# The role of parenting self-efficacy in children's social and academic behavior

Niina Junttila Marja Vauras Eero Laakkonen *University of Turku, Finland* 

> A latent variable structural model was constructed to test the relations among mothers' and fathers' parenting self-efficacy (PSE), their loneliness, and their child's peer-evaluated social competence, self-evaluated loneliness, teacher-evaluated motivational orientation, and academic skills. In order to do this, first the Self-Efficacy for Parenting Tasks Index (Coleman & Karraker, 2000) was applied to a sample of mothers (n=876) and fathers (n=696) to test the relevance of these parenting task categories to Finnish mothers and fathers. The results of the latent variable structural model indicated a strong relationship between both mothers' and fathers' loneliness and their PSE, consisting of Nurturance, Discipline, Recreation, and Participation factors. Moreover, there was a modest relationship between parents' PSE and their child's social competence and consequently between social competence and child's loneliness. The relationship between PSE and child's academic achievement were mediated via child's social competence.

Parenting self-efficacy, as an estimation of the degree to which parents evaluate themselves as capable to complete the multiple tasks associated parenting ability to support child's school success has recently emerged as a powerful predictor of both parent and child well-being (Coleman & Karraker, 1998). While one of the most salient developmental tasks of adolescence is to succeed in school on both academic and social level (Bernier, Larose, Boivin, & Soucy, 2004) it seems warranted to investigate the concomitants between children's social behavior, academic achievement, and the social and emotional processes, such as parents' loneliness and parenting self-efficacy beliefs, taking place in the families.

The aim of our study was to investigate whether the mothers' and fathers' parenting selfefficacy and social networks have concomitants to their child's social and academic behavior in school. To frame this idea we will continue in two consecutive parts: First by studying the

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linkages between mothers' and fathers' parenting self-efficacy, social networks and loneliness, and secondly by relating these aspects to their child's social and academic behavior in school.

#### Parenting self-efficacy

Parenting (or parental) self-efficacy (PSE) has been identified as parents' self-referent estimations of competence in the parental role or as parents' perceptions of their ability to positively influence the behavior and development of their children (Coleman & Karraker, 1998; Teti & Gelfand, 1991). PSE includes both the level of specific knowledge pertaining to the behaviors involved in child development and rearing, and the degree of confidence in a parent's ability to confront the designated role behaviors without feelings of frustration or incompetence (Coleman & Karraker, 1998). Thus, PSE belongs to the more general class of constructs associated with personal efficacy, and is a potentially important cognitive construct related to child and family functioning (for a review, see Jones & Prinz, 2005,). Indeed, PSE seems to have an important mediational role in linking distinct parental factors, child characteristics, and situational factors (Teti & Gelfand, 1991).

PSE has been reported to have a strong relationship with many important aspects of parenting, for example role satisfaction, parental warmth, control, responsiveness, participation, and involvement. In addition, low PSE has been found to correlate with parental depression, parental defensive and controlling behaviors, high levels of parental stress, a passive or negative coping style in the parenting role, parent's tendency to focus on relationship difficulties, negative affect, elevated autonomic arousal, feelings of helplessness and frustration in the parenting role and the use of punitive disciplinary techniques (see, e.g., Coleman & Karraker, 1998; Jones & Prinz, 2005).

#### Relations between PSE, parents' social networks, and loneliness

Loneliness is a subjective distressing feeling of being without the kind of relationships the person desires (see, e.g., Weiss, 1973; Peplau & Perlman, 1982; Rotenberg, 1999). Social loneliness refers to the absence of a social network or to the feeling that is not part of the groups, whereas emotional loneliness refers to the lack of close, intimate attachment to another person (Asher, Parkhurst, Hymel, & Williams, 1990).

Parent's PSE has been predicted by the quality of their neighborhoods (Shumow & Lomax, 2002), which can be seen as one aspect of the supportive social networks. In a study by Lutz and Hock (2002), fathers with heightened fear of loneliness were particularly at risk for depressive symptoms, which again has been found to correlate inversely to parents' PSE (Gross, Conrad, Fogg, & Wothke, 1994). Indeed, while studying postpartum depression Cutrona and Troutman (1986) found, that mothers who were satisfied with their perceived social support had stronger parenting self-efficacy than others. Similarly, in our previous studies (Junttila & Vauras, 2005; Vauras & Junttila, in press), mother's loneliness was strongly negatively associated to her parenting self-efficacy.

These studies promote our idea of supportive social networks, or more precisely, the nonoccurrence of parents' loneliness as a predictor of stronger PSE. While parents with strong self-efficacy beliefs work industriously to minimize risk and to promote positive experiences for their child even in the presence of multiple stressors (Elder, 1995), those parents feeling lonely and depressed may more easily feel non-efficacious and give up trying (see, e.g., Cutrona & Troutman, 1986).

# Children's social behavior and academic achievement

The question arises, whether there are any concomitants between the parents' lack of social relationships and/or feelings of incompetence to the social behavior and academic achievement of their children? Presumably there must be. To describe social behavior, we chose to use the child's social competence and loneliness, and for academic achievement, the

child's motivational orientation and basic academic skills (decoding, reading comprehension and mathematical skills). We will next review the basic elements of these four aspects.

*Children's social competence.* Social competence is usually described in global terms, such as the ability to effectively make and maintain positive social outcomes by organizing one's own personal and environmental resources (see Boyom & Parke, 1995; Ladd, 1999). Social competence can be divined into two main aspects: Prosocial and antisocial behavior (Junttila, Voeten, Kaukiainen, & Vauras, in press). Both of them include components of skills, attitudes, and affective states. Prosocial behavior includes socially desirable actions, such as helping, sharing and comforting. These are the actions that society considers desirable and attempts to encourage in children. Manifestations of prosocial behavior, such as co-operating and participating in group-activities lead to acceptance by peers (see Coie, Dodge, & Kupersmith, 1990), and promote learning processes (see Rubin, Bukowski, & Parker, 1998).

The other dimension of social competence is the absence of antisocial behavior, for example the inhibition of impulsive and disruptive behavior. Antisocial behavior has negative social outcomes, which can be either intentional or unintentional, and which can be directed toward others or toward the person her/himself. Children with antisocial behavior tend to be members of deviant peer groups and to have higher levels of school dropout and conduct disorders (see Farmer, 2000). To be socially competent, a child has to behave strongly on the dimension of prosocial behavior and low on the dimension of antisocial behavior.

Previous studies, for example Bukowski, Hoza, and Boivin (1993), Clinton and Anderson (1999), and Lau and Kong (1999) have shown, that children, who are perceived to have a lower social competence are in higher risk to be lonely. Thus, we continue our design by studying the linkage between children's social competence and her/his social and emotional loneliness. Besides this linkage, our particular interest was, whether the child's loneliness can be related to her/his parents' loneliness and parenting self-efficacy.

