WELL-BEING DURING SCHOOL LESSONS AMONG BOYS AND GIRLS IN 5TH TO 7TH GRADE IN ELEMENTARY SCHOLS IN ICELAND:

The effects of school, family, and peer related factors

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Formáli

Rannsókn þessi er meistaraverkefni í lýðheilsufræði við Kennslufræði- og lýðheilsudeild Háskólans í Reykjavík og jafngildir 30 einingum (ECTS). Verkefninu er skilað á formi fræðigreinar sem send verður til birtingar í viðurkenndu vísindatímariti.

Við gerð rannsóknarinnar var notast við gögn frá Rannsóknum og greiningu, gögnin voru unnin úr spurningalistum sem lagðir voru fyrir alla nemendur í 5. – 7. bekk grunnskóla á Íslandi í febrúar 2009.

Leiðbeinendur mínir voru Bryndís Björk Ásgeirsdóttir lektor við Háskólann í Reykjavík og Inga Dóra Sigfúsdóttir prófessor við Háskólann í Reykjavík og kann ég þeim kærar þakkir fyrir góða samvinnu og veitta aðstoð við gerð rannsóknarinnar.

Útdráttur

Markmið rannsóknarinnar var að kanna líðan í kennslustundum á meðal íslenskra drengja og stúlkna í 5. -7. bekk grunnskóla. Einnig að kanna hvort þættir tengdir skóla, fjölskyldu og jafningjahópum geti spáð fyrir um líðan í kennslustundum. Notast var við gögn úr könnun Rannsóknar og greiningar, þar sem spurningalistar voru lagðir fyrir alla nemendur í 5. – 7. bekk grunnskóla á Íslandi í febrúar 2009. Nánast allir nemendur sem mættu daginn sem spurningalistinn var lagður fyrir tóku þátt. Tvíundagreining (multivariate logistic regression) var notuð til að kanna aðal-, miðlunar- og samvirkniáhrif. Niðurstöður sýndu að þættir tengdir skóla, fjölskyldu og jafningjahópum spáðu allir marktækt fyrir um vellíðan í kennslustundum. Þær sýndu líka að breytur tengdar skólanum skýrðu kynjamuninn á vellíðan í kennslustundum og að finnast námsefnið í skólanum skemmtilegt miðlaði fullkomlega áhrifum kyns á vellíðan í kennslustundum. Það hafði sterkari áhrif á vellíðan drengja en stúlkna í kennslustunum að öll fjölskyldan talaði oft saman. Aftur á móti hafði það sterkari áhrif á vellíðan stúlkna en drengja í kennslustundum að eiga marga vini í skólanum. Niðurstöður gefa til kynna að þættir tengdir skóla, fjölskyldu og jafningjahópum hafi áhrif á vellíðan í kennslustundum. Þær undirstrika líka mikilvægi þess að námsefni skólanna höfði jafnt til stúlkna sem drengja.

Abstract

The aim of the study was to examine self-reported well-being during school lessons among Icelandic boys and girls, in 5th to 7th grade in elementary schools. Furthermore, to examine whether school, family, and peer related factors predict well-being during school lessons and if these factors explain the difference between the genders. The data used in the study was gathered by the Icelandic Center for Social Research and Analysis. The sample was cross-sectional, nationally representative and included the population of Icelandic students who attended 5th to 7th grade in 2009 and were present at the day of administration. Multivariate logistic regression was used to test main, mediation, and moderating effects. The results showed that school, family, and peer related factors all predicted well-being during school lessons. They also showed that the school predictor variables explained the gender difference in well-being during school lessons. Finding the subjects taught at school fun fully mediated the effects of gender on self-reported well-being during school lessons. The whole family talking often together affected the boys´ well-being during school lessons more than girls, and having many friends at school affected the girls´ well-being during school lessons more than boys. The results suggest that school, family, and peer related factors all contribute to boys´ and girls´ well-being during school lessons. They also underscore the importance that the subjects taught at school appeal to both boys and girls.

