thesis were inconsistent with prior findings in that children's self-reported goal orientations failed to show a considerable effect on the achievement behaviours (i.e., effort; task-avoidance) as rated by their teacher's in the classroom learning context. One reason for these results is most probably related to the children's age (between 8 and 11 years) in the present sample. Children's growing understanding of the role of effort and ability as causes of achievement have been considered important in the formation of achievement goal orientations (McInery & Ali, 2006). Although it has recently been demonstrated that even first graders are able to differentiate between effort and ability to a certain extent (Wilson & Trainin, 2007), children younger than 12 years of age may still have difficulties in understanding the role of effort and ability as causes of achievement (e.g., Folmer et al., 2008; Nicholls, 1978; Nicholls & Miller, 1984). Another reason for these results might be related to the prior studies using student's self-reports of their effort and persistence (Wentzel, 1996; Wolters, 2004) instead of teacher's ratings. Previous studies have also reported low correspondence between students' self-reports of their achievement motivation and teacher-rated effort (Meltzer et al., 2001, 2004). However, a positive, albeit weak association between children's mastery goal orientation and teacher-rated effort within the same measurement times found in Study 1, indicates some validity of the children's self-reports.

Although performance-approach goals were unrelated to teacher-rated achievement behaviour and achievement outcomes, positive association emerged between children's performance-approach goal orientation and their self-reported task-avoidant behaviour (Study II). These findings are in line with some prior studies suggesting that performance-approach goals may have maladaptive effects in elementary grades (Shim, Ryan, & Anderson, 2008). In comparison to older children, young children may be more heavily affected by desire to please significant others, such as parents and teachers (Mac Iver, Stipek, & Daniels, 1991). Excessive focus on peer comparison and competition is likely to distract children from task engagement and be associated with anxiety, worry and other negative emotions in cases of failure. The present findings should be interpreted with caution, however, because the design does not allow to draw any causal conclusions, and second, children's mastery and performance-avoidance goal orientations were not assessed. It may be that it is the pattern, rather than the strength of one goal orientation per se which is important in student's achievement behaviour and learning (Barrom & Harackiewicz, 2001; Linnenbrink, 2005; Meece & Holt, 1993). Performance-approach goals accompanied by high mastery goals and low performance-avoidance goals may have adaptive influences, whereas high performance-approach goals combined

with high performance avoidance goals may have more negative influences. Performance-approach goals have been shown to predict the adoption of performance-avoidance goals (Middleton et al., 2004). In addition, fear of failure has emerged as a common antecedent of both performance-approach and performance-avoidance goals (Conroy & Elliot, 2004; Conroy et al., 2003; Elliot & Church, 1997; Elliot & McGregor, 2001). Hence, it might be assumed that some of the children, who reported high performance-approach goals, would have also reported high performance-avoidance goals.

Although associations between goal orientations and teacher-rated achievement behaviour (effort; task-avoidance) were negligible, the results of the present thesis suggest that children who do not manage well academically may be more prone to adopt a performance-avoidance goal orientation (see Study I). Negative associations between performance-avoidance goals and achievement outcomes have been demonstrated consistently (Bong, 2009; Church et al., 2001; Shim, Ryan, & Anderson, 2008; Skaalvik, 1997). As children start recieving more systematic feedback about their skill development and performance they are also more likely to encounter critical evaluations. It has been suggested that at about eight years of age children become more sensitive to cues that may help them to make sense of their own positive and negative task performance (Heyman, 2008). Children's developing ability to make use of social comparison information in their own competence judgements may foster worries and anxiety, especially among those children who often encounter tasks they find difficult or who often receive negative feedback. These kinds of concerns, which are considered the core of performance-avoidance goal orientation, may take a while to show a cumulative effect on children's overt behaviour in classroom. Hence, the results of the present thesis suggest that identifying children's difficulties early and offering them adequate support and success experiences may be important in order to prevent the development of performance-avoidance goal orientation.

Concerning the associations between achievement behaviour and achievement outcomes, the results of the present thesis (see Study 1) are in line with previous studies which have found a reciprocal relationship between teacher-reported achievement behaviour and children's skill development (Aunola et al, 2002; Hughes, Luo, Kwok, & Loyd, 2008; Lepola, Poskiparta, Laakkonen, & Niemi, 2005; Lundberg & Sterner, 2006; Onatsu-Arvilommi & Nurmi, 2000). The results of the present thesis also suggest that teachers are very sensitive informants of children's achievement behaviour, as their ratings of children's task-avoidance at the beginning of first grade are good predictors of children's subsequent achievement outcomes even when children's cognitive abilities are controlled (see Study II). Prior experience with many similar-aged children probably gives teachers a good reference basis for identifying characteristics indicating maladaptive achievement patterns very shortly after the beginning of Grade 1. However, because teacher-ratings have been shown to be also very stable (Aunola et al., 2003; Onatsu-Arvilommi & Nurmi, 2000), they may start to function as self-fulfilling prophecies. The beliefs teachers hold