*Children's loneliness.* Like adults, most children experience short-term loneliness as a normal consequence of every-day social situations, but for some children these feelings of loneliness overcome to be a chronic state weighting heavily to their school success and overall well-being (see, e.g., Rotenberg, 1999). For example, loneliness has been found to have concomitants with risk of school drop-out (McWhirter, Besett-Alesch, Horibata, & Gat, 2002; Page & Scanlan, 1994), depression and anxiety disorder (Buchholtz & Catton, 1999), low selfesteem (Nurmi, Toivonen, Salmela-Aro, & Eronen, 1997), negative coping styles and problems in adjustment (Pavri, 2001; Milsom, Beech, & Webster, 2003).

Loneliness has not often been studied as a socially shared experience, although we exist within ongoing, personally important groups (cf. Henwood & Solano, 1994). It has been suggested that if a child is raised in a socially isolated family, children's risk of becoming chronically lonely may significantly increase (Solomon, 2000). A socially detached family will not actively enhance a child's social growth by promoting and guiding acceptable behaviours or by modelling sample patterns of social interaction (cf. Lawhon, 1997). Since children readily acquire their parents' interactive behaviours (East, 1991), intergenerational cycle of loneliness may be shaped (e.g., Bullock, 1993).

McGuire and Clifford (2000) found significant heritability to children's loneliness. According to them, these genetic contributions are probably not in genes, but they may be caused by links to heritable traits and behaviours, such as temperament characteristics (see also Henwood & Solano, 1994). Still, they argue that the most important contributors, for example supportive peer networks or rejection, to individual differences in loneliness are experiences outside the family. However, the way parents model and overly coach on social skills and behaviours and either encourage or inhibit their child's social interactions might best provide a secure base from which the child can relate to the peer group (Henwood & Solano, 1994).

In Putallaz's and Heflin's (1990, pp. 210-211) model parental social competence and parental orientation toward social interaction is related to children's tendency to approach or avoid social interaction and to their acquisition of socially competent and inappropriate behaviour. Moreover, parents' reinforcement of their children's socially desired behaviour, discussions

about the emotions and the interaction strategies, and arrangement of social contacts supports the children's social skills and cognitions. They argue that children's own social behaviour is a mediator to the relation between parental behaviour and children's social status.

In sum, the previous research implies, that children's loneliness may be inherited by parents via attachment relationships (e.g., Berlin, Cassidy, & Belsky, 1995), learned behavior models (e.g., Solomon, 2000), or parental guidance and involvement (cf. Lawhon, 1997), or in turn learned or at least reinforced in early peer relationships (e.g., Asher & Wheeler, 1985; Boivin & Hymel, 1997). Still, either way the both parental and child's own social behavior and competencies are perceived to be important aspects related to child's loneliness.

These aspects (parents' loneliness, parenting self-efficacy, children's social competence and loneliness) constituted the upper on-going path of our model (see Figure 1). The other pattern we were interested in concerned the child's academic achievement.

*Motivational orientation and academic skills.* Decoding, reading comprehension and mathematical skills are the core elements of elementary school learning. Failure on these skills most often restrains learning also in other school subject areas. However, to learn these skills, child needs to be motivated to learn. Extensive research evidence supports the conclusion that early parenting practices, particularly parental affection and control styles, are related to children's cognitive performance and achievement in school as well as to their socio-emotional adaptations and motivational patterns (see Crittenden & DiLalla, 1988; Gardner, 1989; Maccoby, 1992). For example, maternal sensitivity, responsiveness, emotional warmth and limit setting tend to promote children's academic performance and motivational autonomy (for more details, see Salonen et al., this issue).

The history of parental control, support of autonomy, and emotional involvement seem to be associated to children's developing motivational orientations and coping (Skinner & Edge, 2002). It is feasible to expect on the basis of above referred extensive research (see, e.g., Hoover-Dempsey & Sandler, 1997; Maccoby, 1992; Salonen et al., this issue; Spera, 2005; Vauras, Salonen, Lehtinen, & Lepola, 2001) that there exist important associations between parenting self-efficacy beliefs and children's motivational orientations.

In this study, the operationalization of the tendency towards task oriented behaviour, avoidance behaviour or social dependence behaviour was based on our earlier tree-part model and taxonomy of motivational orientations and corresponding coping strategies (e.g., Salonen, 1988; Salonen, Lehtinen, & Olkinuora, 1998; Vauras et al., 2001; see also Salonen et al., this issue). Each of these orientations can be characterized by its paramount adaptive focus and the constellation of self-efficacy beliefs a person assigns either to situational task or social features (Olkinuora & Salonen 1992; Salonen et al., 1998; Vauras et al., 2001) as briefly captured in the following.

Positive and encouraging learning experiences and a challenging learning environment may lead a child to develop a high initial task-related sense of self-efficacy. A task oriented child is well concentrated on the task, ignores incidental stimuli and thus maintains the integrity of action even when obstacles arise. Instead, a learning history with experiences of "doing wrong", deprecatory feedback and strict social constrains, for example parental over-control, may lead the child to have weak belief in her/his self-efficacy. The primary goal of ego-defensive oriented child is to protect oneself from failing; the child is likely to adopt emotion-focused coping strategies, such as avoidance, substitute actions, or social manipulation and reaction. Excessive rewarding, over-guiding and over-helping may result in social dependence orientation. Thus, the child's performance may become exclusively directed toward fulfilling the guiding others', for example teacher's wishes, getting social cues, acceptance and rewards. Thus, the objective task requirements do not represent a major positive valance, and the child's belief of his self-efficacy in the task dimension is low (see, e.g., Vauras et al., 2001).

# Relations between PSE and children's social behavior and academic achievement

Jones and Prinz (2005) review the relations of PSE with different areas of child adjustment. They conclude that PSE may be linked directly and indirectly to child psychological

adjustment but raise a concern since PSE and child behavior have both often been measured via parental reports. Thus, it is not clear whether these documented relations are more a reflection of the parental perceptions of child behavior and thus possibly affected by parental self-doubt about their parenting efficacy. Nevertheless, the children presumably learn beliefs about their own self-efficacy, self-worth and the principles of social behavior by listening to and watching their parents (Jones & Prinz, 2005). Consequently, it seems meaningful to presume, that the parents' PSE impacts the child's social and academic behavior.

Still, there are only a few previous studies focusing on the concomitants between parents' PSE, and their child's success in school at both academic and social levels. According to Bogenschneider, Small, and Tsay (1997) the adolescents of parents with strong PSE have fewer behavioral problems, such as delinquency or substance abuse, and better youth adjustment. PSE has also been related, both directly and indirectly, to a child's social interaction, self-regulation, self-worth, anxiety, and self-efficacy (see Jones & Prinz, 2005). Swick and Hassell (1990) found that parents with strong parental efficacy, consisting of locus of control and interpersonal support, have a more positive influence on their children's social competence than parents who lack these efficacy indicators.

