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Association between parental involvement in school and child conduct, social, and internalizing problems: teacher report

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The present study examined the factor structure of the Teacher Involvement Questionnaire (Involve-T) by means of exploratory factor analysis and examined the association between children's socio-emotional and behavioural problems and teacher-reported parental involvement in school, using structural equation modelling. The study was conducted with a Norwegian sample of school children in Grades 1–3. Results of the factor analysis supported the use of 3 separate scales, as suggested by the scale author (Webster-Stratton, 1998); however, a number of items in each scale were reduced. Furthermore, the results showed among other findings that teachers reported more frequent contact with parents of children with conduct problems than with those of children who did not display conduct problems, and that parents of children with high levels of socio-emotional competence were more involved in their children's education than other parents. The results need to be replicated in future research in a more representative study population.

Keywords: parental involvement; teacher report; behavioural problems; social problems; internalizing problems; Grades 1–3; Norwegian sample

Introduction

The research literature on parental involvement in school has increased over the past 2 decades and has emerged as an important issue in the functioning of children in school. In general, research shows that parental involvement in children's education is one of the strongest predictors of school success and exerts a powerful impact on school attainment and adjustment (Desforges & Abouchaar, 2003; Fan & Chen, 2001; Weiss, Bouffard, Bridglall, & Gordon, 2009).

Epstein (2001) describes six types of parental involvement addressed in the empirical literature reflecting different co-operative relations between schools and parents, namely, parenting, communicating with the school, volunteering, learning at home, decision-making in the school, and collaborating with the community. In these models, teachers and parents are considered partners, with their own and shared tasks and responsibilities

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varying according to the level of parental involvement. Furthermore, parental involvement may be both school and parent initiated (Driessen, Smit, & Sleegers, 2005). Measures of parental involvement most often assess the frequency and quality of the contact of parents with teachers as well as their participation in school functions and activities in school and at home (Dearing, Kreider, Simpkins, & Weiss, 2006 ; Machen, Wilson, & Notar, 2005).

Positive involvement between parents and schools/teachers has been shown to improve academic achievement of children at all levels along with their social functioning at school (Georgiou, 1999; Hattie, 2009; Hill & Craft, 2003; Jeynes, 2003, 2007). For children in general, parental involvement in school activities is reported to lead to improved behaviour, attitudes, and attendance at school, as well as better emotional adjustment and greater well-being (Catsambis, 2001; Hill & Craft, 2003; Hornby & Witte, 2010). For younger children, parental involvement is associated with early school success, including academic and language skills and social competence (Hill, 2001; Hill & Craft, 2003). Furthermore, studies indicate that parental aspirations, evidence of parental involvement, and expectations are strongly associated with enhanced levels of student achievement in both primary and secondary education (Catsambis, 2001; Epstein & Sanders, 2000), and may promote the motivation and persistence of children in engaging in challenging educational tasks (Nokali, Bachman, & Votruba-Drzal, 2010).

Low parental involvement has been associated with factors such as low levels of education (Epstein & Sanders, 2000), low socioeconomic status (SES), minority backgrounds, being male (Carter & Wojtkiewicz, 2000), untraditional family structures (Jeynes, 2001; Riggs & Medina, 2005), and low income (Westergaard & Galloway, 2004). In particular, low SES has been found to be strongly associated with low levels of involvement between school and parents. For example, Bakker, Denessen, and Brus-Laeven (2007) found that teachers appear to establish a stereotyped perception of the involvement of parents on the basis of SES. Furthermore, parents with low SES will often be "invisible" to teachers, and no real partnership will be established (Driessen et al., 2005). This indicates that some of the children who would benefit most from parental involvement generally display the lowest levels of parental involvement with schools. In contrast, parents with high SES appear to display more active co-operation with teachers and schools, most likely because these parents have greater social capital (McNeal, 2001).

Research suggests that parental expectations and involvement have a stronger influence on the achievement of younger children than those in the later years of elementary schooling (Englund, Luckner, Whaley, & Egeland, 2004), and that parents are more involved with schools on behalf of their sons than their daughters (Carter & Wojtkiewicz, 2000). However, few studies have explored how student gender is associated with parental involvement with school. Researchers have also found that when children are experiencing school difficulties, their parents are more likely to meet with teachers and to become involved in school, and when children are succeeding in school, their parents tend to relax their involvement (Thurston, 2005). Thus, when parents become involved in school, it is often as a response to a problem. However, the relationship between parental involvement and school may be proactive as well as reactive (Desforges & Abouchaar, 2003).