about the child's behaviour may influence their interaction with the child (Arbeau & Coplan, 2007). Positive teacher-child relationships may serve to buffer children from negative adjustment outcomes, whereas stressful teacher-student relationships may hinder children's school adjustment (Hamre & Pianta, 2001; Pianta & Steinberg, 1995) and lower their engagement in classroom activities (Hughes, Luo, Kwok, & Loyd, 2008).

Children's self-reports of their task-avoidance seem to add valuable information about the ways they approach their achievement tasks and to predict their achievement outcomes. Present findings were in line with prior studies which have demonstrated the effect of children's self-reported achievement behaviour on their skill development (Onatsu-Arvilommi & Nurmi, 2002; Onatsu-Arvilommi, Nurmi, & Aunola, 2002). However, these prior studies have not controlled the effect of teacher-rated task-avoidance, as was done here. It is possible that teacher ratings may not capture the task-avoidance levels of all children equally well and may for example miss the task-avoidance of less outgoing and shyer children.

Overall, the findings concerning the first aim suggested that failure experiences may orient children towards maladaptive performance-avoidance goals. Children's self-reported achievement goal orientations do not yet exert a considerable effect on the children's achievement behaviour as reported by teachers in the earliest school grades. The results also suggest that uses of multiple informants are needed in order to provide a broad view of children's achievement behaviours. Neglecting children's perceptions of their achievement related beliefs and behaviours may provide a misleading picture about the determinants of motivation and learning.

4.2 Interplay between achievement behaviour and skill development in homework context and the role of parental beliefs

The second aim of the present thesis was to investigate the interplay between children's achievement behaviour as rated by their mothers and fathers and their skill development (Study III). Contrary to the findings in the school context which demonstrate consistently negative effects of task-avoidant behaviours on children's skill development (Aunola et al., 2003; Georgiou et al., 2009; Onatsu-Arvilommi & Nurmi, 2000), the results of the present thesis showed that parent-rated task-avoidant behaviour did not exert a significant effect on children's skill development. Children with lower skill level, however, were reported to use more task-avoidant behaviours in the homework context.

There are several ways of interpreting these results. First, parents may play an important role in assisting children with their homework in the early elementary school years, and therefore even children who show task-avoidant behaviours while doing their homework might do quite well partly due to the

active support and encouragement from their parents. The effect of task-avoidant behaviours in homework situations could become more evident later in the school career, when the parents' role and their assistance become less influential. Studies with adolescents have indicated that the way in which students approach their homework has profound effects on their school performance with greater investments of effort in homework being associated with higher achievement (Trautwein, 2007; Zimmerman & Kitsantas, 2005). Second, the reference points of parents and teachers ratings differ (Achenbach 2006; De Los Reyes & Kazdin 2005); teachers engage with many students on a daily basis and have a potential normative group to compare to, whereas parents may not have enough information to compare their child's behaviour relative to his or her peers. Hence, parents may tend to either over- or underestimate the child's actual level of task-avoidance. The present thesis also suggested some differences in the associations between children's skill development and ratings by mothers and fathers. When the autoregressive effect of parent-rated task-avoidant behaviour was taken into account, the children's reading and math skills predicted only mother-rated, but not father-rated task-avoidant behaviour. Some newer studies still show that mothers might be more involved in assisting children with their homework than fathers (Tan & Goldberg, 2009) and therefore may have better knowledge of children's actual behaviour in the homework context. However, it could be assumed that there are great variations in mothers and fathers involvement in children's schooling across different countries and cultural contexts. Hence, generalizations should be done very carefully. Alternatively, it is possible that children do behave differently while assisted by their mothers or fathers. It has been shown that especially fathers' connectedness and involvement with their early-adolescent children is negatively related to child's internalizing and externalizing problem behaviours (Day & Padilla-Walker, 2009).