Introduction

Recent studies on Icelandic school children have indicated that boys do worse at school than girls, where their academic performance is poorer, and their attitude toward school is less positive than among girls (Amalía Björnsdóttir, Baldur Kristjánsson and Börkur Hansen, 2008; Margrét Lilja Guðmundsdóttir, Álfgeir Logi Kristjánsson, Inga Dóra Sigfúsdóttir and Jón Sigfússon, 2007; Margrét Lilja Guðmundsdóttir, Álfgeir Logi Kristjánsson, Inga Dóra Sigfúsdóttir and Jón Sigfússon, 2009; Svavarsdottir, 2008). Studies on school children from other countries have shown similar results (e. g. D'Ailly, 2004; Downey and Vogt Yuan, 2005; Quatman and Watson, 2001; Sund, Larsson and Wichstrøm, 2001). Icelandic authorities have revealed concern about the issue, and there has been a discussion about how to improve conditions at school to make them more appealing for boys as a way to improve their academic performance and well-being at school (e. g. Reykjavíkurborg, 2010). There have been no studies in Iceland that explain this gender difference, but it is important to figure out why the difference is there before starting a strategy to improve school satisfaction and performance among boys.

In Iceland, like in other developed countries, schools are obligatory for all children aged 6 to 15, which makes schools a key area to promote public health, and for public health research. Furthermore children spend a large part of their time at school; therefore, it is important that school is a place where children feel good, safe, and content. Most schools place emphasis on achievement, based on scores on standardized tests, however the way children feel at their school, and their connectedness to school have also turned out to be important factors influencing their education (Catalano, Haggerty, Oesterle, Fleming and Hawkins, 2004; Resnick et al., 1997; Salmela-Aro, Kiuru, Pietikainen and Jokela, 2008), along with being connected to various risk behaviors and general well-being (Catalano et al., 2004; Resnick et al., 1997). School bonding, defined as attachment to the people at school and commitment to do well in school, has been negatively related to violence, initiation of drinking, smoking and alcohol abuse and dependence at age 21. It has also been shown to reduce the chance of school misbehavior, grade repetition and dropout. Then again, school bonding

has been associated with increase in academic achievement and social skills (Catalano et al., 2004).

There are many theories about what factors relate to well-being at school and academic performance. They evidently include factors related to school processes and school environment (Bong, 2008; Catalano et al., 2004; Hallinan, 2008; McNeely, Nonnemaker and Blum, 2002; Salmela-Aro et al., 2008). Then again, a number of studies have shown that the environment outside of school is just as important, for instance, relationship with parents, family (Bong 2008; Catalano et. al, 2004; Eccles, Early, Fraser, Belansky and McCarthy, 1997; Kristjansson and Sigfusdottir, 2009) and other social factors such as friends and peer relationships (Catalano et. al., 2004; Eccles et. al., 1997; Stadler, Feifel, Rohrmann, Vermeiren and Poustka, 2010).

In the following chapter, studies on gender difference in general well-being among children and adolescents will be reviewed. Factors related to well-being at school and academic performance will then be discussed in more detail and how those factors differ between the genders.

Gender difference in general well-being

The literature on general well-being among children and adolescents has been well established, and studies imply that there is a difference in well-being between the genders, where girls´ well-being is weaker. Girls seem to have a greater tendency to develop many psychological disorders like depression (Hankin et al., 1998; Sigfusdottir, Asgeirsdottir, Sigurdsson and Gudjonsson, 2008; Sigfusdottir and Silver, 2009; Sund et al., 2001), anxiety (Bolognini, Plancherel, Bettschart and Halfon, 1996; Sigfusdottir et al., 2008), and psychological distress (West and Sweeting, 2003). Also, according to a number of researches, girls have lower levels of self-esteem than boys (Bolognini et al., 1996; Quatman and Watson, 2001; Wigfield, Eccles, Mac Iver, Reuman and Midgley, 1991). Girls also report more subjective health problems. Subjective health is a multidimensional construct and includes physical, psychological, and social health (Ravens-Sieberer et al., 2009; Hetland, Torsheim and Aarø, 2002). While girls report lower general well-being than boys, boys report lower school