For parents of children with conduct problems, it has been reported that their involvement with the school may be more complicated than for other children (Henggeler, Cunningham, Schoenwald, & Borduin, 2009). Most contact between school

and parents may be reactive in that it focuses on negative student behaviour, and parents will after a time attempt to avoid communication with the teacher. Lack of parental involvement may perpetuate the child's behavioural problems (Webster-Stratton, Reid, & Stoolmiller, 2008). As a result, the occurrence and magnitude of child conduct problems may be both a cause and an effect of low levels of parental involvement with school, indicating complex associations between parental involvement and other factors. However, for these children, it is of particular importance that co-operation between parents and the school/teachers functions well (Webster-Stratton et al., 2008). Positive bonding between parent and school is a predictor of later social and academic success for young children with behavioural problems (Reid, Webster-Stratton, & Hammond, 2007).

Teachers are among the first to recognize and appreciate parental involvement. For this reason, we may expect teacher ratings to be included among the main measures of parental involvement (Jeynes, 2003). Previous research on parental involvement in school has mainly focused on academic achievement, with less attention given to its association with the different social and emotional domains of child development (Nokali et al., 2010). To address this, the present study examines teacher-rated parental involvement in Grades 1–3 and its association with child conduct, social, and internalizing problems using structural equation modelling (SEM). To measure parental involvement, we employ the Teacher Involvement Questionnaire (Involve-T) (Webster-Stratton, 1998). This measure is based on teacher reports and primarily comprises the second (communication) and fourth (learning at home) dimensions from Epstein (2001).

To ascertain whether the factor structure of Involve-T fits data collected in Norway, we conducted an exploratory factor analysis (EFA). It is important to establish the multicultural robustness of an assessment instrument (Rescorla et al., 2007) to take into account multiracial variations in teachers' reports of children's social competence. To our knowledge, no previous study has examined whether different kinds of child socio-emotional and behavioural problems are differently associated with parental involvement with school, and these findings therefore add to our existing knowledge in this field. The main aims of the present study using a Norwegian sample are to: (a) examine the factor structure of Involve-T by means of EFA, and (b) test for associations between children's conduct, social, and internalizing problems, as rated by the teacher, and parental involvement.

Methods

Participants

The study was conducted with 287 school children who were participants in a national Norwegian study on child conduct problems in the normal population. The criterion for inclusion was that the schools accepted an invitation to participate in the national study. Children from Grades 1 to 3 in both urban and rural parts of Norway were included in the study. The school children were invited to participate as follows. Seven children were randomly selected by each contact teacher and invited to participate. If a child's parents did not accept the invitation to participate, a new child was selected at random until seven participating children were selected by each contact teacher. The children who participated in the study were in Grades 1–3 in different parts of Norway. All but one of 51 eligible teachers of Grades 1–3 participated, which yielded a response rate of 98%. Of the children, 287 participated, yielding a response rate of

78%: 146 boys and 141 girls. Children were excluded if their parents did not speak or understand Norwegian, which prevented them from reading and responding to the consent form.

Procedures

The principal of each school distributed information about the study and all the necessary material to the teachers, who in turn distributed information to parents with a request for permission for their children to participate in the study, and with the option of withdrawing the child from the study at any time, after informing the teacher. The questionnaires were returned to the research group in a prepaid envelope or through the internet survey tool Questback (see http://www.questback.no/).

A list of randomly selected reserve children was given to each school. If children originally selected were refused permission to participate, they could be replaced by children in reserve. The teachers could send one reminder to obtain parental consent.

Measures

Teacher Involvement Questionnaire (Involve-T)

Involve-T is a measure based on teacher ratings, derived from the Oregon Social Learning Centre (OSLC) questionnaire, and addresses the degree of parental involvement in school (Webster-Stratton, 1998). The questionnaire has three subscales: 1 = Teacher bonding with parent, 2 = Parent involvement in education, and 3 = Parent involvement with school/teacher. The measure originally consists of 20 items (see Appendix 1) asking teachers to report on the extent to which parents seem comfortable with the school environment, value education, support the teacher, assist with homework, and engage in cognitively enriched interactions with their children. The range of the scale is from 1 to 5 (a higher score indicates a higher degree of involvement); with a summary score that measures all of these aspects of parental involvement in school-related activities. Internal consistency using Cronbach's alpha for Involve-T in this study was found to be .83. See Appendix 2 for a correlation table of all items. Because the Involve-T scale has not been tested on children of the relevant age group in Norway, its factors were analysed before including it in the structure equation model. See the results section for more details.