Parental beliefs and expectations about their children's school success have been associated both with children's skill development (Goldenberg et al., 2001; Halle, Kurtz-Costes, & Mahoney, 1997; Stephenson, Parrila, Georgiou, & Kirby, 2008) and task-avoidant behaviour as rated by teachers (Aunola et al., 2002; Aunola et al., 2003). The findings have been contradictory in respect to whether it is primarily children's skills which influence the formation of parental beliefs (Goldenberg et al., 2001) or parental beliefs also have an effect on children's skill development (Halle, Kurtz-Costes, & Mahoney, 1997; Stephenson, Parrila, Georgiou, & Kirby, 2008). The results of the present thesis indicated that the associations between parental beliefs about children's school success and children's skill development may depend on the particular skill area. Children's reading skills were found to have an effect on parental beliefs but not vice versa between Grades 1 and 2. The main reason for this may be that reading skills demonstrated very high stability across this period, meaning that there was very little variance in any other predictive effects. The Finnish language has a very transparent orthography and most children learn to read very quickly, usually within the first semester of Grade 1 (Lerkkanen, Rasku-

Puttonen, Aunola, & Nurmi, 2004), and the results might have been different in other language contexts where learning to read poses more challenge for children.

Math, on the other hand, has been suggested to be a subject, where affective and motivational influences are especially important (Stodolsky, Salk, & Glaessner, 1991; Vlahovic-Stetic, Vidovic, & Arambasic, 1999). The reciprocal association found between parental beliefs and children's skill development offer some support to this view. The beliefs that parents hold about their children may influence the parents' patterns of interaction with the child, such as the extent of their encouragement, provision of opportunities and formation of experiences (Bois, Sarrazin, Brustad, Trouilloud, & Cury, 2005), which in turn may affect their children's self-perceptions and motivational orientations.

The results of the present thesis indicated in line with previous studies in school context (Aunola et al., 2002; Aunola et al., 2003) that parental beliefs predicted children's task-avoidant behaviour in homework context when the effect of children's pre-skills was taken into account. However, only fathers' beliefs predicted children's homework behaviour, when both the autoregressive effects and previous skill level were taken into account. The explanation for this could be that fathers' beliefs have a different impact on children's behaviour than mothers' beliefs, or that children behave differently in homework context under the guidance of mothers and fathers. Children's task-avoidant behaviour, however, predicted both mothers' and fathers' beliefs, even when the autoregressive effects were taken into account. This means that the more task-avoidance the parents observe their children demonstrating at home, the lower are the parental beliefs regarding their child's school success. Studies with third graders have shown that children's struggling and frustration with homework also induces stress and frustration in parents (Levin et al., 1997; Xu & Corno, 1998), and hence may give rise to more pessimistic expectations concerning their child's future success.

In summary, although task-avoidant behaviour demonstrated in the homework context did not seem to exert an effect on further skill development in the early elementary grades, it may be a potential source of tension and stress between the parent and child and hence have indirect rather than direct effects on children's developmental outcomes.

4.3 The developmental profiles of achievement behaviour and skill development and their antecedents

The third aim of the present thesis was to investigate the developmental profiles of the achievement behaviour and skill development and their potential antecedents (Study IV). The results of the present thesis contribute to the studies of task avoidant behaviour and skill development by demonstrating that these variables are not always related in a straightforward expected way. The

person-oriented approach applied yielded four different developmental profiles, two of which demonstrated a discrepancy from the expected negative association pattern between task-avoidant behaviour and skill development, i.e., one with very high reading fluency but high task-avoidance, and the other with relatively slow reading skill but low task-avoidant behaviour. The results suggested that the negative reciprocal effect between task-avoidance and achievement outcomes found in many studies (Aunola et al, 2002; Hughes et al., 2008; Lepola, Poskiparta, Laakkonen, & Niemi, 2005; Lundberg & Sterner, 2006; Onatsu-Arvilommi & Nurmi, 2000) might be strongest for children with lowest preskill levels whereas a high pre-skill level may protect against the detrimental effect of task-avoidance on further skill development. This may hold at least for children learning to read an orthographically transparent language such as Finnish. The developmental profiles might be different for different language context or subject area. Georgiou and his colleagues (2010) have demonstrated that the effect of task-avoidance on skill development is stronger when the task at hand becomes more difficult.

In addition to pre-skills in reading and math, children's gender, their social competence and parent's educational level emerged as important factors in predicting children's developmental profiles in respect to their task-avoidant behaviour and skill development. Although boys typically caught up with girls in reading fluency by the end of first grade, boys were over-represented in the profile group with low reading skills and high task-avoidance and girls over-represented in the profile group with high reading skill and low task-avoidance. These results are in line with previous studies which have shown that boys exhibit both more task-avoidance (Midgley & Urdan, 1995; Onatsu-Arvilommi & Nurmi, 2000; Urdan et al., 1998) and more reading problems than girls (Chatterji, 2006; Klecker, 2006). Hence, being a boy and having low pre-skills in reading sets the child into a somewhat higher risk for ending up in the most detrimental developmental profile in respect to task-avoidance and reading fluency development.

