

RUNNING HEAD: Competence and emotional problems in Norwegian children

**Competence and emotional/behavioural problems in 7-16-year-old
Norwegian school children as reported by parents**

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Abstract

Background: Previous studies from the Nordic Countries suggest the parent ratings of children's problems and competencies by The Child Behaviour Checklist (CBCL) are among the lowest in the world. However, a Norwegian population study with acceptable response rates, which can provide valid national norms, is still to be conducted.

Aims: (1) To examine prevalence rates of parent reported competence and emotional and behavioural problems among 7-16-year-old Norwegian children from the general population. (2) To examine associations between these prevalence rates and socio-demographic factors such as sex, age, residence and parental education. (3) To compare the results with data from Norway, other Nordic countries, and other international data.

Methods: A stratified cluster sample of 2,582 school children (1,302 girls and 1,280 boys) was identified from the general Norwegian population, and their parents were asked to complete the CBCL.

Results: The response rate was 65.5%. Girls were rated to have greater Competence and fewer Total Problems than boys, and younger children had more Total Problem than adolescents. Parents with low education rated their children as having more Total Problems and lower Competence than those with high education. However, all effect sizes for between-group differences were small, except for the effect of parent education on child competence, which was moderate.

Conclusion: Norwegian parents rated their children as having fewer emotional and behavioural problems relative to children in other societies. The representative data from this study obtained in one county in central Norway provide an important reference for clinical practice and treatment outcome research.

Keywords: school children, emotional and behavioural problems, competence, CBCL

The Child Behavior Checklist (CBCL) (1, 2) is part of an integrated system of multi-informant assessments of children and adolescents (hereafter denoted as “children”) that has been used extensively in research and clinical practice and has shown multicultural robustness (3). However, variations in child competence and in emotional and behavioural problems across countries and cultures emphasize the need for norms in each country (4). Although more than 70 Norwegian articles using the CBCL (5) have been published, mostly based on clinical samples, only four samples from the general population exist (6-10). However, one sample was based on twins only (6), another was limited to adolescents aged 13-16 years (7), and a third had a low sample size of 148 children, aged 11-12 years (10). The only extensive study of 6-16-year-olds in the general Norwegian population was conducted through mail by Nøvik (8, 9). However, the overall response rate was low (44.9%) and somewhat variable for different age groups (44%-55% for 6-11-year-olds and 27%-44% for 12-16-year-olds). Relative to other sampling methods, postal surveys tend to under-represent families with children who have high Total Problems scores (11).

In other Nordic countries, the CBCL has been used in small- and large-scale surveys of the general population conducted in Finland (12, 13), Iceland (14), Sweden (15) and Denmark (16). In an extensive cross-cultural comparison of 31 societies, Rescorla et al. (4) characterized Norway and Sweden as typical low scoring countries, with Total Problem mean scores more than 1 SD lower than the overall mean. In that survey, data from the Nøvik study (8, 9) were included. Because clinicians and researchers using generic measures depend on culture-specific reference data from the general population, and because the Nøvik study (8, 9) had a low response rate, it is important to determine whether the reported level of Norwegian Total Problems on the CBCL has been accurately represented.

With regard to the socio-demographics of children's mental health, only small and inconsistent age and gender effects on children's emotional and behavioural problems have been shown with the CBCL (4). Similarly, age- and sex-specific differences for parent-rated Total Problem scores from another generic measure, the Strengths and Difficulties Questionnaire (SDQ), have also shown small effects (17). By contrast, some studies show substantial evidence for larger age and sex differences for specific mental health problems (e.g., conduct and neuro-developmental problems, depression and anxiety) when specific assessment methods such as clinical interviews are used (18-21).

In previous Nordic surveys using the CBCL, effects related to age and sex have been inconsistent (15, 16). In early epidemiological studies, children from London and Oslo exhibited higher problem levels (22, 23), and in Sweden (15) children from urban areas were found to have higher problem levels. In Denmark and Sweden, parents in the lower socio-economic status SES group rated their children as having significantly higher Total Problem levels than did parents from higher SES groups (15, 16). For Total Competence, children of parents from the middle SES group were regarded to be more competent than those in the lower SES group (15).