Concerning academic achievement, there are only a few studies supporting the idea of direct relationship between PSE and the child's academic success (Ardelt & Eccles, 2001; Bogenschneider et al., 1997), and some others supporting the notion of an indirect link, for example via parental involvement, monitoring, and aspirations (e.g., Hoover-Dempsey, Battiato, Walker, Reed, DeJong, & Jones, 2001; Shumow & Lomax, 2002; Wentzel, 1998). However, the effect sizes concerning the relationship between PSE and child academic achievement have been small in magnitude (Jones & Prinz, 2005).

#### Purpose

Despite a relatively large number of studies concerning the concomitants of parenting self-efficacy, the use of the term "parenting self-efficacy" is somewhat misleading in the context of most of these studies. They have focused only on mothers' self-efficacy beliefs, neglecting the study of fathers' parenting self-efficacy. Therefore, our first interest was to test whether the validity of the task-specific self-efficacy categories in Coleman's and Karraker's (2000) scale can be confirmed when applied to our sample of both Finnish mothers and fathers.

Secondly, we examined whether mothers' and fathers' parenting self-efficacy beliefs are related to their loneliness. We hypothesized that parents who have supporting social networks have stronger parenting self-efficacy (see Cutrona & Troutman, 1986; Shumow & Lomax, 2002). Since parents exist within the same ongoing social group it seemed reasonable to study their loneliness and PSE jointly. While studying family-level loneliness, Henwood and Solano (1994) have found similarities between spouses' social networks, use of relationship-enhancing responses and attitudes toward others. This lead us to hypothesize, that like they share their social perceptions they might also share their perceptions of their ability to positively influence the behavior and development of their children.

The parenting self-efficacy, in turn, was expected to have a positive relationship with their child's social competence (Swick & Hassell, 1990), which again was supposed to have a negative relationship with the child's loneliness (see Bukowski et al., 1993; Clinton & Anderson, 1999; Lau & Kong, 1999). Thus, thirdly, we related both parents' parenting self-efficacies to their child's social competence and further to the child's loneliness.

Fourthly, we were interested in how parenting self-efficacy is related to the child's motivational orientation and academic success. The relations between parenting self-efficacy and the child's motivational orientation (e.g., Vauras et al., 2001) and academic success (e.g., Hoover-Dempsey et al., 2001) are less well-known. We assumed that the children of parents with stronger PSE have stronger academic motivation (see Hein & Lewko, 1994) and that the academically motivated children are more academically skilled (see Melby & Conger, 1996; Salonen et al., 1998).

As revealed by Jones' and Prinz's (2005) review, there is a discrepancy between some of the findings concerning the concomitants of PSE. According to them, one possible explanation is a lack of independence between measurement sources. To minimize this effect, we chose to use multiple informants. PSE and parent's loneliness were evaluated by the parents themselves, the children's social competence was assessed by their classmates, and the children's loneliness by the children themselves. Additionally, their motivational orientation was estimated by their teachers and the academic skills by a series of standardized linguistic and mathematical tests.

# Method

#### Participants

The 13 elementary schools participating in this project were from a small urban town, and a number of rural communities in southern Finland. The sample consisted of 454 fourthgrade Finnish speaking students from mainstream education schools, including their teachers and parents. The teachers and parents were informed about the purpose of the study, and they agreed in writing, for themselves as well as for their children, to participate in the study. Less than three percent of the parents chose not to participate. The mean age of the children was 10 years and 5 months (SD 6.1 months).

#### Measurements for parents

*Parenting self-efficacy*. We applied a modified version of Self-Efficacy for Parenting Tasks Index (SEPTI) by Coleman and Karraker (2000). The scale has five subscales that are designed to assess parents' sense of competence at (1) facilitating child's *achievement* in school; (2) supporting child's need for *recreation* including socializing with peers; (3) provision of structure and *discipline*; (4) provision of emotional *nurturance*; and (5) maintenance of child's physical *health*. Each of the items are rated on a 6-point scale (1=strongly agree 6=strongly disagree). The Coleman and Karraker's scale has 36 items and the reliability estimates for the subscales are: Achievement .74; Recreation .82; Discipline .86; Nurturance .77; Health .73. Still, based on the principle components factor analysis, several items did not load on the intended factors, so they decided to use the scale as a global estimate of parenting self-efficacy, instead of use the subscale scores. The Cronbach's alpha for the whole scale was .91.

In addition to the original measurement, we included similar scales for both mothers and fathers. The pretest conducted with the translated items and the consequential modifications are reported at the beginning of the Result section. After these modifications the reliability coefficients (Cronbach's Alphas) for the scale as a global estimate of parenting self-efficacy were .83 for mothers and .81 for fathers (Table 1).

*Loneliness*. The mothers and fathers completed measurements of their own loneliness on a translated version of the Revised UCLA Loneliness Scale by Russell, Peplau, and Cutrona (1980). The UCLA loneliness scale is widely used and has well-established reliability and validity in different contexts (see Hojat, 1982; McWhirter, 1990; Pretorius, 1993). The items are measuring both social loneliness (e.g., "I feel isolated from others") and emotional loneliness (e.g., "there are people I feel close to"). The reliability coefficients (Cronbach's Alphas) for our data were .84 for mothers and .83 for fathers.

#### Measurements for children

Social competence. Children's social competence was rated using Multisource Assessment of Children's Social Competence Scale (Junttila et al., 2006). The scale includes

four factors of social competence: Co-operating skills (e.g., "effectively participates to group activities") and Empathy (e.g., "is sensitive to the feelings of others") to assess the prosocial dimension, and Impulsivity (e.g., "has a short fuse") and Disruptiveness (e.g., "argues and quarrels with peers") to assess the antisocial dimension of social competence. The dimensions were evaluated by the children themselves, their peers, teachers, and parents, but for the purpose of this study, we chose to use the peer evaluations of the child's social competence. This choice was made, because the use of all the evaluators would have made the model too complicate to analyze, and because we were interested in whether the processes taking place in the family context can be related to the child's behavior perceived by her/his peers. Moreover, by using the peer evaluations, we aimed to minimize the possible effect of lack of independence between measurement sources.

The reliability coefficients for the variables chosen were: .94 for the Co-operating Skills, .90 for the Empathy Behavior, .93 for the Impulsivity, and .92 for the Disruptiveness. More information on validity is available in Junttila et al. (2006).