The primary reasons for higher prevalence of reading problems among boys are beyond the scope of the present thesis. The reasons for boys demonstrating higher task-avoidance levels may be diverse. First, teachers may hold stereotypical views about boys being less attentive and persistent (Beaman et al., 2006). Second, higher teacher-ratings on task-avoidance for boys may reflect potential differences in behavioural self-regulatory capabilities between boys and girls. Behavioral regulation refers to one's ability to monitor, inhibit, and direct attention and behavior (Rueda et al., 2005). Matthews, Morrisson, and Ponitz (2009) demonstrated poorer behavioural self-regulation for boys both in teacher-ratings and tasks assessing self-regulation, and they showed that the bottom 10% of the boys scored considerably worse than the bottom 10% of girls, and they also showed fewer gains in self-regulation compared with all other students. Hence, this may also explain, why nearly 70% of the children in the most maladaptive developmental profile were boys in the present thesis.

Kindergarten social competence predicted children's future task-avoidant versus task-focused behaviour in school. We found that the two profile groups with high task-avoidance levels had been rated as demonstrating significantly lower empathy levels and significantly higher impulsivity and disruptiveness by kindergarten teachers compared to the two profile groups with lower task-avoidance levels. Social competence has been suggested to contribute to selecting effective behavioural strategies in classroom and focusing on tasks at hand (Curby et al., 2008; Odom et al., 2008). Teacher-rated task-avoidant behaviour may partly reflect impairments in processes related to behavioural and emotional self-regulation and temperamental dispositions which affect both children's social interaction with peers and their achievement behaviours. Children with high levels of task-avoidant behaviour are likely to have a heightened risk for developing a pattern of low behavioural engagement and emotional engagement along the findings of Ladd and Dinella (2009) who showed continuity in trajectories of children in cooperative-resistant classroom participation and school liking-avoidance and academic achievement. Ladd and Dinella (2009) demonstrated that in comparison to children who participated cooperatively in classrooms, those who became increasingly resistant across the primary grades displayed lesser scholastic growth, and the children who exhibited a combination of higher behavioural and emotional engagement made greater academic progress than the children who displayed a low level in both.

The results of the present thesis are in line with previous findings which suggest positive associations between high parental educational level and children's development in academic and other skills (Curenton & Justice, 2008; Myrberg & Rosén, 2008, 2009). Children with high task-avoidance and low skill levels came more often from homes with low-educated mothers and fathers whereas children with low task-avoidance and high skill level came more often from homes with high-educated mothers and fathers. Parents' educational level influences the beliefs and parental practices, leading to positive outcomes for children (Eccles, 1993). Davis-Kean (2005) showed that parents' educational attainment has an indirect influence on child's achievement through parents' expectations for their children's schooling, reading behaviour in the home, parent-child warmth, and parent-child play activities. Parental educational level positively predicted parental beliefs also in Study III of the present thesis. Alexander and colleagues (Alexander, Entwisle, & Bedinger, 1994) demonstrated that parents with higher educational background hold more accurate beliefs and expectations about the child's performance and hence may be better able to structure the home and educational environment so that their children benefit most of it.

To conclude, the person-oriented approach deepened the understanding of the associations between children's skill development and task-avoidant behaviour indicating that different developmental profiles do exist. Boys with low pre-skill levels seem to be in greater risk for falling into the most detrimental profile group with respect to their task-avoidance and reading fluency development. It is important that teachers and parents are able to recognise deficits

in children's reading pre-skills but also in their social skills and plan for adequate support. Prior literature also indicates that student motivation and engagement are promoted by perceived support and caring from teachers (Wentzel, 1998), consistent enforcement of classroom rules in combination with teacher warmth (Ryan & Grolnick, 1986), and teachers' support for students' autonomy (Guay, Boggiano, & Vallerand, 2001; Guthrie, Wigfield, & von Secker, 2000). In the Finnish First Steps data Pakarinen et al. (2010) demonstrated that high organization in kindergarten classrooms as observed with the CLASS (Pianta, La Paro, & Hamre, 2008) is associated with high learning motivation among children at the classroom level, and that high instructional support is associated with low levels of task-avoidant behavior among children (Pakarinen, Kiuru, Lerkkanen, Poikkeus, Ahonen, & Nurmi, 2011). Further, Lerkkanen et al. (in press) showed that the more child-centered the kindergarten teaching practices as observed with the ECCOM (Stipek & Byler, 2004) and the smaller the group size, the more task motivation children showed in literacy and in math.