Sutter–Eyberg Student Behavior Inventory-Revised (SESBI-R)

The SESBI-R is a 38-item inventory with which teachers evaluate the intensity of various behaviours of children aged 2–16 years on a 7-point Intensity scale: 1 = *never*, 2–3 = *seldom*, 4 = *sometimes*, 5–6 = *often*, and 7 = *always* (Eyberg & Pincus, 1999). The items represent common behavioural problems that are observable by teachers, such as: "has temper tantrums", "pouts", "acts defiant when told to do something", "has difficulty staying on task", "has trouble paying attention", and "fails to finish tasks or projects" (Eyberg & Pincus, 1999). The teacher also reports whether the various behaviours are currently a problem on a yes–no (1–0) Problem scale. Total scores are computed for both the Intensity and Problem scale, and range from 38 to 266 on the Intensity scale and from 0 to 38 on the Problem scale. The SESBI-R has been found to be a reliable and valid instrument for efficient screening and tracking of the behaviours of conduct-disordered children (Eyberg & Pincus, 1999; Kirkhaug, Drugli, Mørch, & Handegård, 2010).

The internal consistency measured with Cronbach's alpha for the SESBI-R Intensity scale in this study was found to be .97. For the structural equation model, the 38 items were randomly divided into parcels of 9–10 items that then served as four indicators of the latent SESBI-R variable. This is a common technique against problems arising from non-normally distributed single items and high model complexity resulting from a high number of items per scale, especially when the sample size is rather small (Hau & Marsh, 2004).

Teacher Report Form (TRF)

The TRF consists of teacher ratings of children's academic performance, adaptive characteristics, and conduct problems (Achenbach & Rescorla, 2001). In this study, the subscale of Anxious/Depressed (15 items) was used as a measure of a child's internalizing problems. Teachers are asked to rate the degree of emotional problems of the child including items such as "must be perfect", "feels unloved", "feels worthless", "nervous, tense", "fearful", and "anxious", for the previous 2 months on a 0–2 scale (0 = *not true as far as you know*; 1 = *somewhat or sometimes true*; 2 = *very true or often true*); the scores range from 0–30. Test–retest reliability and validity were found to be high (Achenbach & Rescorla, 2001). Internal consistency according to Cronbach's alpha for TRF in this study was found to be .98. For the structural equation model, the items belonging to the subscale were randomly divided into three parcels of 5 items each, which were then used as indicators of the latent variable TRF.

Social Skills Rating System (SSRS)

The SSRS is used by teachers to rate the occurrence and importance of specific social skills, behavioural problems, and academic competence (Gresham & Elliott, 1990). The SSRS consists of 57 items and provides a broad assessment of a pupil's social behaviour. In the present study, we utilized the 30 items of the Social Skills subscale, which includes items such as "controls temper in conflict situations with peers", "makes friends easily", "follows your directions", and "gets along with people who are different". The teacher assesses how often each social skill occurs on a 0–3 scale: 0 = *never*, 1 = *sometimes*, 2 = *often*, 3 = *very often*, and the importance of the social skill on a 0–2 scale: 0 = *not important*, 1 = *important*, 2 = *critical*. The sum of these scores ranges from 0–90 and 0–60, respectively. In this study, both the test–retest reliability and the validity of the SSRS were found to be good. Internal consistency using Cronbach's alpha for SSRS in this study was found to be .97. To derive the structural equation model, the frequency ratings on the 30 items were divided randomly into three parcels of 10 items each that then formed the indicators of the latent variable SSRS.

Ethics

The study was approved by the Regional Committee for Medical Research Ethics at the University of Tromsø (UiT).

Analysis strategy

The analysis was conducted in two consecutive steps. (a) The Involve-T scale was factor analysed and those items not fitting the expected factor structure were removed from the analysis. The remaining items were the indicators of the three latent variable subscales

of the Involve-T scale. (b) The resulting three latent Involve-T subscales were regressed on the Student Behavior Inventory (SESBI-R), the Anxious/Depressed subscale of the TRF, the Social Skills Scale (SSRS), and the child's sex (0 = male, 1 = female). In both analyses, the impact of the clustered data structure (teachers reporting about several children) on the estimation of the standard errors was corrected using the "complex" analysis feature in MPLUS 6.1 (Asparouhov & Muthén, 2007). Furthermore, the response format of the Involve-T items 1–12 (1 = *never*, 2 = *1–2 times*, 3 = *every month*, 4 = *every week*, 5 = *more than once a week*) made it necessary to use a probit-link function to relate them to the latent factors in the factor analysis and the latent variables in the structural equation model.