Aims

The primary aim of the present study was to compare CBCL Total Problems, Externalizing, Internalizing and Competence scores of Norwegian children and adolescents with those originating from (i) previous Norwegian studies, (ii) other Nordic countries (Iceland, Sweden, Finland and Denmark) and (iii) other international studies. Secondly, in order to perform such a comparison, Norwegian norms will be presented. Thirdly, gender, SES, and urban/rural effects on CBCL will be investigated.

Methods

Subjects/sample selection

The sample was obtained as part of a larger study in which data on Quality of Life for 4th to 10th graders were published elsewhere (24, 25). The student population was stratified according to geography and grade (2nd, 4th, 6th, 8th and 10th grades). Ninety-one of 336 available cohorts (defined by all students attending a specific grade at a single school) were randomly selected within strata in 68 schools, comprising 4,082 children.

One hundred forty-two children and their parents were excluded because of insufficient competence in the Norwegian language (refugees, $n = 83$), or because their academic developmental level was more than two school grades below their respective grade ($n = 59$). Thus, 3,940 children were eligible for the study. Caregivers did not give their informed consent for 1,358 children, leaving 2,582 children (1,302 girls and 1,280 boys, aged 6–16 years) in the study (see Table 1). When two caregivers returned the forms, only data from mothers were used. At least one caregiver (2,446 mothers and 136 fathers/other caregivers) completed the CBCL, yielding a 65.5% response rate. The sample was representative with respect to gender (male:female ratio of 1:1 in both the present sample and the general population) and site of residence (urban:rural ratio of 1.1:1 vs. 1.2:1, respectively). The age/gender groups in the sample contained from 205 to 402 children. The greater proportion of children in the 2nd grade was not statistically different from the other groups.

PARENTAL EDUCATION

Parental education level was measured by a standard seven-point scale (26), which was collapsed into four categories (Low: up to 9 years primary education and 1 or 2 years vocational training; Middle: up to 3 years high school and 1 year vocational training; High: university or university college up to a maximum 4 years; and Very high: university or

university college more than 4 years). Because information on parental education was not obtained in the 2nd grade subsample, the analyses on this variable could only be conducted for children in the other grades. When information from both parents was available, the highest educational level was used (information was available from 1,667 mothers, 1,258 fathers, 6 stepmothers, 67 stepfathers and 8 other caregivers). The distribution of parental education levels in the present sample was: Low = 23.5%, Middle = 25.0%, High and Very high = 51.5%. The figure for the Low education category in the county was 19.7 % (National Statistical Service, figures from 2005); however, figures were not comparable for the other categories.

Procedure

The project coordinator at each school (an appointed teacher) sent a standard information letter to the parents, arranged information meetings and distributed the questionnaires to the parents. The data for the 4th to 10th grades were collected from September 2004 to June 2005, and those for the 2nd grade were collected from October 2006 to June 2007.

Ethics

This study was approved by the Regional Committee for Medical Research Ethics in Central Norway, and all parents who participated gave their informed consent.

Measures

The 2001 version of the CBCL (2) for children aged 6-18 years was used. The competence part of the instrument includes 20 items. Sum scores for the Activities, Social and Academic Performance subscales and a Total score of Competence can be derived from these items.

The problem part of the CBCL consists of 118 Likert-type items and two open-ended items rated on a 0-2 scale (0 = Not True, 1 = Somewhat or Sometimes True, or 2 = Very True or Often True). The range of Total Problem scores was 0 to 240. The following syndrome subscales can be formed: Anxious/Depressed, Withdrawn/Depressed and Somatic Complaints (which are grouped under Internalizing Problems), and Rule-breaking Behavior and Aggressive Behavior syndromes (which are grouped under Externalizing Problems). In addition, Social, Attention and Thought problems syndrome scales can be formed. Detailed information on the results of the analysis for DSM-oriented scales is available from the first author upon request.

The Norwegian translation of the CBCL was conducted in accordance to established procedures, and it has shown satisfactory predictive, discriminant and convergent validity (8, 9). In the present study, internal reliability was high for most of the syndrome scales, Internalizing and Externalizing groupings of syndromes, and Total Problems ($\alpha = .70-.93$). However, it was moderate for the Withdrawn/depressed and Somatic Complaints subscales ($\alpha = .60-.67$) and low for Thought Problems ($\alpha = .47$) (see Table 3). Parents provided information on their child's age and gender on the questionnaire.