5 IMPLICATIONS AND EVALUATION

5.1 Limitations

The findings of the present thesis are subject to several limitations. First, the substudies of the present thesis were carried out in two different countries – Finland and Estonia. Although there are a number of similarities between the educational systems of the two countries, there are also a number of differences (e.g., in receiving grades; for overview see Kikas & Lerkkanen, 2010) which may have consequences for the formation of children's achievement goal orientations and their associations to skill development. Because the samples and the measures in the substudies carried out in these two countries were not equivalent in all respects, some of the findings should be compared with caution.

Second, children's goal orientations were measured with only self-report questionnaire or interview. Younger children, in particular, may not be able to cognitively process all concepts within a long verbal item if it contains a motivational construct as well as a contextual reference, such as the teacher or classroom (Karabenick et al., 2007). To validate young children's self-reports, future studies might benefit from complementing children's self-reports with other methods (e.g, experimental manipulations, observations; see Salonen, Lepola, & Niemi, 1998) or using visual aids (e.g. puppets) in interviewing children. It should be noted that the items measuring performance-avoidance goal orientations in the present thesis also included concerns and worries, which might reflect children's self-concept (Harter, 1992) rather than purposes for studying.

Third, achievement behaviour was operationalized differently in Study I (effort) compared to the other substudies (task-avoidance). Fourth, our sample in Study IV did not represent the general population: almost half of the children in our sample were classified as at-risk for reading difficulties. This may partly explain why we did not find a profile with average reading skills. However, it should not affect the result that we found a developmental profile characterised by high task-avoidance and also high reading skills.

5.2 Practical implications

The results of the present thesis have some important practical implications. For teachers and other practitioners the results highlight the importance of detecting children's difficulties early and offering them adequate support in order to prevent children from adopting maladaptive performance-avoidance goal orientation and promote their effort. Children with lower skill levels would need individually adapted tasks in order to experience success. Playfulness, concrete study materials and activity-based tasks have been demonstrated to promote children's interest and skill development in math (Ikäheimo, 2010; Tikkanen, 2008).

Personal goal orientations and classroom goal structures are known to be relatively strongly linked (Church et al., 2001; Midgley et al., 1995; Roeser et al., 1996; Turner et al., 2002; Wolters, 2004). Therefore, it is suggested that teachers focus their classroom activities on learning and understanding and avoid normative evaluations and competition (Ames, 1992). It has been assumed that over-controlling and evaluative parenting and teaching practices direct children's approach motivation and coping effects towards the controlling social agent instead of the task and may undermine children's intrinsic motivation and preference for challenge (Lepola, Salonen, Vauras, & Poskiparta, 2004). Although performance-approach goals might be adaptive in some circumstances, children with high performance-approach goal orientation might be prone to shifting towards performance-avoidance orientation and avoidant strategies when facing difficulties or feeling uncertain about their capabilities (Brophy, 2005). Support for social competence and self-regulatory skills (e.g., Holsen, Smith, & Frey, 2008; Webster-Stratton, Reid, & Hammond, 2001) might contribute to effective classroom behaviour and hence help to prevent possible underachievement in later school career.

Teacher-ratings of children's task-avoidant behaviour have been criticised on the grounds that teachers might base their ratings on children's skill level rather than on their actual behaviour. Identification of developmental profiles with discrepant associations between task-avoidant behaviour and skill development provides some evidence which counters this critique. Asking their students about their achievement related beliefs and behaviours might give teachers a broader view of children's ways of approaching their school work and their motivational orientations and help in adjusting learning tasks for the child's needs. Children's task-avoidant behaviours at home are likely to create stress and frustration in parents (Levin et al., 1997; Xu & Corno, 1998) and affect negatively their beliefs about child's schools success. Parent's own beliefs in turn have an effect on children's further skill development, at least in some skill areas (Halle, Kurtz-Costes, & Mahoney, 1997; Stephenson et al., 2008). Hence, parents may also need support in how to encourage their children.

5.3 Future directions

Investigation of achievement goal orientations in younger children should continue to deepen the understanding of their developmental mechanisms. However, the self-report measures should be accompanied with other approaches, such as observations, interviews and experimental manipulations. Investigating the associations of achievement goal orientations with other motivational constructs (e.g., self-concept and efficacy beliefs, interest) as well as task-related (e.g., task-difficulty) and contextual (e.g., classroom goals structures, teaching practices) factors, would help to increase our knowledge on the regulation of achievement goals and the role of contextual factors. There is some evidence that students with strong performance-approach goal orientation may switch to a performance-avoidance goal when they experience failure or when their learning environments become increasingly challenging (Bong, 2005; Brophy, 2005). It is also possible, that mastery oriented learners, after becoming highly familiar with given tasks, start to lose their initial interest and may begin to pursue a different achievement goal (Bong, 2009).