Results

Exploratory factor analysis of the Involve-T scale

Initial inspection of the distribution of the data for all 20 items of the scale revealed that Items 7 and 8 of the scale as well as Items 9 and 10 had a correlation of 1 (see Appendix 2), meaning that the response patterns for each pair of items were identical. Therefore, Item 8 (*Has this child's parent attended a parent–teacher conference in the past 1–3 months?*) and Item 10 (*How often has this child's parent been to school meetings in the past 1–3 months?*) were removed from the analysis. The remaining items were used in a series of exploratory factor analyses with geomin rotation (Brown, 2001). Increasing numbers of factors were allowed, and the first solution with a satisfactory overall model fit was the four-factor solution. The fit of the four-factor model was Chi^2 = 148.10, df = 87, $p < .001$, Chi^2/df = 1.70; RMSEA = .049 [CI .035 .063]; CFI = .98; TLI = .97. The loadings of the items on the four factors are displayed in Table 1. The first factor is formed by Items 1, 2, 4, and 11, the second by Items 3, 7, and 9, and the third by Items 5, 6, and 12. The fourth factor consists of Items 13–20. The correlations between the four factors are reported in Table 2.

Based on the theoretical expectations, Factors 1, 2, and 4 resemble the expected dimensions of the Involve-T scale, whereas Factor 3 has loadings across items from different subscales. Therefore, the items loading on Factor 3 were excluded from the structural equation model. Item 20 (*Do you think that the parent is more interested in her child's education than the parent's participation indicates (i.e., full-time work, student, several young children at home)?*) was excluded because it had an extremely weak loading on Factor 4. Item 14 (*How well do you feel you can talk to and be heard by this parent?*) and Item 15 *(If you had a problem with this child, how comfortable would you feel talking to his/her parent?*) were loading on Factor 4, not on Factor 2 as expected, and were consequently removed. Finally, Item 2 (*Have you called this child's parents in the past 1–3 months?)* and Item 9 (*How often has this child's parent been invited to attend a school meeting in the past 1–3 months? (verbal or written invitation by you or other school personnel)* had a very unclear loading structure with strong cross loadings on other factors and were removed. Resulting from this analysis, the following latent Involve-T variables were specified for the structural equation model: Parent involvement in education (PIE) – for example, the parent has the same goals as the teacher, thinks education is important, helps with homework: Items 13–19; Parent involvement with school/teacher (PIS) – for example, parent calls teacher, parent visits classroom, parent attends conferences, parent volunteers: Items 1, 4, and 11; Teacher bonding with parent (TB) – teacher called parent, wrote note, invited parent to school, comfortable meeting with parent: Items 3 and 7.

Table 1. Geomin-rotated factor loadings for the four-factor solution in the exploratory factor analysis of the Involve-T scale ($N = 287$).

	Factor 1	Factor 2	Factor 3	Factor 4
Item 1	**.977*** **	.056	–.056	–.026
Item 2	**.559*** **	.477***	–.011	.012
Item 3	.008	**.981*** **	.037	.067
Item 4	**.576*** **	.034	.347***	.048
Item 5	–.064	.108	**.998*** **	–.038
Item 6	–.003	.031	**.947*** **	.022
Item 7	.131	**.497*** **	.367***	.007
Item 9	.338	**.487*** **	.331***	–.250***
Item 11	**.687*** **	–.009	.128	.073
Item 12	.213**	–.093	**.640*** **	.029
Item 13	.125	–.281***	.162	**.524*** **
Item 14	–.005	–.012	.138	**.715*** **
Item 15	.107	–.022	.219	**.417*** **
Item 16	–.056	.039	.043	**.659*** **
Item 17	.004	.016	–.040	**.862*** **
Item 18	.037	–.017	–.071	**.862*** **
Item 19	–.148	.113	–.061	**.643*** **
Item 20	.037	–.111	.018	**.216*** **

Notes: ***$p < .001$, **$p < .01$; Items 8 and 10 have been removed from the analysis because of identical response patterns with other items. The main loadings are indicated in bold.

Table 2. Correlations between the four extracted factors of the exploratory factor analysis of the Involve-T scale.

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	–			
Factor 2	.476***	–		
Factor 3	.496***	.482***	–	
Factor 4	.189*	–.151**	.021	–

Notes: ***$p < .001$, **$p < .01$, *$p < .05$.

Structural equation model

The items described in the previous section were used as indicators of the three sub-dimensions of Involve-T (PIE, PIS, and TB). Three- to four-item parcels were used as indicators for SESBI-R, TRF and SSRS. The three sub-dimensions of Involve-T were regressed on SESBI-R, TRF, SSRS, and sex (see Figure 1). The residuals of the sub-dimensions were allowed to co-vary to cover for correlation between the three Involve-T sub-dimensions that were not mediated by the predictors. In addition, the four predictors were freely co-varying. All model fit indices indicated a good fit ($Chi^2 = 206.35$, $df = 169$, $p = .027$, $Chi^2/df = 1.22$; RMSEA = .028 [CI .010 .040]; CFI = .96; TLI = 95; WRMR = .75). It should be recognized, however, that the structural part of the model is saturated (each model construct is related to all other model constructs), which means that the model fit applies only to the measurement model, hence the loading structure of the items/parcels to their respective latent constructs. Table 3 shows the estimated model parameters and Figure 1 displays the structural part of the model.