satisfaction and are less interested in school than girls (e.g. Amalía Björnsdóttir et al., 2008; D'Ailly, 2004; Margrét Lilja Guðmundsdóttir et al., 2007; Quatman and Watson, 2001; Sund et al., 2001; Svavarsdottir, 2008). Furthermore, boys, on average, score lower on tests at school than girls (Downey and Vogt Yuan, 2005; Ragnar F. Ólafsson, Almar M. Halldórsson, Sigurgrímur Skúlason, and Júlíus K. Björnsson, 2007). In a study on the prevalence of depressive symptoms among 13 and 14 years old Norwegian adolescents, girls reported depressed mood more often than boys, they were more concerned about their appearance and had more self-depreciatory notions. Boys on the other hand reported low school satisfaction more often (Sund et al., 2001). In a study on Icelandic school children aged 10 to 12 years old, girls reported more school connectedness and more positive feelings about school than boys (Svavarsdottir, 2008). However, many studies have implied that girls have lower academic self-concept than boys (De Fraine, Van Damme and Onghena, 2007; Wigfield et al., 1991; Young and Mroczek, 2003).

This less positive attitude toward school among many boys has not been well studied; it is therefore interesting to examine what causes it, and what factors can explain the difference between the genders.

School related factors

School processes and school environment influence how students feel about their school, their well-being, and academic performance (Bong, 2008; Catalano, et al., 2004; Chen, 2005; Hallinan, 2008; McNeely et al., 2002; Salmela-Aro et al., 2008). Teachers are a big part of school environments, and, therefore, play an important role in shaping students´ feelings about school. Teachers´ support (Chen, 2005; Hallinan, 2008), motivation (Hallinan, 2008) and classroom management (Bong, 2008) are all factors that have been shown to influence students´ feelings about school and academic behavior. Hallinan (2008) estimated cross-sectional and longitudinal models of teachers´ influences on students´ feelings about school. The participants were 6^{th}, 7^{th} and 8^{th} grade students from both private and public schools. According to the results, students who perceived that their teachers were fair, cared for them and praised them

were more attached to school than those students who did not. Support from teachers had a larger effect on liking school than school safety and academic confidence. Another study, on the effect of school environment on school-related burnout, revealed that negative school climate was positively related to school burnout; on the other hand, support from school shared among school members, and positive motivation received from teachers typical of the school, was negatively related to school burnout. School-related burnout includes exhaustion due to school demands, cynical and detached attitude toward one´s school and feelings of inadequacy as a student (Salmela-Aro et al., 2008).

According to studies on Icelandic children in 5th to 10th grade, girls like their school teachers more than boys do (Margrét Lilja Guðmundsdóttir et al., 2007; Margrét Lilja Guðmundsdóttir et al., 2009) and among children in 5th to 7th grade, girls get praised more often by teachers at school (Margrét Lilja Guðmundsdóttir et al., 2007). Girls have also been shown to perceive more support from teachers than boys (Bokhorst, Sumter and Westenberg, 2010; Furman and Buhrmester, 1992). In a study on Icelandic children in 1st, 3rd, 6th and 9th grade at school, there was a clear gender difference in being interested in school, where boys were less interested than girls. The gender difference was seen instantly at first grade, where significantly more girls than boys reported that they liked learning and reading at school. The gender difference increased as the children got older. In the same study, girls in 6th and 9th grade scored significantly higher than boys on general interest in the subjects taught at school, which included statements such as “I enjoy school”, “I like the subjects taught at school” and “I look forward going to school after summer vacation” *(*Amalía Björnsdóttir et al., 2008).

It has been suggested that boys have different classroom behavior than girls (Downey and Vogt Yuan, 2005; Schaefer, 2004). According to Schaefer (2004), girls are more likely to engage in adaptive learning behavior in the classroom, and boys are more likely to display a “I don´t care” attitude; boys also show little desire to please the teachers and are more apt to invent silly ways to complete tasks than girls. In a study by Downey and Vogt Yuan (2005), teachers

rated girls consistently as better “in class citizens than boys”; they also reported girls putting forth more effort and being less disruptive than boys.