Task-focused versus task-avoidant behaviour could be approached from other theoretical frameworks and explained by various other factors such as personality characteristics (Noftle & Robins, 2007; Trautwein, Lüdtke, Roberts, Schnyder, & Niggli, 2009), temperamental impulsivity and attentional capacities (Hughes et al., 2008). It is reasonable to assume that teacher-ratings of children's task-avoidance may tap personality and temperamental characteristics, and self-regulatory capacities as well as motivational orientations. Using multiple informants and multiple measures, and including simultaneous assessments of self-regulatory capacities would help to gain a deeper understanding of the mechanisms of children's persistence in challenging situations.

Finally, most of the studies investigating motivational orientations and various achievement behaviours are variable oriented and correlational in nature. Those few which have applied the person-oriented approach, have demonstrated that different patterns do exist. What is more important, these different patterns may have different antecedents and causes and may exert different influences on outcome variables. Hence, in order to deepen the understanding of the associations between the various motivational constructs and achievement behaviours, future studies should complement variable oriented approaches with the person-oriented approaches.

YHTEENVETO

Tässä tutkimuksessa selvitettiin suoriutumismotivaatioon liittyvien tavoitteiden, suoriutumiseen liittyvän käyttäytymisen sekä alakouluikäisten lasten lukutaidon ja matematiikan taitojen kehittymisen välisiä yhteyksiä sekä kehityksellisiä mekanismeja koulu- ja kotiympäristöissä. Työn tavoitteena oli tarkastella ensinnäkin suoriutumismotivaatioon liittyvien tavoitteiden, suoriutumiseen liittyvän käyttäytymisen (ponnistelu ja tehtävää välttävä käyttäytyminen) sekä luku- ja kirjoitustaidon että matematiikan taitojen kehityksen yhteyksiä kouluympäristössä. Toiseksi selvitettiin lukutaidon ja matematiikan taitojen kehityksen yhteyksiä suoriutumiskäyttäytymiseen (tehtävää välttävä käyttäytyminen) kotitehtävien yhteydessä sekä vanhempien uskomuksia lapsen suoriutumisesta. Kolmanneksi tarkasteltiin alaryhmäanalyysin keinoin suoriutumiskäyttäytymisen ja lukutaidon kehityksen profiileja ja näihin yhteydessä olevia ennakoivia tekijöitä (lasten koulun aloitusta edeltävät taidot, sosiaalinen kompetenssi ja sukupuoli sekä vanhempien koulutus).

Väitöskirjatutkimus koostuu neljästä osatutkimuksesta. Ensimmäisen osatutkimuksen aineistona oli 179 virolaista lasta (kahdeksasta opetusryhmästä), jotka tutkimuksen ensimmäisessä vaiheessa olivat 2. ja 3. luokalla ja toisessa vaiheessa 3. ja 4. luokalla. Toisen osatutkimuksen aineistona oli 174 virolaista lasta (16 koulusta), joiden taitoja arvioitiin ensimmäisen kouluvuoden alussa ja lopussa. Kolmannen ja neljännen osatutkimuksen aineistot oli kerätty osana suomalaista Alkuportaat –seurantatutkimusta (Lerkkanen, Niemi, Poikkeus, Poskiparta, Siekkinen, & Nurmi, 2006). Kolmannen osatutkimuksen aineistona oli 1267 lasta, joita oli seurattu esiopetusvuoden lopusta 2. luokan loppuun neljänä ajankohtana. Viimeisen osatutkimuksen aineistona oli 448 lasta, joista 190 lapsella oli tunnistettu esiopetusvuoden lopulla riski lukemisvaikeuksiin. Näiden lasten taitoja oli arvioitu esiopetusvuoden lopusta 2. luokan loppuun neljänä ajankohtana.

Teoreettinen tausta suoritusmotivaatioon liittyvien tavoitteiden ja käyttäytymisen tutkimiseen pohjautuu näkemykseen siitä, että kognitiivisten tekijöiden ohella motivationaalisilla ja käyttäytymiseen liittyvillä mekanismeilla on merkittävä rooli lasten oppimisessa (Pintrich & Schunk, 2002). Lapsilla ilmenee jo varhaisessa vaiheessa erilaisia tehtävien suorittamiseen liittyviä toimintatapoja: jotkut lapset luovuttavat suoriutumistilanteissa helposti kohdatessaan vaikeuksia kun taas toiset lapset osoittavat sitkeyttä ja ponnistelua haastavissakin tehtävissä (Burhans & Dweck, 1995, Cain & Dweck, 1995; Diener & Dweck, 1978). Tämänkaltaisilla toimintatavoilla on osoitettu olevan vahvoja yhteyksiä lapsen tulevaan suoriutumiseen eri oppiaineissa (Dweck & Leggett, 1988; Onatsu-Arvilommi & Nurmi, 2000). Ensimmäiset kouluvuodet ovat erityisen tärkeitä motivaation rakentumisen kannalta, koska tällöin lapset saavat lisääntyvässä määrin systemaattista palautetta suoriutumisestaan. Suoritustilanteissa ilmeneviä yksilön motivationaalisia taipumuksia ja valintoja selittäviä tunnettuja motivaatioteorioita ovat muun muassa tavoiteteoria (Achievement Goal Theory; Ames & Archer, 1988; Middleton & Midgley, 1997), itsemääräämisteoria