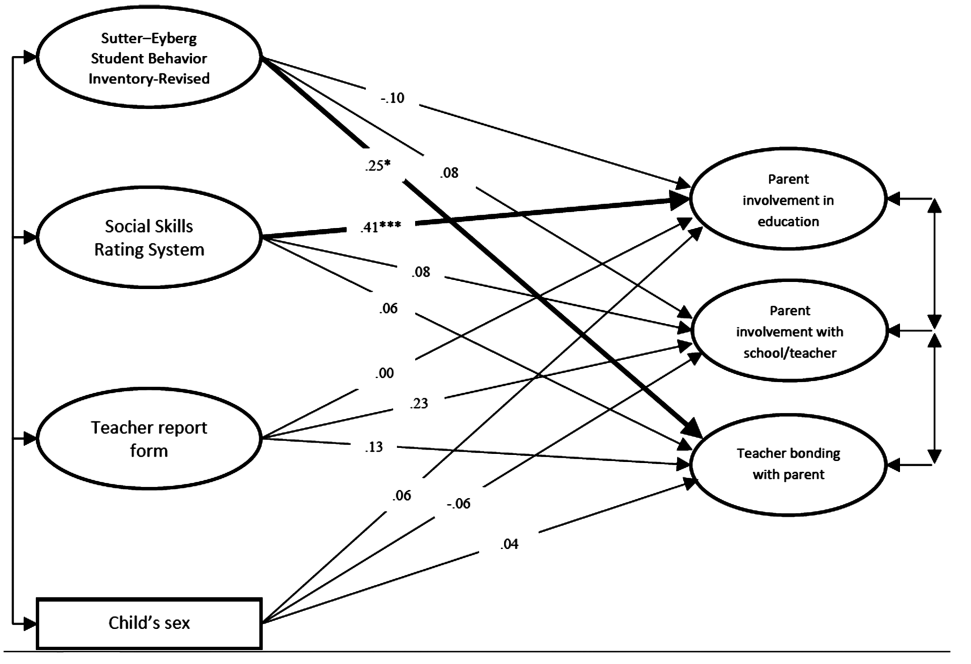

Figure 1. Results of the structural equation model (displayed are only the standardised regression weights for the structural paths, please consult Table 3 for all other estimates and unstandardized results).*$p < .05$; *** $p < .001$.

The first part of Table 3 shows that all loadings of items and item parcels on their respective latent variables are larger than .60 with the exception of Item 13 on PIE, which is only moderate. Only two of the tested relations between a predictor (SESBI-R, SSRS, TRF, and sex) and one of the sub-dimensions of Involve-T are significant: Higher scores on parent involvement in education are significantly and positively related to higher scores on the social skills scale (moderate effect size). Higher scores in teacher bonding with parents are positively related to higher scores on the student behaviour inventory (small to moderate effect size). The teacher report form and sex show no significant relation to any of the three dimensions of Involve-T. Parent involvement with school/teacher is not affected significantly by any of the tested predictor variables. Variation in SESBI-R, SSRS, TRF, and sex explain together 20.5% of variation in parent involvement in education, 9.2% of variation in teacher bonding with parent, and only 7.5% of variation in parental involvement with school/teacher. If similarities between the three dimensions of Involve-T caused by the tested predictor variables are controlled, parent involvement with school/teacher and teacher bonding with parent still show a substantial positive residual correlation (most likely because of a shared answering format). Parent involvement in education and parent involvement with school/teacher show only a small but significant positive correlation. Sex correlates significantly with SESBI-R: Girls have lower scores on SESBI-R. SSRS, SESBI-R, and TRF correlate significantly with each other (small to moderate effect sizes). The correlations which include SSRS are negative (the more social skills, the lower are the values of SESBI-R and TRF). SESBI-T and TRF correlate positively.

Table 3. Estimated model parameters for the structural equation model ($N = 287$).