Statistics

Because of missing responses, and in accordance with the CBCL scoring guidelines (2), 119 children had invalid Competence scores and 80 had invalid Problem scores. For valid CBCL forms, missing values at the item level varied from 0% to 0.6% for problem items (with the exception of item 56a-g, which yielded 0.4% to 1.6% missing data). They were substituted with "0" in accordance with the scoring guidelines. Internal homogeneity was examined by Cronbach's alpha. Differences between group means were analysed by ANOVA. Effect size (ES) was estimated by means of partial η^2 (η^2) and interpreted according to Cohen's criteria

for the percent variance accounted for: small effect = 1%-5.9%, medium effect = 5.9%-13.8%, and above 13.8% indicates a large effect (27). All significant between-group effects were further examined by means of the Games-Howel post hoc test for groups with unequal variances, except for the analysis of parent education on Total Competence scores, where Tukey's test was used. Because of the cluster-sampling of school units in the study, random-effects and between-school variance were estimated by mixed linear models. Because only 1.5% of the total variance of the Total Problem scores could be explained by differences between the 91 school-cohorts, all analyses were conducted on an individual level. For direct comparison of Total Problem scores with the cross-cultural means as reported by Rescorla et al. (4), we also calculated adjusted Total Problem scores for the 1991 CBCL version by omitting the following items in the 2001 version: 2, 4, 5, 28, 78 and 99. An alpha level of $p < .01$ was chosen for statistical significance to account for alpha slippage across the multiple comparisons in the analysis.

Results

The following analyses were performed in two sets: (1) A three-way ANOVA using age group (6-8 vs. 9-12 vs. 13-16 years), gender and residence (rural vs. urban) as grouping variables, and (2) a two-way ANOVA with parent education (Very high, High, Middle and Low) and residence (rural vs. urban) as grouping variables. The mean scores and SDs of the children's competence and emotional and behavioural problems by gender and age are provided in Tables 2 and 3, and the results of the ANOVAs are in Table 4.

Total competence

Parents rated girls to be significantly ($p < .01$) more competent than boys, and they rated 9-12-year-olds to be significantly more competent than those in the youngest ($p < .01$) and the

oldest ($p < .001$) age groups. We also found a significant ($p < .001$) linear trend for parent education, with perceived child competence increasing from the lowest to the highest parent education groups. No interaction effects were observed for the Total Competence scores.

Emotional and behavioural problems

TOTAL PROBLEMS

Boys were rated as having significantly ($p < .001$) higher Total Problem scores than girls. Children aged 6-8 and 9-12 years had significantly ($p < .01$ and $p < .001$, respectively) higher Total Problem levels than those aged 13-16 years. Parents with the lowest education rated their children's Total Problem levels significantly ($p < .001$) higher than did those with the highest education.

The mean Total Problem score for the whole sample was 14.2 (SD = 14). The adjusted Total Problem score (corresponding to the 1991 CBCL version) was 13.1 (SD = 13.1), which is 9.5 points (and more than 1 SD) below the cross-cultural overall mean of 22.5 for the 31 societies surveyed in the Rescorla et al. study (4), and 2 points lower than the previously reported Norwegian mean value of 15.1 (11, 12, 14). The 90th percentile for the Total Problem score of the whole sample was 31 points.

INTERNALIZING PROBLEMS

Although no significant effects were found on the Internalizing Grouping of Syndromes scale, parents rated children aged 6-8 and 9-12 years as having significantly ($p < .01$) more Anxious/depressed Problems than the oldest children in the sample. We also found significant age and gender effects, with parents reporting that Withdrawn/depressed Problems increased as children got older (a significant linear trend, $p < .01$), whereas girls were seen to have significantly ($p < .001$) more Somatic Complaints than boys.

EXTERNALIZING PROBLEMS

Boys were rated to have significantly ($p < .001$) more Externalizing Problems than girls, and relative to urban areas, parents in rural areas also rated their children as having significantly ($p < .01$) higher levels of such problems. Parents in the lowest and middle education groups rated their children as having significantly ($p < .01$ and $p < .001$, respectively) more Externalizing Problems than did those in the Very high education group. With regard to subscales, the oldest children ($p < .01$), boys ($p < .001$) and children from rural areas ($p < .01$) were all seen to have significantly more Rule-breaking Problems than their respective counterparts. Aggressive behaviour was rated to be significantly higher for children aged 6-8 years ($p < .01$) and 9-12 years ($p < .001$), boys ($p < .001$) and children from rural areas ($p < .01$) relative to their respective counterparts.