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(Self-Determination Theory; Deci & Ryan, 1985; Ryan & Deci, 2000) ja odotusar-voteoria (Expectancy-Value Model; Eccles, Adler, Futterman, Goff, Kaczala, Meece, & Midgley, 1983). Yhteistä näille teoreettisille malleille on näkemys motivaatiosta moniulotteisena käsitteenä, jonka huomion kohteena on oppijoiden ilmaisema kiinnostus tiettyä oppimistehtävää tai toimintaa kohtaan ja heidän sitoutumisensa siihen. Motivaatio nähdään lisäksi dynaamisena ilmiönä, johon vaikuttavat ympäristötekijät ja lapsen suoriutumistilanteeseen liittämät uskomukset.

Tässä väitöskirjassa motivationaalisten tavoiteorientaatioiden tutkimuksessa käytettiin ennen kaikkea tavoiteteorian (Ames & Archer, 1988; Middleton & Midgley, 1997) lähtökohtaa, käsitteistöä ja oletuksia. Motivationaalisilla tavoitteilla on oletettu olevan suoria vaikutuksia oppilaiden osallistumiseen ja käyttäytymiseen oppimistilanteissa (Elliot & Church, 1997). Se, missä määrin oppimistilanteissa ilmenee ponnisteluun ja sitkeyteen liittyviä valintoja vastakohtana tehtävien välttämiseen tai vähäiseen ponnisteluun, on keskeistä eroteltaessa tavoitteita, jotka heijastavat hallintaorientaatiota ja toisaalta suoriutumisorientaatiota (ks. Maehr & Midgley, 1996; Pintrich & Shunk, 2002). Tehtävää välttävä käyttäytyminen käsitetään epäadaptiiviseksi käyttäytymiseksi, jota ilmenee oppijoilla silloin, kun he kohtaavat vaikeuksia tai haasteita akateemisia taitoja vaativissa suoriutumistilanteissa, kun taas hallintasuuntautunut käyttäytyminen ilmenee tehtävästä nauttimisena, ponnisteluna ja sitkeytenä (Aunola, Nurmi, Niemi, Lerkkanen, & Rasku-Puttonen, 2002; Onatsu-Arvilommi & Nurmi, 2000). Haasteellisissa oppimistilanteissa ilmenevän ponnistelun, tehtävään suuntautumisen ja sitkeyden on todettu olevan yhteydessä parempaan oppiaineissa suoriutumiseen ja akateemisiin saavutuksiin (Eccles, Wigfield, & Schiefele, 1998; Murphy & Alexander, 2000). Tehtävää välttävällä käyttäytymisellä puolestaan on havaittu olevan kielteisiä vaikutuksia lasten oppimiseen (Cain & Dweck, 1995; Ho & Hau, 2008; Lackaye & Margalit, 2006; Meltzer, Katzir, Miller, Reddy, & Roditi, 2004; Meltzer, Katzir-Cohen, Miller, & Roditi, 2001; Onatsu-Arvilommi & Nurmi, 2000).

Väitöskirjassa esitettyjen tutkimustulosten mukaan lasten taitojen kehityksessä ilmenevät heikkoudet altistavat epäadaptiivisten tavoiteorientaatioiden kehittymiselle ensimmäisten kouluvuosien aikana. Lasten motivationaalisilla tavoiteorientaatioilla ei ensimmäisten kouluvuosien aikana havaittu olevan vahvoja yhteyksiä lasten suoriutumiskäyttäytymiseen (ponnistelu tai tehtävää välttävä käyttäytyminen). Suoriutumiskäyttäytymisellä sen sijaan oli yhteys lasten taitojen kehitykseen siten, että vähäisempi ponnistelu ja suurempi tehtävää välttävän käyttäytymisen määrä olivat yhteydessä heikompaan taitojen kehitykseen. Tutkimuksen tulokset osoittivat myös, että heikompi taitojen kehitys ennakoi lisääntyvää tehtävää välttävää käyttäytymistä sekä koulun oppimistilanteissa opettajan arvioimana että kotitehtävientekotilanteissa vanhempien arvioimana. Lisäksi, lasten tehtävää välttävällä käyttäytymisellä kotitehtävätilanteissa oli ennakoiva yhteys vanhempien uskomuksiin lapsensa koulumenestyksestä, jotka puolestaan vaikuttivat lasten taitojen kehitykseen.