Loneliness. The scale used to assess children's social and emotional loneliness was a translated and modified version of Peer Network and Dyadic Loneliness Scale by Hoza, Bukowski, and Beery (2000). The scale measures loneliness associated with lack of involvement in a social network (e.g., "some kids feel lonely a lot because they wish other kids included them more in things") and the absence of close dyadic friendships (e.g., "some kids don't have a friend that they can talk to about important things"). These are basically the two main dimensions that Weiss (1973) brought up, and have later been defined as social and emotional loneliness. Social loneliness refers to the absence of a social network or to the feeling that one is not attached to groups, whereas emotional loneliness refers to the lack of close, intimate attachment to another person (Asher et al., 1990). The reliability coefficients for our data were .84 for the Social and .81 for the Emotional Loneliness.

*Motivational orientation.* The teachers evaluated the children's motivational orientation on a scale (Salonen, Lyytinen, Kajamies, & Vauras, 2003) including 30 items measuring children's (1) task orientation, (2) social dependence orientation, (3) ego defensive externalizing orientation, and (4) ego defensive internalizing orientation. Task orientation refers to behavior targeting at mastering a task with the purpose of learning (e.g., "tries to solve problems independently"), and social dependence orientation refers to gaining approval and to complying with expectations (e.g., "tries in different ways to get the teacher give glues". Ego defensive orientation in a learning situation is dominated by self-protecting motives. This self-protecting behavior can manifest itself as externalizing; "fooling around", exaggerating behavior (e.g., "inappropriate outburst", or as internalizing; withdrawal, apprehensive behavior (e.g., "is retiring and avoiding social contacts") (Salonen et al., 1998).

The teachers' evaluations were used to study the children's generalized ways to behave in learning situations. Teachers, who have been able to observe the child's behavior for a long time and within different situations seems to be the best sources to evaluate these generalized behavior tendencies. The theoretical and empirical work for the scale being used can be found from Salonen et al. (1998), Lepola, Salonen, Vauras, and Poskiparta (2004), Vauras et al. (2001).

The reliability coefficients for our data were .94 for the Task Orientation; for the Ego Defensive Internalizing .64, for the Ego Defensive Externalizing .88, and .87 for the Social Dependence Orientation.

*Reading and mathematical skills*. Reading abilities were assessed using a Finnish Standardized Reading Test for elementary school children (Lindeman, 1998). In the decoding test, the children's task was to identify as many words in long continuous word chains as they could within the period of 3 minutes and 30 seconds. In the reading comprehension test, the children were given two narrative texts and twelve multiple-choice questions about the texts they had read. Internal consistency coefficient of the test was .87. More test validity information can be found in the Lindeman's (1998) test report.

The children's mathematical skills were assessed on two time-limited tests. One (Räsänen, 2004) assessed how well children understood number relationships, and the other assessed how well the children knew the basic arithmetic operations (Räsänen & Koponen, 2005). The tests used are comparable to the WRAT-R (Jastak & Wilkinson, 1984) with the exception that they are adapted to the Finnish mathematics curriculum (Räsänen, 1993). More information on test validity is available in the test reports listed above.

# Procedure

The parents, teachers and children completed the measurements between November 2000 and April 2001. The researchers collected the children's ratings (loneliness, and social competence) and administered the tests (reading and mathematical skills) during normal classroom lessons. The teachers were given the questionnaires of the children's motivational orientation and they filled them in during the measurement process. Both of the parents filled in the questionnaires of parenting self-efficacy and loneliness at home and returned them in closed envelopes to the schools. The peer ratings (social competence) were averaged to obtain one rating for each child from his or her peers in the classroom.

There were hardly any missing values in the self, peer, and teacher ratings, due to the online control of data collection by the researchers. For parent's ratings, there were noticeably more missing values. Especially the fathers' data (n=335) were smaller than the total sample (n=454) not only because of the great number of single mothers, but also because of missing or incomplete answers. Cases with more than two missing values were excluded from the analyses. All remaining missing values were substituted with means.

To answer the first research question (whether the subscales can be confirmed for both the mothers' and fathers' data) we analyzed data using confirmatory factor analysis, testing factor models separately for the mothers' and fathers' data. For the structural equation model (investigating the relationships between the parents' loneliness, PSE, and the child's social and academic behavior), we conduct a series of path analyses with latent variables. These models were fit to the correlation matrix using the maximum likelihood method. The fit of the models was evaluated using chi-square, the Root Mean Square Error of Approximation (RMSEA), the Non-Normed Fit Index (NNFI), and the Standardized Root Mean Square Residual (SRMR). Chi-square measures the distance between the sample covariance matrix and the fitted covariance matrix. RMSEA is a measure of discrepancy per degree of freedom (Steiger, 1990). According to Hu and Bentler (1999), a cutoff value close to 0.06 for RMSEA indicates a good fit. The NNFI, developed by Tucker and Lewis (1973) indicates how much better the model fits than the independence model. The index varies between 0 and 1, and the value should, according to Hu and Bentler (1999), be close to 0.95 for the model to be suitable. The Standardized Root Mean Square Residual (SRMR) is the average of the standardized residuals between the observed and the predicted covariance matrix; a cutoff value close to 0.08 indicates a good fit (Hu & Bentler, 1999).

#### Results

The translated items of the SEPTI (Coleman & Karraker, 2000) were pre-tested with the mothers and fathers of 49 children in grades 4 and 5. Based on this data, we further reduced the number of items; 16 were chosen to be included in the final questionnaire. The chosen items were the ones that appeared to perform best. Possibly due to differences in the cultural contexts, many of the items belonging to the factors Achievement and Health had very low alphas and were thus removed. Some other items were slightly modified to better fit the Finnish child rearing culture.

Descriptive statistics for the items of the mothers' and fathers' parenting self-efficacy are presented in Table 1. The distributions were a little skewed to the left, especially on the data

of the mothers, but in all cases skewness and kurtosis were within reasonable limits; that is, the statistics were all well below 2.0 for skewness and 7.0 for kurtosis, the values found suspect by Curran, West, and Finch (1996).