	B	*SE*	*β*	*P*
Measurement model				
Parent involvement in education (subscale Involve-T):				
PIE → Item 13	1.000	–	.427	–
PIE → Item 16	1.524	.277	.698	< .001
PIE → Item 17	2.116	.295	.857	< .001
PIE → Item 18	1.931	.288	.924	< .001
PIE → Item 19	1.344	.227	.633	< .001
Parent involvement with school/teacher (subscale Involve-T):				
PIS → Item 1	1.000	–	.883	–
PIS → Item 4	.916	.066	.809	< .001
PIS → Item 11	.933	.062	.824	< .001
Teacher bonding with parent (subscale Involve-T):				
TB → Item 3	1.000	–	.842	–
TB → Item 7	1.040	.110	.875	< .001
Sutter–Eyberg Student Behavior Inventory-Revised:				
SESBI-R → parcel 1	1.000	–	.913	–
SESBI-R → parcel 2	1.025	.063	.959	< .001
SESBI-R → parcel 3	1.012	.079	.920	< .001
SESBI-R → parcel 4	1.092	.068	.922	< .001
Social Skills Rating System (subscale Social Skills):				
SSRS → parcel 1	1.000	–	.957	–
SSRS → parcel 2	.956	.101	.898	< .001
SSRS → parcel 3	1.075	.114	.961	< .001
Teacher Report Form (subscale Anxious/Depressed):				
TRF → parcel 1	1.000	–	.814	–
TRF → parcel 2	1.050	.130	.933	< .001
TRF → parcel 3	1.245	.203	.856	< .001
Path model				
Regression of "parent involvement in education" on SESBI-R, SSRS, TRF, and the child's sex:				
SESBI-R → PIE	–.041	.029	–.100	.158
SSRS → PIE	.248	.065	.410	< .001
TRF → PIE	.003	.161	.002	.985
SEX → PIE	.042	.041	.064	.298
Regression of "parent involvement with school/teacher" on SESBI-R, SSRS, TRF, and the child's sex:				
SESBI-R → PIS	.089	.097	.083	.359
SSRS → PIS	.122	.139	.076	.381
TRF → PIS	.987	.772	.228	.201
SEX → PIS	–.113	.134	–.064	.399
Regression of "teacher bonding with parent" on SESBI-R, SSRS, TRF, and the child's sex:				
SESBI-R → TB	.252	.107	.247	.018
SSRS → TB	.098	.211	.064	.643
TRF → TB	.553	.577	.134	.338
SEX → TB	.067	.134	.040	.615
Covariations				
Covariations of Involve-T residuals:				
PIE ←→ PIS	.056	.025	.222	.023
PIE ←→ TB	–.017	.015	–.071	.242
PIS ←→ TB	.464	.051	.682	< .001
Covariation of predictors:				
SEX ←→ SESBI-R	–.144	.032	–.349	< .001
SEX ←→ SSRS	.024	.017	.087	.151

(*Continued*)

Table 3. Continued.

	B	*SE*	*β*	*P*
SEX ←→ TRF	.002	.010	.024	.805
SSRS ←→ SESBI-R	–.077	.033	–.169	.020
TRF ←→ SESBI-R	.054	.020	.321	.008
TRF ←→ SSRS	–.019	.009	–.167	.035

Notes: PIE = Parent involvement in education (subscale of Involve-T), PIS = Parent involvement with school/teacher (subscale of Involve-T), TB = Teacher bonding with parent (subscale of Involve-T), SESBI-R = Sutter–Eyberg Student Behavior Inventory-Revised, SSRS = Social Skills Rating System (subscale Social Skills), TRF = Teacher Report Form (subscale Anxious/Depressed), SEX = the child's sex (0 = male, 1 = female).

Discussion

In the present study, an EFA was conducted to investigate the factor structure of Involve-T. In addition, using SEM analysis, we explored the association between parental involvement in school and child conduct, social and internalizing problems as rated by the teacher, using a sample of 287 Norwegian school children in Grades 1–3.

To our knowledge, the validity of the Involve-T has not previously been explored in research samples outside the United States. The results of the present factor analysis of Involve-T support the use of three separate scales, as suggested by the scale author (Webster-Stratton, 1998). However, a number of items in each scale are reduced in the present version. This may be because of cultural differences in how parent/school involvement is enacted, which emphasizes the importance of investigating the applicability of a questionnaire when it is to be used in a different country. The items remaining cover two dimensions of parental involvement (Epstein, 2001): "communication with school" and "learning at home".

With regard to the associations between parental involvement and children's social, emotional, and conduct problems, our main finding was that teachers reported higher levels of bonding with parents of children with conduct problems than with those of children who do not display such problems. This finding may seem quite surprising and contradicts findings of previous research, where co-operation between parents and teachers with children who display conduct problems has been found to be more complicated (Henggeler et al., 2009). However, the two items used in the subscale in the present study only cover teachers' initiatives in communicating with parents, and therefore the subscale tells us nothing about the quality of this communication. It may also deal with the student's negative behaviour, and we do not know how parents react to these initiatives. In addition, Thurston (2005) reported better contact between parents and teachers when children have problems. The fact that teachers in the present study take more initiatives in contacting parents of students with higher levels of conduct problems may be based on good knowledge about the needs of these students.