Family related factors

Studies have shown that the relationship between children and parents is related to children´s well-being at school, school engagement, and academic performance (Bong, 2008; Burchinal, Peisner-Feinberg, Pianta and Howes, 2002; Catalano et al., 2004; Chen, 2005; Eccles et al., 1997; Epstein and Sheldon, 2002; Kristjansson and Sigfusdottir, 2009; Simons-Morton and Chen, 2009). Parenting methods (Bong, 2008; Eccles et al, 1997), support (Chen, 2005; Kristjansson and Sigfusdottir, 2009), motivation (Simons-Morton and Chen, 2009), and monitoring (Kristjansson and Sigfusdottir, 2009) from parents, have all been reported as important factors. Eccles et al. (1997) studied the relationship between families´ interactional processes and school development where they used data from a longitudinal study of 1387 American adolescents and their families (Maryland Adolescent Growth in Context study). According to the results, support for autonomy within family was a significant predictor of grade point average (GPA). Connection, regulation, and autonomy within family were significant predictors of school alienation. Results from a longitudinal study on children, from childcare through second year of elementary school, implied that family characteristics are the best predictors of children´s school outcomes (Burchinal et al., 2002). In another study, on the whole population of Icelandic adolescents in 9^{th} and 10^{th} grade, parental support and monitoring, and time spent with parents was positively associated with school effort, for both boys and girls. It was also found that parental support and monitoring was associated with academic achievement for both sexes. Then again, girls were monitored more by their parents than boys, and received more parental support (Kristjansson and Sigfusdottir, 2009). Other studies have also implied that girls are monitored more by parents (Simons-Morton and Chen, 2009; Svenson, 2003), and receive greater support from parents than boys (Bokhorst, et al., 2010). Encouraging behavior from mothers has, though, been shown to have different influence on boys than girls. Results from a study by Bhanot and Jovanovic (2009) suggested that

encouragement from mothers has a positive influence on girls´ self-assessment of science ability and task-value beliefs in science but a negative influence on boys´ (Bhanot and Jovanovic, 2009).

Peer related factors

Friends at school and peer groups are important predictors of well-being at school (Catalano et al., 2004; Eccles et al., 1997; Simons-Morton and Chen, 2009; Wentzel, Barry and Caldwell, 2004). Having friends has been related positively to academic and social adjustment, and academic achievement (Wentzel et al., 2004). Having problem-behaving friends has been shown to have a negative effect on school engagement (Simons-Morton and Chen, 2005); whilst peer rejection and peer acceptance has been found to predict increased problem behavior among early adolescents (Véronneu and Dishion, 2010). It has been well established that there is a gender difference in peer relationships among youth. According to a literature review by Rose and Rudolph (2006), boys are more likely than girls to have large peer groups; on the other hand, girls focus more on close relationships, show more pro-social behavior, and report more self-disclosure in their peer relationships than boys. Girls also seem to encounter more friendship stress and more social network stress than boys (Rose and Rudolph, 2006). Girls have also been found to perceive more social support from friends than boys (Bokhorst et al., 2010; Furman and Buhrmester, 1992) and they have been shown to be more sensitive than boys toward conflict with friends (Demir and Urberg, 2004). Peer-victimization is a serious school related problem, affecting many students (Barchia and Bussey, 2010; Hawker and Boulton, 2000; Scheithauer, Hayer, Petermann and Jugert, 2006; Stadler et al., 2010). It is a serious problem in elementary schools, and has a very negative effect on the well-being of the bully victims (Hawker and Boulton, 2000). Peer-victimization has been positively associated with mental health problems among adolescents (Stadler et al., 2010); it appears to be most strongly connected to depression (Barchia and Bussey, 2010; Hawker and Boulton, 2002) but it has also been connected to anxiety and low self-esteem (Hawker and Boulton, 2000). Results from a study by Stadler et al. (2010) suggest that peer-victimization is more

common among boys than girls. On the other hand, a study by Scheithauer et al. (2006) suggest that there is no gender difference for verbal and relational victimization, but physical victimization is more common among boys than girls (Scheithauer et al., 2006). According to Stadler et al. (2010) parental and school support moderates the effects of peer-victimization but parental support is more effective for peer victimized girls than boys.