Table 1

Descriptive statistics of mothers' (n=430) and fathers' (n=335) parenting self-efficacy per items

	Mot	thers	Fath	ers
Items	М	SD	М	SD
Nurturance				
N1. I am definitely an adequately nurturing mother/father.	4.86	0.95	4.40	1.00
N2. I have trouble expressing my affection for my child.	5.24	1.27	4.89	1.32
N3. I know I'm not there enough emotionally for my child.	4.82	1.21	4.31	1.30
N4. Being a loving parent is easy to me.	5.08	0.99	4.90	0.99
N5. I frequently encourage my child to express her/his emotions.	4.52	1.13	4.09	1.16
Cronbach's alpha	.7	71	.6	8
Discipline				
D1. It is difficult to me to decide on appropriate rules for my child. D2. I feel that my child never listens to me when I want her/him	4.88	1.36	4.72	1.44
to do something. D3. I have more difficulties with discipline than other aspects of	3.87	1.33	3.85	1.35
parenting.	4.89	1.27	4.88	1.29
D4. My disciplinary skills are at least as good as an average parent.	5.12	1.08	5.09	0.99
Cronbach's alpha	.6	59	.6	8
Recreation				
R1. I am skillful to organize my child to play with friends.	4.45	1.05	3.61	1.13
R2. I know I should care more about my child's social life. R3. I take a good care that my child has a variety of recreational	4.67	1.25	4.41	1.36
experiences.	4.63	1.05	4.37	1.14
Cronbach's alpha		54	.5	3
Achievement				
A1. I am not as involved in my child's school work as I think				
I should be. A2. I get easily frustrated while helping my child with her/his	4.17	1.29	3.65	1.31
school work.	4.51	1.26	4.47	1.32
Cronbach's alpha	.4	19	.4	7
Health				
H1. I work hard to encourage healthy habits in my child. H2. I find myself ignoring my child's early signs of illness, hoping	4.63	1.08	4.34	1.10
that they will just go away.	4.38	1.39	4.01	1.36
Cronbach's alpha	.2	23	.2	6
Cronbach's alpha for the whole scale	.8	33	.8	1

# Confirmatory factor analysis on the mothers' and fathers' PSE

We started with the question whether the subcategories of Coleman and Karraker's (2000) scale can also be confirmed in our data. Possible due to the reduction of the number of the items and the cultural differences the reliability coefficients for some of the original subscales were extremely low (Table 1). Also, the confirmatory factor analyses performed on the covariance matrices using maximum likelihood estimation with Mplus 4.1 (Muthén & Muthén, 2006) estimated that the original model did not fit the data of the Finnish mothers nor fathers (Table 2). Although all the items were pretested and some of them were already removed and modified to better fit the Finnish child rearing culture, some of the items (N2, N3, D4, R2, and H1) needed to be removed to continue with the confirmatory factor analysis. For example item H1 "I work hard to encourage healthy habits in my child" got many comments like "It's not hard work" or "It is natural and does not require particular attention".

Model	$\chi^2$	df	RMSEA	CFI	SRMR
Mothers (n=430) Five-factor Four-factor	368.30* 63.83	94 37	0.08 0.04	0.79 0.96	0.07 0.04
Fathers (n=335) Five-factor Four-factor	241.95* 41.02	94 37	0.07 0.02	0.83 0.99	0.07 0.04

Goodness of fit indices of models for parenting self afficient	14010 2		
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Note. \*p<.000.

Table 3

Table 2

Therefore, we tested a four-factor model with the original factors Nurturance, Discipline, and Recreation, and a new factor (hereforth referred to as Participation) combined from selected items of Achievement and Health. The label "Participation" may not adequately sum up the whole nature of this factor, but it was chosen among other possible alternatives because it has been also previously used in the PSE research to describe this kind of complexity of frustration, coping and participation problems in parenting. We first applied the model to the data of mothers. An adequate fit for the four-factor model was obtained (Table 2), after making some modifications. Items A1, A2, and H2 indeed seemed to constitute a new factor describing the parents' feelings of frustration in participating in distressing situations of child rearing (see Coleman & Karraker, 1998; Jones & Prinz, 2005). Moreover, the item "I feel that my child never listens to me when I want him/her to do something" (D2) loaded not only on the Discipline dimension but also on the new factor and thus seems to confirm the complexity of frustration and participation problems in parenting. Therefore, we allowed the item to have a free loading on Participation. The Nurturance factor was consistent of items N1, N4 and N5; Discipline of items D1, D2, and D3, and Recreation of items R1 and R3 (Table 3).

	Mot	hers' parent	ing self-effi	cacy	Fat	hers' paren	ting self-effi	icacy
	Nurturance	Discipline	Recreation	Participation	Nurturance	Discipline	Recreation	Participation
N1	.61				.55			
N4	.72				.69			
N5	.50				.55			
D1		.81				.70		
D2		.28		.27		.30		.32
D3		.79				.85		
R1			.59				.51	
R3			.61				.68	
A1				.50				.43
A2				.65				.69
H2				.50				.46
Cronbach's alfa	.61	.71	.53	.59	.61	.69	.51	.56

Standardized	pattern coefficients	for mothers' and	fathers' pa	renting self-efficacy
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Next, we applied a similar four-factor model, with the same modifications, to the data of the fathers. As can be seen in Table 2, the Goodness of Fit Indices estimated, that this four factor model can be used also to the data of fathers. The standardized pattern coefficients for the models and the Cronbach's alphas for the new subscales are presented in Table 3. As can be seen, the alphas are not very high (between .51 and .71), but they are stronger for the new Participation factor than for the previous Achievement and Health factors (Table 1). For the other factors they are at quite similar level. The alphas for the whole scale (Table 1) indicated that at least at the global level the scale is internally consistent. Thus, we chose to use the parenting self-efficacy as a latent variable consisted of both mothers and fathers parenting self-efficacy instead of using the subscales as a separate constructs (cf., Coleman & Karraker, 2000).

# The relationships between parents' PSE, their loneliness, and their child's social and academic behavior

A latent variable structural equation model was constructed to test the hypothesized model of the parents' loneliness, PSE, and their child's social competence, loneliness, motivational orientation, and academic skills. A total of 297 families provided complete data for all the 23 variables evaluated by the mothers, fathers, teachers, peers, and the children themselves. This completely valid sample was similar to the rest of the sample with respect to the parents' level of education (*p*-values for the differences between samples were .466 for mothers and .759 for fathers), and the distribution of the child's gender (Sig. for Pearson Chi-Square .452). Maximum likelihood estimates for the model coefficients were obtained using Lisrel 8.7 (Jöreskog & Sörbom, 2004). Table 4 presents the correlation matrices, means, and standard deviations for the variables used in the analyses. In terms of the measurement of the latent variables, all of the observed variables were found to have significant factor loadings on the appropriate latent variables, and thus, the measurement model was statistically supported.

We applied the structural model with six latent variables (Parents' Loneliness, and PSE, and the child's Social Competence, Loneliness, Motivational Orientation, and Academic Skills). Because the correlations between mothers' and fathers' PSE factors were high (see Table 4) and our purpose was to investigate the PSE jointly, we applied the model similarly to the data of both parents (Figure 1). We now had two variables (Mothers' and Fathers' Loneliness) to estimate the latent variable Parents' Loneliness, and eight variables (Mothers' Nurturance, Discipline, Recreation, and Participation, and Fathers' PSE.