RESIDUAL SYNDROME SCALES

Parents rated children aged 6-8 and 9-12 years as having significantly ($p < .001$) more Social Problems than older ones, and boys were seen to have significantly more ($p < .001$) Attention Problems than girls.

No interaction effects were observed with regard to emotional and behavioural problems.

EFFECT SIZES

For all reported between-group differences, the effect sizes (ES) were small (from lower than 1% to 3%) except for a medium effect (8%) for parent education on child Total Competence.

Discussion

Our results confirmed that Norwegian parents rate their children's Total Problem levels lower than parents do in other societies. Children aged 9-12 years were rated as being more competent than both younger and older children and girls were seen as more competent than boys. Parental education was positively associated with Total Competence and negatively associated with Total Problems. Younger children were rated as having more Total Problems than older children, and although boys were rated as having more Total Problems and more Externalizing Problems than girls, the latter had more Somatic Complaints than boys.

Children's Competencies as defined in the CBCL are not directly comparable across different cultures and countries. Therefore, we have limited our comparisons of child *competence* to the Nordic countries because of their similar cultures, economies, and social and school systems. The extent to which children participate in activities depends highly upon the total resources available to the family and in the society. Furthermore, the competency items ask parents to evaluate their children *relative to children of the same age*. If parents in a society were objective observers of their children's competencies, the mean value for any given item should be the "Average" of the society for that item. Higher mean scores could therefore be interpreted as an overestimation of children's competencies. This might reflect a general positive parental view of children, even to the extent of overlooking actual deficiencies, known as the Lake Wobegon effect (28, 29). Such a general bias in parental ratings of children's competence may reflect parents' perceptions of their own social identities (30).

Socio-demographic differences

AGE AND GENDER DIFFERENCES

Our finding that parents rated girls as having higher competence levels has also been reported in surveys in Iceland (14) and Sweden (15). Huang (31) reported that Norwegian girls

obtained higher achievement levels in school than boys due to better social network building, a finding that partly explains the differences related to sex here and in previous studies.

In contrast to the results of the Swedish study (15), we found that the youngest children were rated as having more Total Problems than older ones. Our results correspond well with those of the Finnish study (12) and the previous study by Nøvik (8, 9), and partly agree with findings from Iceland (14).

Overall, our finding that boys had more Total Problems than girls corresponds well with reports from Iceland, Denmark and Sweden. In particular, boys were rated higher than girls on Externalizing Problems, a finding that comports with the results of the Swedish, Danish and Nøvik studies (8, 9). However, in contrast to our results, a study in Arctic Norway found that girls had more Internalizing, Externalizing and Total Problems than boys in both Sami and Norwegian adolescents (7). Taken together, these findings indicate that cultural differences in children's emotional and behavioural problems associated with gender *within* each Scandinavian country and region might be as important as gender differences *between* these countries. However, it should be noted that the effect sizes for age and sex differences in our study were small.

PARENTAL EDUCATION

We found that highly educated parents rated their children higher on competence and lower on total emotional and behavioural problems than less educated parents. These results are in accordance with reports from Denmark (16), Iceland (14), Arctic Norway (7), and the Nøvik study (8, 9). However, Swedish parents in the middle SES group reported the greatest competence for their children (15). Our findings suggest that even in developed and socially equivalent Nordic countries, socio-economic factors are still associated with children's

competence and emotional and behavioural problems. It is noteworthy that the association between SES and child competence had a medium effect size.

RESIDENCE

In accordance with findings by Nøvik (8, 9), we found no significant differences in the rated social competence and total emotional and behavioural problems in children as a function of residence in the present study. These outcomes contrast with those in the Swedish study (15), which showed that children from bigger cities consistently obtained higher problem scores. Our sample encompassed both Trondheim (Norway's third largest city) and extensive rural areas. Our results support previous findings (32) showing that high overall problem scores in Norway's larger cities can be primarily attributed to the higher rate of behavioural problems in the capital, Oslo. Somewhat surprisingly, we found children from rural areas having slightly higher Externalizing Problems than those from urban areas.