According to the literature above factors related to school, family and peer relationships are all related to well-being at school. It is, therefore, interesting to examine if these factors predict well-being during school lessons.

Aim

The aim of the present study is to examine self-reported well-being during school lessons among Icelandic boys´ and girls´, in 5th to 7th grade in elementary school. Furthermore, to examine whether school, family and peer related factors predict their well-being during school lesson. Based on the literature above, the following hypotheses are put forward:

1) Boys report less well-being during school lessons than girls.
2) School, family, and peer related factors can independently predict well-being among children during school lessons, where more positive social experiences predict positive self-reported well-being.
3) School, family, and peer related factors explain, at least in part, the gender difference in self-reported well-being during school lessons.

According to the literature, certain social factors may influence boys and girls differently (e. g. Bhanot and Jovanovic, 2009; Stadler et al., 2010). Based on this literature, it will be tested whether school, family, and peer related factors differ for the genders when predicting their self-reported well-being during school lessons.

Methods

Participants

A cross-sectional nationally representative and populations based sample of 10 to 12 years old students, who attended 5th to 7th grade in the Icelandic primary school system, in February 2009, was examined. The data was gathered by the Icelandic Center for Social Research and Analysis. The sample included the population of students in these age groups, with the exception of students who did not attend school the day the questionnaire was administered. Valid questionnaires were obtained from 11.387 individuals which is approximately 88% of all students enrolled in schools in these age groups. The sample consisted of 5.779 boys (50.8%) and 5.608 girls (49.2%), 121 participant did not report their gender. In 5th grade there were 3.799 (33.4%) participants, 3.705 (32.2%) in 6th grade and 3.866 (33.6%) in 7th grade, 138 participants did not report in which grade they were. Of all the participants, 77% lived with both parents, 23% lived in alternative family structures.

Procedure

Passive consent for participation was obtained from the children´s parents. The questionnaires were sent to the schools and the teachers administered them during school lessons. After finishing the questionnaire the children sealed them them in a blank envelope. The children were informed that they should not write their name or any identification on the questionnaire or the envelope to secure anonymity. The questionnaire included questions involving the children´s lives, such as general well-being, school, sports, extra curriculum activity and media. In the current study, only a proportion of the data was used.

Measures

Demographic variables

The demographic variables included gender (1 = boys, 2 = girls), grade (1 = 5th grade, 2 = 6th grade, 3 = 7th grade), and family structure (1 = living with both parents, 0 = living in alternative family structures).

The dependent variable, self-reported well-being during school lessons

One question was used to measure the well-being during school lessons among the children. The question was “How do you feel, most of the time, during school

lessons?". The question was answered on a 4 point scale from 1 = "very well", 2 = "well", 3 = "badly" to 4 = "very badly". The answers were collapsed and recoded into two categories, where "very well" and "well" were collapsed into one and "very badly" and "badly" into one (0 = badly, 1 = well).

Predictor variables

Four questions were used to measure school related factors. They were "Do you find the subjects taught at school too hard?" and "Do you find the subjects taught at school to be fun?". These questions were answered on a 6 point scale from 1 = "never", 2 = "almost never", 3 = "seldom", 4 = "sometimes", 5 = "often, to 6 = "always". Option 5 and 6 were collapsed and recoded into one. The third question was "How do you like your teachers at school?", answered on a four point scale from, 1 = "very well", 2 = "rather well", 3 = "rather badly" to 4 = "very badly". The fourth question was "How often do the teachers at school praise you?", answered on a five point scale from 1 = "never, 2 = "almost never", 3 = "seldom", 4 = "sometimes" to 5 = "often". Relevant variables were turned and recoded for higher score to indicate more positive experience.

Three questions were used to measure factors related to parents. They were "How easy or hard would it be for you to get attention and warmth from your parents?" and "How easy or hard would it be for you to get help with your school subjects from your parents?". Both questions were answered on a 4 point scale from 1 = "very difficult", 2 = "rather difficult", 3 = "rather easy" to 4 = "very easy". The last questions was "How often does the whole family talk together?", answered on a five point scale from 1 = "never", 2 = "almost never", 3 = "seldom", 4 = "sometimes" to 5 = "often".