Henkilölähtöistä lähestymistapaa käyttävän profiilianalyysin tulokset osoittivat kuitenkin, että tehtävää välttävän käyttäytymisen ja lasten taitojen kehityksen yhteydet eivät olleet aina odotusten mukaisia. Havaittiin, että neljästä kehityksellisestä profiilista kahdessa ilmeni tehtävää välttävän käyttäytymisen ja lukutaidon kehittymisen yhdistyminen tavalla, joka ei noudattanut oletettua yhteyttä tehtävää välttävän käyttäytymisen ja lukutaidon tason välillä. Lisäksi havaittiin, että lasten esiopetusvaiheen lukemisvalmiudet ennakoivat profiiliryhmien välisiä eroja kouluiän lukemisen sujuvuudessa ja lasten esiopetusvaiheen sosiaalisen kompetenssin taidot ennakoivat eroja lasten kouluiän tehtävää välttävässä käyttäytymisessä.

Johtopäätöksenä voidaan todeta, että vaikka lasten ilmaisemilla motivationaalisilla tavoitteilla ei havaittu vahvoja yhteyksiä suoriutumiskäyttäytymiseen tässä ikävaiheessa, opettajien arvioimalla lasten suoriutumiskäyttäytymisellä (ponnistelu ja tehtävää välttävä toiminta) oli yhteyksiä lasten taitojen kehitykseen, ja taitotasolla oli yhteyksiä tehtävää välttävään käyttäytymiseen. Heikompi taitotaso oli myös yhteydessä lasten suurempaan tehtävää välttävään käyttäytymiseen kotitehtävätilanteissa vanhempien arvioimana. Tehtävää välttävän käyttäytymisen ja lukutaidon kehityksen suhteen ilmeni erilaisia profiileja, joihin liittyen tunnistettiin lasten aiempien valmiuksien sekä sosiaalisen kompetenssin taitojen olevan lasta suojaavia tai oppimisen riskeille altistavia tekijöitä. Tutkimuksen tulokset vahvistavat näkemystä siitä, että motivationaaliset prosessit ovat merkityksellisiä oppimisessa ja niitä koskevien mekanismien ymmärtämiseksi olisi tärkeää käyttää muuttujalähtöisten lähestymistapojen ohella myös henkilölähtöisiä lähestymistapoja ja useammassa kuin yhdessä oppimisympäristössä tapahtuvia arviointeja. Tulokset viittaavat lisäksi siihen, että oppimisen tukemisessa on syytä huomioida motivationaalisten ja taitojen kehitykseen liittyvien prosessien yksilöllinen kietoutuminen sekä suojaavat ja oppimisen riskeille altistavat yksilölliset tekijät ja ympäristötekijät.

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ORIGINAL PAPERS

I

RELATIONS BETWEEN ACHIEVEMENT GOAL ORIENTATIONS AND MATH ACHIEVEMENT IN PRIMARY GRADES: A FOLLOW-UP STUDY

by

Katrin Mägi, Eve, Kikas, Marja-Kristiina Lerkkanen, Anna-Maija Poikkeus & Helena Rasku-Puttonen , 2010

II

PERFORMANCE-APPROACH GOALS, TASK-AVOIDANT BE-HAVIOUR AND CONCEPTUAL KNOWLEDGE AS PREDIC-TORS OF FIRST GRADER'S SCHOOL PERFORMANCE

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III

THE CROSS-LAGGED RELATIONS BETWEEN CHILDREN'S ACADEMIC SKILL DEVELOPMENT, TASK-AVOIDANCE AND PARENTAL BELIEFS ABOUT SUCCESS

by

Katrin Mägi, Marja-Kristiina Lerkkanen, Anna-Maija Poikkeus, Helena Rasku-Puttonen, & Jari-Erik Nurmi, 2011

IV

DEVELOPMENTAL PROFILES OF TASK-AVOIDANT BEHA-VIOUR AND READING SKILLS DURING GRADE 1 AND GRADE 2: A PERSON ORIENTED APPROACH

by

Katrin Mägi, Minna Torppa, Marja-Kristiina Lerkkanen, Anna-Maija Poikkeus, Helena Rasku-Puttonen, & Jari-Erik Nurmi, (submitted)