We first allowed a correlation between the errors of Nurturance and Recreation (both measuring the socio-emotional aspects of PSE); Discipline and Participation (both measuring the behavioral aspects of PSE); Co-operating Skills and Empathy Behavior (both representing the prosocial factors of social competence); Impulsivity and Disruptiveness (both representing the antisocial factors of social competence); and Ego Defensive Externalizing and Social Dependence (both measuring the externalizing non-task behavior in the learning situation). Secondly, we allowed the factor Ego Defensive Externalizing to have a path coefficient to the latent variable Social Competence, because of the "fooling around" and exaggerating behavior are closely related to the impulsive and disruptive behavior in the classroom. Finally, we allowed a correlation between the errors of Mothers' and Fathers' Nurturance (0.32), Discipline (0.40), Recreation (0.15), and Participation (0.29). Because the residual variance of the observed variables Task Orientation and Social Loneliness were statistically non significant, these parameters were fixed to 0.

The model with standardized path coefficients is presented in Figure 1. The standardized path coefficients between Parents' Loneliness and PSE was -0.72; between PSE and Child's Social Competence 0.15; and between PSE and Child's Motivational Orientation 0.06 (non significant). The other hypothesized paths were between Child's Social Competence and Loneliness (-0.21) and between Child's Motivational Orientation and Academic Skills (0.66). Moreover, statistically significant paths were found between Child's Social Competence and Motivational Orientation (0.30) and Child's Social Competence and Academic Skills (0.14). The overall indices fit the data at least adequately  $\chi^2$  (*df*) 508.25 (213); RMSEA (90%CI) .069 (.061; .077); NNFI .91; SRMR .076.

	1	2	3	4	5	9	7	8	6	10	11	12 1	13 I.	14 1	15 10	16 17	18	19	20	21	22	23
1. Mother's loneliness																						
2. Father's loneliness	.50*																					
3. Mother's nurturance	32*	28*																				
4. Mother's discipline	26*	18*	.22*																			
5. Mother's recreation	34*	30*	.50*	.18*																		
6. Mother's participation	20*	14*	.27*	.63*	.23*																	
7. Father's nurturance	15*		.50*	.16*	.31*	.13*																
8. Father's discipline	21*	26*	.13*	.62*	.07	.40*	.20*															
9. Father's recreation	12*		.18*	.08	.40*	.13*	.48*	.10														
10. Father's participation	22*	27*	.13*	.38*	.16*	.56*	.19*	.59*	.24*													
11. Task orientation	.05	.04	01	.14*	03	.25*	.08	.16*	.02	.21*												
12. Ego defensive int.	.03	.10	02	05	01	11*	07	14*	02	16*	51*											
13. Ego defensive ext.	.02	00.	07	14*	02	18*	10	14*	.05	15*	48*	.13*										
14. Social dependence	00.	00.	05	13*	.04	14*	05	08	.12* -	07	49*	.25* .6	*69									
15. Co-operating skills	.02	04	.02	.18*	.11*	.21*	.12*	.16*	60.	.14*	.41* .	13*3	36*1	14*								
16. Empathy behavior	.01	04	.04	.18*	.10*	.21*	.13*	.15*	.08	.14*	.38*(	054	42*1	17* .9	.98*							
17. Impulsivity	.02	.04	13*	15*	11*	19*	12*	04	02	- 07 -	26*(	02 .5	.57* .3	.33*5	54*63*	3*						
18. Disruptiveness	.01	00.	11*	.19*	09	19*	18*	10	05	10	33*(	02 .5	59* .3	.34*6	66*77*	7* .88*	*					
19. Social loneliness	.08	.11	15*	10*	19*	15*	17*	. 60	12* -	12*	08	.1	13* .0	.042	27*27*	7* .24*	!* .23*	*				
20. Emotional loneliness	.01	02	09	12*	15*	09	08*	.01	- 0.1	- 90	03	.02	.12* .0	.071	15*17*	7* .21*	* .22*	* .62*	×			
21. Reading comp.	.03	.07	09	.10*	04	.14*	.02	.13*	00.	.16*	*64.	20*2	28*3	33* .2	.25* .2	.24*20*	)*25*	*08	08			
22. Decoding	05	.12*	.01	60.	.03	.15*	02	.12*	02	.06	.43*	22*3	30*3	33* .2	.26* .2:	.25*29*	)*29*	*13*	*19*	* .37*		
23. Mathematical skills	05	04	.05	.11*	.06	.24*	01	.11*	.06	.22*	49*.	21*2	24*2	20* .3	.35* .3	.32*23*	*24	*12*	*06	.27*	.45*	
Μ	.02	02	4.82	4.54	4.54	4.23	4.46	4.48	3.99 2	4.00 -	01(	0308	9805	503	304	4 .02	.01	1.80	1.83	.17	.11	.14
SD	.95	.92	LT.	1.05	.87	.88	79	1.07	.93	.87	.85	88.	.87 .61		.46 .42	2 .40	. 42	.57	.63	.84	.93	.83

Means, standard deviations, and intercorrelations among the study variables

Table 4

In sum, the hypothesis concerning the strong negative relation between parent's loneliness and PSE was supported (T-value -4.04). Moreover, we hypothesized PSE to have a positive relation to the child's social competence and consequently, a negative relation to the child's loneliness. These relations were confirmed, although the first path was modest (T=1.99). The T-value for the relation between child's social competence and loneliness was -3.52. Our last hypothesis was that PSE has a relation to child's motivational orientation, which in turn has an effect on his/her academic skills. The relation between PSE and teacher rated motivational orientation and academic skills was strongly positive (T=0.81) but the relation between motivational orientation and academic skills was strongly positive (T=7.51).

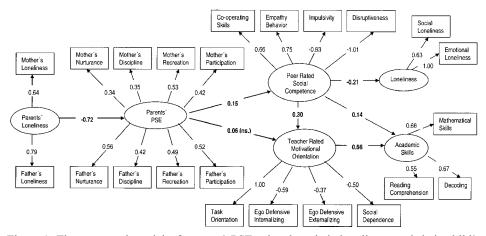


Figure 1. The structural model of parents' PSE related to their loneliness and their child's social competence, loneliness, motivational orientation, and academic skills.  $\chi^2$  (df) 508.25 (213); RMSEA (90%CI) .069 (.061; .077); NNFI .91; SRMR .076.

### Discussion

The purpose of this study was to investigate whether the mothers' and fathers' parenting self-efficacy and social networks have concomitants to their child's social and academic behavior in school. In sum, the parent's loneliness appeared to have a strong relation with their parenting self-efficacy, which was further related to the child's peer evaluated social competence and self-evaluated loneliness. Concerning children's motivational orientation and academic skills some unexpected but interesting relations were found.