For example, during the past few decades in Norway, there has been an increased focus on reducing child conduct problems in school. Competence in this field has been enhanced in various ways. For example, nationwide treatment programmes have been implemented (Ogden, Hagen, Askeland, & Christensen, 2009), with "Parent Management Training–Oregon" and "The Incredible Years" among those selected for the national implementation strategy in Norway (Ogden, Forgatch, Askeland, Patterson, & Bullock, 2005). Both of these programmes include a school version. This means that many teachers have been trained to understand child conduct problems and to provide the best support for these children in schools. Parental involvement is one strategy that is highlighted in these and similar

programmes. Furthermore, even if the teachers in our study have not directly participated in these programmes themselves, they may have been influenced by their content.

Yet another reason for the teachers' reports indicating more contact initiatives aimed towards the parents of children with conduct problems may be that teachers in Scandinavia in general seem to display relatively close relationships with these children. This has been found in both a Swedish and a Norwegian study (Drugli, Klökner, & Larsson, 2011; Henricsson & Rydell, 2004). Even if the conflict level is high, teachers in these studies report closeness to students with conduct problems. This closeness in student/teacher relationships may be associated with closeness in the relationship with parents. If teachers care about and feel close to a young child, it is natural that they also have positive feelings towards the child's parents and wish to co-operate with them. This was, for example, found in a qualitative study among teachers working with young children with conduct problems (Drugli, Clifford, & Larsson, 2008).

Furthermore, our results show that according to the teachers' view, parents of children with high levels of social competence are more involved in their children's learning and education than other parents, indicating that parental involvement is associated with child social competence. This finding is in line with previous research showing that by engaging in their child's education, parents improve their child's social functioning (Hattie, 2009; Hill, 2001; Hill & Craft, 2003; Jeynes, 2007). However, the direction of this association is not apparent. Because of its cross-sectional design, our study is unable to indicate if child social competence is a cause or an effect of parental involvement in education. When there is good and positive social interaction between parents and children in educational tasks, the children may develop and display good social competence. On the other hand, when children exhibit good social competence, it makes it easier and more pleasurable for the parents to interact with their children and become involved in their education. It is also more likely that they will encourage the children's attitude towards education and be supportive in their academic endeavours, for example, by helping with homework, taking children to a library, playing games to teach the children new things, and reading to them. This will further support their children's social competence. Parental involvement in education is then likely to be a positive, gratifying, and repeated experience. As previous research shows, parental involvement and parental aspirations have a strong influence on the child's social competence, behaviour, emotional adjustment, and attainment (Catsambis, 2001; Desforges & Abouchaar, 2003; Fan & Chen, 2001; Hill & Craft, 2003; Jeynes, 2007). The positive school involvement of parents may then place their children on a trajectory leading to a virtuous circle of social competence, improved behaviour, and academic success. However, it will also be easier for parents to be positively involved in school and education generally if a child has a high level of social competence and is co-operative towards both parents and teachers.

We found that only 20% of the variation in parental involvement in education (PIE) and about 9% of teacher bonding with parent (TB) in the present study were explained by child conduct, social, and internalizing problems. Factors other than those investigated here may therefore be more strongly associated with parental involvement. For example, our variables did not include parental education or SES. This is important as demographic characteristics such as SES have been shown to be a strong predictor of school involvement (Riggs & Medina, 2005), with international research showing that parents with low education and SES are less involved in school (Epstein & Sanders, 2000; Riggs & Medina, 2005). Overall, parental SES probably relates more to parental school involvement than the factors explored in the present study.

One limitation of the study is that we only have teacher reports of parental involvement, and the perspectives of parents may differ from those of the teachers. Initially, the study did include parent reports; unfortunately, the response rate was very low. Despite the lack of parent reports, we expect teacher ratings to reflect parental involvement in an adequate way (Jeynes, 2003). Another limitation is that even though the sample was fairly large, it may not be fully representative of all Norwegian school children. The participation of schools was voluntary, and this may restrict the generalizability of our findings. Therefore, the findings need to be interpreted with caution and should be further explored in more representative samples. Furthermore, due to the cross-sectional design of the study, the direction of associations between the factors that have been explored cannot be established. The main strengths of the study were the fairly high response rates (98% for teachers and 78% for students) and the fact that few other studies have focused on the differences in the associations between diverse child emotional and behavioural problems with parental involvement in school.