Four questions were used to measure peer relationships. One question measured number of friends, that is "How many friends do you have at school?", answered on a 5 point scale from 1 = "no friends", 2 = "few friends", 3 = "several friends", 4 = "many friends" to 5 = "a lot of friends". The other three questions measured bullying, "How often has the following happened to you this winter? a) Group of kids teased you; b) Group of kids attacked you and hurt you; b) Group of kids left you out. The questions were answered on a 5 point scale from 1 =

“never”, 2 = “almost never”, 3 = “seldom”, 4 = “sometimes”, 5 = “often”. The questions were turned and recoded so that a higher score indicated less bullying. The questions were then computed to a scale called bullying. The Cronbach´s alpha for the scale indicated good reliability (alpha = .81).

Statistical analysis

Frequency counts were conducted for all the variables in the study, for boys and girls separately; Chi-square analysis was used to examine if the gender difference was significant. Pearson´s r correlation matrix was used to examine the relationship between the variables in the study. The correlation matrix was followed up by multivariate logistic regression to test main, mediating, and moderating effects. The multivariate logistic regression was undertaken in a hierarchical fashion, including four blockwise models when predicting the dependent variable. The first block included the demographic factors (Model 1), in the second block the school factors were added (Model 2), in the third block the family factors were added (Model 3), and at last in the fourth block peer related factors were added (Model 4). Cox & Snell R^2 and Nagelkerke´s R^2 were used to examine explained variance. Finally, mediating effects for each school variable was tested separately with multivariate logistic regression, the four steps designed by Baron and Kenny were used to examine full mediation (Baron and Kenny, 1986).

Results

The crosstab in Table 1 shows the participants responses to the questions involved in the study, for both boys and girls. The gender difference was significant for all the school variables, whereas boys reported more often than girls that subjects taught at school where too hard ($X^2(4)=72.63$, $p<.001$) and that they disliked the teachers ($X^2(3)=156.55$, $p<.001$). Girls found subjects taught at school more often fun than boys ($X^2(4)=819.47$) and they reported getting praised more often by teachers than boys ($X^2(4)=223.85$, $p<.001$).

The differences between the genders were also significant for all the family variables. According to the results it is easier for girls to get attention and warmth ($X^2(3)=219.72$, $p<.001$) and help with their school subjects from parents ($X^2(3)=115.68$, $p<.001$) than for boys. Girls also reported the whole family talking together more often than boys ($X^2(4)=116.46$, $p<.001$).

On the peer related variables the relationship was not as strong, but nevertheless significant. More girls than boys reported having a lot of friends ($X^2(4)=12.86$, $p<.05$). Boys reported being teased ($X^2(4)=135.45$, $p<.001$) and attacked ($x^2(4)=349.30$, $p<.001$) more often than girls but there was no significant difference between the genders on the question of being left out.

As predicted, there was a significant difference between the genders on the dependent variable “How do you feel during school lessons?” where a higher proportion of boys reported feeling bad during school lessons than girls ($X^2(3)=124.26$, $p<.001$).

Table 1. Responses to all the questions included in the study for both boys and girls.