#### The construction of finnish mothers' and fathers' PSE

We started by investigating whether the task-specific subcategories of Coleman and Karraker's scale (2000) could also be found in the data of Finnish mothers and fathers. In the light of the fact that fathers' parenting self-efficacy and loneliness have not attracted much earlier research, one significant outcome of this study was that we found a similar factor structure in both mothers' and fathers' parenting self-efficacy beliefs and loneliness.

However, in order to make the factor structure fit for our data, we too needed to make some modifications (cf., Kendall & Bloomfield, 2005). Three of the original factors, Nurturance, Discipline, and Recreation, appeared as separate dimensions of PSE, but the factors Achievement and Health were combined to constitute a new factor entitled Participation. Participation, or in other words involvement, has been strongly related to parenting self-efficacy, sometimes even defined as a dimension of it (cf. Coleman & Karraker, 2003; King & Elder, 1998; Shumow & Lomax, 2002; Teti & Gelfand, 1991). PSE is commonly defined as an estimation of the extent to which parents perceive themselves as capable of performing the varied tasks associated with the parenting role. As such, it seems to be theoretically justified to include Participation, defined as an estimation of the ability to cope with frustration and to participate positively in the distressing situations of child rearing, as an aspect of PSE.

Indeed, while studying the correlations between the PSE variables and the child's academic skills, Participation was the one factor that correlated most strongly with linguistic and mathematical skills. Albeit not strong enough to be constructed in the path model, the result is in line with the findings by Hoover-Dempsey et al. (2001), and Shumow and Lomax (2002).

# The model of parents' loneliness, PSE, and child's social and academic behavior

The main purpose was to study the relations between mother's and father's loneliness and PSE, and consequently, the relations between PSE and child's social and academic behavior. We hypothesize the parents' loneliness to have a relation to their PSE, which again was supposed to have relations to children's social competence and motivational orientation. Further on, the social competence was expected to relate with children's loneliness and the motivational orientation with their academic skills. The relations between parents' loneliness, PSE, child's social competence and loneliness were like we hypothesize them to be, but for motivational orientation and academic skills some unexpected and interesting relations appeared.

*Parents' loneliness and PSE.* First of all, the relationship between parents' loneliness and their PSE was strongly negative, indicating that the parents who had less feeling of loneliness had stronger beliefs in their PSE. This result supported our hypothesis, that the parents, who have supportive social networks, have stronger parenting self-efficacy. In all likelihood, this indicates that mothers and fathers who have friends and relatives to rely on and to share their problems and stressors with are more self-confident and trustful in their own competence and capabilities to be a good enough parent, and vice versa, parents with feelings of loneliness and maybe also depression may more easily feel non-efficacious and give up trying when the problems seem to accumulate.

Regarding to previous studies, it was interesting to see that while studying postpartum depression Cutrona and Troutman (1986) found similar relation between mothers' perceived social networks and their PSE. Thus it seems possible, that this particular relation exists from early motherhood at least until the child aged 10. Also the studies by Lutz and Hock (2002) and Gross et al. (1994) supported the relationship between supportive social networks and parents' psychological well-being and parental efficacy.

*PSE and child's social competence and loneliness.* Further, we related PSE to the child's peer-evaluated social competence and to her/his feelings of loneliness. In accordance with Swick and Hassell (1990), and our hypothesis, we found a positive relationship between the parents' PSE and their child's social competence. There may be numerous reasons for this concomitance. First of all, the parenting self-efficacy includes aspects of behaving empathically, taking care of others, attending to and listening to others. The aspects are also part of socially competent behavior and can be learned in the home environment by modeling, reinforcing, and coaching (see Putallaz & Heflin, 1990). By taking an active role in their children's social lives, parents may directly affect the quality of the children's peer relations and social competence (Ladd, 1992).

Moreover, the previous research implied that children's loneliness may be inherited by parents via learned behavior models (e.g., Solomon, 2000) or parental guidance and involvement (cf., Lawhon, 1997). Additionally, it has been suggested to be learned or at least

reinforced in early peer relationships (e.g., Asher & Wheeler, 1985; Boivin & Hymel, 1997). In our model, the relation between parental behavior and children's loneliness was mediated via children's peer evaluated social competence. The results indicated, that in line with the studies by Bukowski et al. (1993), Clinton and Anderson (1999) and Lau and Kong (1999) the children's social competence interrelate with their feelings of loneliness.

In sum, these relationships indicated that the parents, who feel they have social networks that are supportive enough for them not to feel lonely have stronger belief in their parenting self-efficacy, and their children are perceived as socially competent in their peer networks. Consequently this lessens the possibilities of child to be lonely. Thus, we may argue that both parental and child's own social behavior and competencies are important aspects in relation to the child's social and emotional well-being in school.

*PSE and child's academic achievement.* The other path was to investigate whether the parents' PSE is related to their child's motivational orientation evaluated by her/his teachers, and whether this, in turn, is related to the child's academic skills. Although the fit indices supported a link between PSE and children's motivational orientation, the *T*-value was statistical non significant. Thus, that part of our hypothesized model was not confirmed. Instead, the children's peer rated social competence had a strong relation to the motivational orientation and also a straight and statistically significant relation to the academic skills. Therefore, it can be argued that PSE has relation to children's motivational orientation but only if mediated by their social competence. Consequently, the motivational orientation was strongly related to child's academic skills.

Theoretically this relation between children's social competence and motivational orientation seems to be well arguable. Especially the ego defensive externalizing orientation and impulsive and disruptive behavior exists quite similarly in the context of classrooms. The ego defensively oriented children tend to protect themselves from failing in the learning tasks by for example anger and anxiety- or irritation-related reactions (Olkinuora & Salonen 1992; Salonen et al., 1998; Vauras et al., 2001.) These behavior (see, e.g., Baer & Nietzel, 1991; Junttila et al., in press; Kaplan, Gheen, & Midgley, 2002).

There are also previous studies concerning the maladaptive parenting styles or early interaction patterns influencing the development of children's motivational and emotional vulnerability and later learning and behavioural problems (Crittenden & DiLalla, 1988; Gardner, 1989). According to Hoover-Dempsey and Sandler (1997) the parents with a high sense of efficacy see themselves as capable of helping and motivating their child in schoolwork and are thus more involved and consequently positively supportive to their child's learning processes (see also Grolnick, Benjet, Kurowski, & Apostoleris, 1997; Spera, 2005). Still, while focusing particularly on parenting self-efficacy Jones and Prinz (2005) reviews, that if a relationship between PSE and child's academic success has been found, it has been small in magnitude. Considering the fact, that in the current study the relation between PSE and children's social competence was only modest in magnitude and the motivational orientation and academic skills were mediated thru that, the particular relationship between PSE and children's schoolwork as a mediator between PSE and child's motivational in magnitude. The inclusion of parental involvement in children's schoolwork as a mediator between PSE and child's motivational orientation might have strengthened this relation.