That teachers had higher levels of bonding in terms of more frequent contact initiatives with parents of children with conduct problems was an interesting finding, and one not previously well explored. Consequently, further research is recommended with a new study population and perhaps with a new instrument for measuring parental involvement to ascertain the content of these initiatives. We do not, for example, know if these contact initiatives are of a positive or a negative nature. We also do not know about the reactions of the parents. Furthermore, our research indicates that parental involvement in the education of children exhibiting low social competence is particularly important. It is then important that schools focus on encouraging and providing guidance to the parents of these children to value and become involved in their children's education. This may be achieved by implementing effective parental involvement strategies.

The conclusion of the present study is that teachers more frequently make contact with parents of children who exhibit conduct problems, and that parental involvement in education is associated with the greater social competence of their children. In relation to the first finding, it is already known that child conduct problems may be both a cause and an effect of low levels of parental involvement, and that parents in such cases tend to play a reactive role. Our finding indicates that we need to know more about the precise content of the contact between teachers and parents and how parents react to the teacher's initiative in making contact because positive and proactive contact between teacher and parent could enhance parental involvement and decrease child conduct problems. When children exhibit poor social competence as reported by the teacher, it may indicate, among other things, a greater need for parental involvement in their children's education, and it is then essential that both the school and teachers support and guide parents on how to become more involved. Parents should then be informed about the association between their own involvement in their children's education and child social competence at school.

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Appendix 1. INVOLVE-T, Teacher Questionnaire

1. Has this child's parent called you in the last 1–3 months?
2. Have you called this child's parents in the last 1–3 moths?
3. Have you written a note to the child's parent in the last 1–3 months?
4. Has this child's parents stopped by to talk to you in the last 1–3 months?
5. Has this child's parents been invited to visit your school for a special event in the last 1–3 months?
6. Has this child's parents visited your school for a special event in the last 1–3 months?
7. Has this child's parent been invited to attend a parent-teacher conference in the past 1–3 months?
8. Has this child's parent attended a parent-teacher conference in the past 1–3 months?
9. How often has this child's parent been invited to a school meeting in the past 1–3 months?
10. How often has this child's parent been to school meetings in the past 1–3 months?
11. How often has this parent asked questions/made suggestions about his/ her child in the past 1–3 months?
12. How often has this parent volunteered in the classroom in the past 1–3 months?
13. How much is this parent interested in getting to know you?
14. How well do you feel you can talk to and be heard by this parent?
15. If you had a problem with this child how well comfortable would you feel talking to his/ her parent?
16. How much do you feel this parent has the same goals for his/her child that the school does?
17. To the best of your knowledge, how much does this parent do things to encourage this child's positive attitude towards education?
18. How involved is this child's parent in his/ her education and the classroom?
19. How important is education in this family?
20. Do you think the parent is more interested in her child's education than the parents participation indicates?

Appendix 2. Correlation of the Involve-T items

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1																				
2	.79																			
3	.52	.79																		
4	.74	.65	.47																	
5	.47	.63	.61	.59																
6	.49	.53	.47	.65	.98															
7	.48	.59	.74	.62	.70	.65														
8	.50	.57	.54	.62	.61	.63	1.00													
9	.59	.65	.85	.71	.68	.69	.85	.82												
10	.41	.43	.34	.60	.54	.66	.65	.71	1.00											
11	.70	.54	.36	.62	.36	.37	.57	.56	.69	.52										
12	.42	.38	.38	.52	.72	.63	.39	.37	.69	.64	.53									
13	.08	–.04	–.10	.13	–.08	.03	–.08	.03	–.17	.17	.19	.15								
14	.11	.04	.02	.15	.00	.10	.05	.10	–.06	.12	.14	.12	.34							
15	.17	.08	.09	.15	.15	.13	.13	.16	.12	.19	.15	.14	.23	.28						
16	.05	.06	–.01	.11	–.01	.05	–.05	.02	–.11	.08	.08	.07	.20	.26	.14					
17	.11	.00	–.07	.12	–.06	.02	–.03	.06	–.20	.09	.13	.03	.30	.32	.18	.33				
18	.08	.03	–.09	.08	–.06	.00	–.04	.02	–.19	.03	.13	.02	.25	.28	.14	.29	.47			
19	–.02	–.00	–.05	–.03	–.06	–.04	–.03	–.02	–.15	.07	.04	.02	.16	.20	.09	.19	.32	.29		
20	.03	–.04	–.10	–.01	.00	–.01	–.15	–.12	.03	.10	.05	.02	.15	.11	.09	.10	.23	.16	.15	