	Boys	**Girls**	**Total**	
	N (%)	N (%)	N (%)	X^2
School subjects are fun				
Never	847 (14.8%)	197 (3.5%)	1044 (9.2%)	
Almost never	808 (14.1)	425 (7.6%)	1233 (10.9%)	
Seldom	1012 (17.7%)	678 (12.2%)	1690 (15.0%)	
Sometimes	1870 (32.7%)	2315 (41.6%)	4185 (37.1%)	df (4)
Often/always	1188 (20.8%)	1949 (35%)	3137 (27.8%)	819.47***
Like teacher at school				
Very badly	224 (3.9%)	82 (1.5%)	306 (2.7%)	
Rather badly	494 (8.6%)	286 (5.1%)	780 (6.9%)	
Rather well	2437 (42.6%)	2229 (40.1%)	4666 (41.4%)	df(3)
Very well	2565 (44.8%)	2960 (53.3%)	5525 (49%)	156.55***
School subjects to hard				
Often/always	636 (11.1%)	417 (7.5%)	1053 (9.3%)	
Sometimes	1942 (34.0%)	1966 (35.3)	3908 (34.6%)	
Seldom	1305 (22.9%)	1158 (20.8%)	2463 (21.8%)	
Almost never	1250 (21.9%)	1479 (26.6%)	2729 (24.2%)	df(4)
Never	578 (10.1%)	550 (9.9%)	1128 (10.0%)	72.63***
Praised by teachers at school				
Never	289 (5.0%)	134 (2.4%)	423 (3.7%)	
Almost never	678 (11.8%)	440 (7.9%)	1118 (9.9%)	
Seldom	1164 (20.3%)	832 (14.9%)	1996 (17.6)	
Sometimes	2633 (45.9%)	2834 (50.8)	5467 (48.3%)	df(4)
Often	975 (17.0%)	1335 (23.9%)	2310 (20.4%)	223.85***
Attention and warmth from parents				
Very hard	62 (1.1%)	40 (0.7%)	102 (0.9%)	
Rather hard	225 (4.1%)	145 (2.7%)	370 (3.4%)	
Rather easy	1605 (29.1%)	996 (18.2%)	2601 (23.7%)	df(3)
Very easy	3619 (65.7%)	4280 (78.4%)	7899 (72.0%)	219.72***
Help with school subjects from parents?				
Very hard	89 (1.7%)	58 (1.1%)	147 (1.4%)	
Rather hard	358 (6.9%)	244 (4.7%)	602 (5.8%)	
Rather easy	1758 (33.7%)	1390 (26.5%)	3148 (30.1%)	df(3)
Very easy	3010 (57.7%)	3551 (67.7%)	6561 (62.7%)	115.68***
The whole family talks together				
Never	121 (2.1%)	74 (1.3%)	195 (1.7%)	
Almost never	392 (6.8%)	241 (4.3%)	633 (5.6%)	
Seldom	750 (13.1%)	540 (9.7%)	1290 (11.4%)	
Sometimes	1709 (39.8%)	1540 (27.6%)	3249 (28.7%)	df(4)
Often	2771 (48.3%)	3183 (57.1%)	5954 (52.6%)	116.46***
Friends at school				
No friends	46 (0.8%)	29 (0.5%)	75 (0.7%)	
Few friends	420 (7.3%)	436 (7.8%)	856 (7.5%)	
Several friends	1361 (23.6%)	1225 (21.9%)	2586 (22.8%)	
Many friends	2139 (37.1%)	2032 (36.4%)	4171 (36.8%)	df(4)
A lot of friends	1793 (31.1%)	1865 (33.4%)	3658 (32.2%)	12.86*
A group of kids teased you				
Often	223 (3.9%)	118 (2.1%)	341 (3.0%)	
Sometimes	430 (7.6%)	352 (6.4%)	782 (7.0%)	
Seldom	566 (10.0%)	402 (7.3%)	968 (8.6%)	
Almost never	1046 (18.5%)	784 (14.2%)	1830 (16.3%)	df(4)
Never	3399 (60%)	3878 (70.1%)	7277 (65%)	135.45***
A group of kids attacked you				
Often	126 (2.2%)	39 (0.7%)	165 (1.5%)	
Sometimes	234 (4.2%)	117 (2.1%)	351 (3.2%)	
Seldom	374 (6.7%)	160 (2.9%)	534 (4.8%)	
Almost never	706 (12.6%)	341 (6.2%)	1047 (9.4%)	df(4)
Never	4175 (74.4%)	4862 (88.1%)	9037 (81.2%)	349.30***
Group of kids left you out				

Often	220 (3.9%)	201 (3.6%)	421 (3.8%)	
Sometimes	235 (4.2%)	270 (4.9%)	505 (4.5%)	
Seldom	348 (6.2%)	318 (5.8%)	666 (6%)	
Almost never	755 (13.4%)	805 (14.6%)	1560 (14.0%)	df(4)
Never	4067 (72.3%)	3931 (71.1%)	7998 (71.7%)	7.65
Well-being during school lessons				
Very badly	137 (2.4%)	50 (0.9%)	187 (1.7%)	
Rather badly	472 (8.3%)	350 (6.3%)	822 (7.3%)	
Rather well	2963 (51.9%)	2576 (46.4%)	5539 (49.1%)	df(3)
Very well	2142 (37.5%)	2581 (46.4%)	4723 (41.9)	124.26***