Nordic and international comparisons

TOTAL COMPETENCIES

In the present study, mean Total Competence scores for children were higher (22.9 points) than in Sweden (17.0 points) (15), Iceland (17.1 points for boys and 17.8 points for girls) (14), and Finland (20.0 points) (12). Although these figures suggest fairly large differences, it should be noted that the studies in the other Nordic countries were conducted more than one or two decades ago. Today, parents spend more resources on their children for organized activities, as reflected by the findings of the present study. This interpretation is supported by the results of the Nøvik study, which was conducted 15 years ago (8, 9), and reported competence mean scores between 18.1 and 18.7 for groups of different ages and genders.

TOTAL PROBLEMS

The mean Total Problem score was more than 1 SD lower than the grand mean in the cross-cultural study by Rescorla et al. (4). In this Nordic context, the Norwegian parents rated their children's emotional and behavioural problems as low and very similarly to the mean ratings for Swedish children ($M = 14.3$) (15), but lower than ratings in Denmark ($M = 17.7$) (16), Finland ($M = 17.5$) (13) and Iceland ($M = 19.1$ and 15.8 for boys and girls, respectively) (14).

Differences in problem scores between societies might reflect both actual differences in the rates of symptoms but also differences in *parental perceptions* and thresholds for social competence and emotional and behavioural problems in children. One indication that parents under-report internalizing child problems in Norway comes from a cross-cultural study that examined the extent to which the SDQ corresponds to the occurrence of psychiatric disorders as assessed by standardized diagnostic interviews (33). However, it is more difficult to explain *why* Norwegian parents have a tendency to under-report such problems relative to parents in other cultures. It is difficult to find a common thread running through not only homogenous societies such as Sweden, Norway and Iceland, but also through Japan and China, where parents also indicate that their children have few problems. If we look across these countries, they differ in geographic region, ethnicity, religion, size, population and economical/political systems (4). Cross-cultural psychiatric studies are needed to answer these questions.

However, our results corroborate the previously reported low problem scores on the CBCL in Norway; they appear to be a valid result rather than a product of limited samples (6, 7, 10) or the low response rate obtained in the large Norwegian epidemiological study (8, 9).

Limitations of the study

The overall response rate (65.5%) in the present study was limited but acceptable. However, our sample was representative with regard to gender, age, site of residence, and parental education levels. We had representative numbers of children from rural, semi-rural and urban areas. Although previous research indicates that adolescents from Oslo have more mental health problems than less urban adolescents, our reported problem levels may slightly underestimate urban mental health problems when used as national reference data.

Conclusion

Our results confirm Norway as a low-scoring society with regard to parental evaluations of children on the CBCL. Furthermore, the present study provided representative Norwegian reference data from the general Norwegian population, which is important for further clinical practice and treatment outcome research.

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Table legends:

Table 1. Number of children by grade and gender (N = 2,582).

Table 2. Means and SDs (in parentheses) of students' Total Competence and subscale scores on the CBCL, by gender and age group.

Table 3. Alpha, means and SDs (in parentheses) for student's emotional and behavioural problem scores on the CBCL.

Table 4. Results of ANOVAs (F, df values) for the various CBCL scales^s by sex, age, residence and parent education.

Table 1. Number of children by grade and gender (N = 2,582).

Grade			Total
	Girls	Boys	
2 nd	402	387	789
4 th	233	249	482
6 th	217	205	422
8 th	207	220	427
10 th	243	219	462
Total	1,302	1,280	2,582

Table 2. Means and SDs (in parentheses) of students' Total Competence and subscale scores on the CBCL, by gender and age group.

Commented [LW1]: Du broker ordet 'mean', men dette er vel summer (gjennomsnittet kan aldri bli over 2 på CBCL?)

Scale	Total	Girls			Boys		
		6–8 yr	9–12 yr	13–16 yr	6–8 yr	9–12 yr	13–16 yr
Activities	9.2 (2.7)	9.4 (2.6)	9.9 (2.4)	8.8 (2.8)	9.0 (2.7)	9.4 (2.5)	8.9 (2.8)
Social	8.8 (1.9)	8.7 (1.7)	9.2 (1.8)	8.7 (2.1)	8.5 (1.8)	8.9 (1.9)	8.9 (2.0)
School	4.8 (0.9)	5.0 (0.6)	4.9 (0.9)	5.0 (1.0)	4.9 (0.7)	4.5 (1.0)	4.7 (1.1)
Total Competence	22.9 (4.1)	23.1 (3.5)	24.0 (3.7)	22.5 (4.5)	22.4 (3.9)	22.9 (4.0)	22.6 (4.6)

Total N = 2,460–2,538.