Although not being initially our intention, the current study underlines the importance of child's social competence in school. Besides having a relationship to both mother's and father's parenting self-efficacy, this variable consisted of child's co-operating skills, empathy behavior, impulsivity and disruptiveness, appeared to have straight relationships to child's motivational orientation, loneliness and academic skills. It is important to notice that the social competence was evaluated by peer ratings, motivational orientation by teacher ratings, loneliness by self ratings, and academic skills by series of standardized Finnish linguistic and mathematical tests. Thus we can argue that the relationships are rather objectively existent, than subjective errors due to the lack of independence between measurement sources (cf., Jones & Prinz, 2005).

## Applications, limitations and future directions

As stated by Jones and Prinz (2005), the influence of parenting self-efficacy cannot be overlooked, as, by predicting parents' and children's well-being, it may be seen as an important indicator of families at risk. Enhancing the mother's and father's PSE, either directly or via increasing the quality of their social relationships, is likely to have positive effects on their child's social well-being.

The obvious strength of this study was to make both parents' parenting self-efficacy available for analyses. However, it also created the weakness of this study by lessening the cases to analyze. With more cases, we could have increased the statistical power of structural equation modeling, which might have elevated the almost statistically significant paths to be significant ones. Moreover, some of the aspects of parenting self-efficacy were reformulated and as a result consisted of only a few items. Making them stronger by adding more items would probably give us more detailed comprehension of the manifestation of these aspects in PSE.

The subscale Participation was an unexpected but a particularly interesting finding. In a future study, we will undertake to examine Participation more deeply by enhancing the construct with more items and by analyzing the individual correlations of the subscale Participation with the aspects of the child's social and academic behavior. Indeed, it would be revealing to study what aspects of parenting self-efficacy are the ones that are particularly important to a child's co-operating skills, empathy, impulsivity, disruptiveness, social and academic skills. Moreover, it is possible that the parents' loneliness is especially related to some aspects of parenting self-efficacy but not to all of them or to any of the rest of them. By distributing the model into separate constructs, we might be able to find more detailed and powerful ways to increase the well-being of families.

Since we found a similar relationship between parents' loneliness and parenting selfefficacy at the time their child was aged 10 than Cutrona and Troutman (1986) found while studying mothers' postpartum depression, it would be meaningful to study this relationship by using longitudinal research design. The changes of residence, divorces, new social relationships and other changes in the parents' social networks might either reduce or strengthen their perceived PSE. Or, on the other hand, strong or low PSE might channel the parent's interest into either orient or withdrawn her/himself from social relations with others.

Although the methodological issues of our study defined the paths to be recursive from parents to children, it is obvious, that we cannot forget the fact that the signs of a child's wellbeing and competence influence positively the self-efficacy beliefs of his/her parents, and vice versa. The child may also actively influence her/his parents' behavior and beliefs in their own parenting capabilities (Schoenrock, Bell, Sun, & Avery, 1999). While planning resources to increase children's social and emotional well-being, we should take into account their global situation, including not only their peer relationships, loneliness and academic achievement in school context but also the external and internal social supportive relationships and efficacy beliefs taking place in their families.

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Dans la présente étude, nous avons construit un modèle structural de variables latentes afin d'étudier les relations entre des variables observées telles que le sentiment d'auto-efficacité des parents (père et mère), leur solitude, ainsi que l'évaluation par pairs de la compétence sociale de l'enfant, l'évaluation de la solitude par les enfants eux-mêmes, et finalement l'évaluation par les enseignants de l'orientation motivationnelle et les habiletés académiques de l'enfant. A cette fin, nous avons d'abord appliqué l'indice de tâche pour mesurer la perception d'auto-efficacité parentale (the Self-Efficacy for Parenting Tasks Index; Coleman & Karraker, 2000) auprès d'un certain nombre de mères (n=876) et pères (n=696). Sur la base de ces résultats, nous en avons jugé la pertinence pour exploiter ces catégories de tâches parentales chez les mères et pères finlandais. Il ressort des analyses effectuées par l'intermédiaire du modèle structural des variables latentes qu'il y a une corrélation étroite entre la solitude et le sentiment d'autoefficacité parental et ceci aussi bien chez des mères que des pères. Les facteurs qui ont été pris en compte sont : la Nutrition et les Soins de santé, la Discipline, les Loisirs et la Participation. En outre, il y avait une corrélation modérée entre le sentiment d'auto-efficacité parental et la compétence sociale de leur enfant.

Keys word: Academic skills, Loneliness, Motivational orientation, Parenting self-efficacy, Social Competence.

Niina Junttila. Centre for Learning Research & Department of Teacher Education, University of Turku, Assistentinkatu 7, FIN-20014, Turku, Finland. E-mail: niina.junttila@utu.fi; Web site: www.otuk.utu.fi

#### Current theme of research:

Parenting and social functioning as prerequisites for learning. Loneliness among school-aged children and their parents.

- Most relevant publications in the field of Psychology of Education:
- Junttila, N., Voeten, M., Kaukiainen, A., & Vauras, M. (2006). Multisource assessment of children's social competence. Educational and Psychological Measurement, 66, 874-895.
- Vauras, M., & Junttila, N. (in press). Children's loneliness, social competence, and school success: The role of the family. Scientific Annals of the Psychological Society of Northern Greece.
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- Marja Vauras. Department of Teacher Education & Centre for Learning Research, University of Turku, Assistentinkatu 5, FIN-20014, Turku, Finland. E-mail: marja.vauras@utu.fi

#### Current theme of research:

Socially and academically competent, motivated, and self- and co-regulated young learners in school and family contexts.

- Most relevant publications in the field of Psychology of Education:
- Lehtinen, E., Vauras, M., Salonen, P., Olkinuora, E., & Kinnunen, R. (1995). Long-term development of learning activity: Motivational, cognitive, and social interaction. *Educational Psychologist*, 29, 21-35.
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- Eero Laakkonen. Department of Teacher Education, University of Turku, Assistentinkatu 5, FIN-20014, Turku, Finland. E-mail: eero.laakkonen@utu.fi; Web site: www.users.utu.fi/eerlaa, www.edu.utu.fi/tokl/tokle.htm

#### Current theme of research:

Statistical methods in educational research.

#### Most relevant publications in the field of Psychology of Education:

- Annevirta, T., Laakkonen, E., Kinnunen, R., & Vauras, M. (2006, Submitted). Development dynamics of metacognitive knowledge and text comprehension skill. *Learning and Metacognition*.
- Lepola, J., Poskiparta, E., Laakkonen, E., & Niemi, P. (2005). Developmental of and relationship between phonological and motivational processes and naming speed in predicting word recognition in grade 1. *Scientific Studies of Reading*, 9(4), 367-399.