Girls 6–8 yr, N = 395–405; 9–12 yr, N = 433–444; 13–16 yr, N = 416–434.

Boys 6–8 yr, N = 382–392; 9–12 yr, N = 428–445; 13–16 yr, N = 406–424.

Table 3. Alpha, means and SDs (in parentheses) for student's emotional and behavioural problem scores on the CBCL

Scales	α	Total	Girls			Boys		
			6-8 yr	9-12 yr	13-16 yr	6-8 yr	9-12 yr	13-16 yr
N/n =		2,502	401	435	426	381	438	421
Anxious/Depressed	.77	1.9 (2.5)	2.1 (2.6)	2.1 (2.3)	1.9 (2.6)	2.0 (2.5)	2.0 (2.7)	1.5 (2.3)
Withdrawn/Depressed	.67	1.0 (1.5)	0.7 (1.2)	0.9 (1.2)	1.2 (1.7)	0.8 (1.4)	1.0 (1.7)	1.2 (1.8)
Somatic Complaints	.60	1.3 (1.7)	1.4 (1.7)	1.5 (1.7)	1.4 (1.9)	1.1 (1.6)	1.3 (1.6)	1.1 (1.5)
Social Problems	.73	1.3 (2.0)	1.4 (1.7)	1.3 (1.8)	0.9 (1.9)	1.5 (1.9)	1.7 (2.4)	1.0 (1.8)
Thought Problems	.47	0.8 (1.3)	0.9 (1.3)	0.8 (1.2)	0.5 (0.9)	1.1 (1.3)	1.1 (1.6)	0.6 (1.1)
Attention Problems	.79	2.4 (2.7)	2.0 (2.2)	2.1 (2.5)	1.9 (2.6)	2.8 (2.8)	3.1 (3.2)	2.6 (2.9)
Rule-Breaking	.70	1.1 (1.8)	0.6 (1.1)	0.8 (1.4)	1.0 (2.2)	1.2 (1.7)	1.5 (1.9)	1.3 (1.9)
Aggressive Behaviour	.87	2.7 (3.7)	2.5 (3.0)	2.4 (3.2)	2.2 (3.2)	3.3 (4.1)	3.6 (4.7)	2.3 (3.6)
Internalizing	.84	4.2 (4.7)	4.3 (4.5)	4.5 (4.3)	4.5 (5.2)	4.0 (4.3)	4.3 (4.9)	3.8 (4.7)
Externalizing	.89	3.8 (5.1)	3.1 (3.7)	3.2 (4.2)	3.2 (5.0)	4.5 (5.6)	5.0 (6.3)	3.6 (5.2)
Total Problems	.93	14.2 (14.1)	13.4 (11.8)	13.3 (12.3)	12.2 (14.4)	16.1 (14.4)	17.2 (16.6)	12.9 (14.1)

Table 4. Results of ANOVAs (F, df values) for the various CBCL scales⁵ by sex, age, residence and parent education.

Between-subjects effects	Total Competence		Anxious/Depressed		Withdrawn/Depressed		Somatic Complaints		Social Problems		Thought Problems		Attention Problems		Rule-breaking Behaviour		Aggressive Behaviour		Internalizing Problems		Externalizing Problems		Total Problems		
	F	df	F	df	F	df	F	df	F	df	F	df	F	df	F	df	F	df	F	df	F	df	F	df	
Error	2,448		2,490																						
Age	2	10.06****	2	6.50**	17.83****	1.24	20.23****	-	3.49	4.76**	11.30****	0.85	4.55	9.08****											
Sex	1	11.34**	1	5.86	4.23	16.18****	6.28	-	55.15****	51.39****	20.25****	4.27	33.10****	18.42****											
Residence	1	0.22	1	0.08	0.26	2.43	6.21	-	3.91	6.75**	8.94**	0.06	9.46**	3.77											
Error	1,667		1,705																						
Parent education	3	45.47****	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residence	1	0.13	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

** $p < .01$, **** $p < .001$

⁵ All observed significant effects were main effects. No significant interaction effects between independent variables in the two ANOVA sets were observed.