*p<.05 **p<.01 ***p<.001 (two-tailed test) X^2 = Chi Square test for independence

X^2 = Chi-square

The correlation matrix in Table 2 demonstrates that the dependent variable, well-being during school lessons, is related to all the variables in the study, for both boys and girls ($p<.001$). In particular, well-being during school lessons, is related to bullying ($r=.371/.422$, $p<.001$) and having friends at school ($r=.305/.376$, $p<.001$), where the relations are a little stronger for girls than boys. The dependent variable is also strongly related to the variables liking teachers at school ($r=.383/381$, $p<.001$), thinking subjects taught at school are fun ($r=.342/.342$, $p<.001$), and being praised by teachers at school ($r=.304/.286$, $p<.001$).

Table 2. Pearson r bivariate correlation for all the variables in the model.

	1	2	3	4	5	6	7	8	9	10	11	12
	Boys Girls	Boys Girls	Boys Girls	Boys Girls	Boys Girls	Boys Girls	Boys Girls	Boys Girls	Boys Girls	Boys Girls	Boys Girls	Boys Girls
1 Grade	1 1											
2 Family structure	-.024 .000	1 1										
3 School subjects are fun	-.120*** -.134***	.084*** .065***	1 1									
4 Like teachers at school	-.130*** -.180***	.036*** .040***	.371*** .371***	1 1								
5 School subjects are hard	-.029** -.042***	.079*** .096***	.290*** .351***	.158*** .172***	1 1							
6 Praised by teachers at school	-.028** -.065***	.046*** .059***	.325*** .327***	.397*** .378***	.190*** .219***	1 1						
7Attention and warmth	.075*** .061***	.095*** .120***	.121*** .179***	.106*** .108***	.179*** .180***	.182*** .183***	1 1					
8 Help with school subjects	.090*** .060***	.091*** .140***	.138*** .206***	.084*** .132***	.227*** .223***	.172*** .191***	.472*** .491***	1 1				
9 Whole family talks together	.029** .032**	.140*** .127***	.166*** .183***	.095*** .123***	.100*** .112***	.167*** .197***	.252*** .278***	.216*** .262***	1 1			
10 Friends	.033** .045***	.079*** .096***	.092*** .165***	.033** .095***	.165*** .184***	.126*** .183***	.197*** .245***	.203*** .220***	.212*** .218***	1 1		
11 Bullying	.135*** .105***	.085*** .086***	.067*** .134***	.076*** .141***	.168*** .223***	.128*** .174***	.177*** .213***	.183*** .222***	.099*** .141***	.377*** .362***	1 1	
12 Well-being during school lessons	.025 .016	.090*** .086***	.342*** .342***	.383*** .381***	.278*** .291***	.304*** .286***	.238*** .240***	.245*** .255***	.213*** .194***	.305*** .376***	.371*** .422***	1 1

*p<.05, **p<.01, ***p<.001 (2-tailed)

Table 3 includes the multivariate logistic regression models predicting well-being during school lessons. Model 1 in Table 3, includes the demographic variables, being a girl (Exp(B)=1.582, p<.001), being older (Exp(B) = 1.241, p<.001) and living with both parents (Exp(B)=1.747, p<.001) all predict more well-being during school lessons. According to Nagelkerke´s R^2 they explain 2.4% of the dependent variable distribution. The results in Model 2 suggest that when school related variables are added to the model the effects of gender on well-being during school lessons turn non significant (Exp(B)=.925, p>.05). That is, when controlling for the school related variables in the model, gender has no significant effect on well-being during school lessons. All the school variables add significantly to the model, and liking teachers at school has the strongest effect (Exp(B)=1.985, p<.001). According to Nagelkerke´s R^2, Model 2 explains 25.8% of the dependent variable distribution. In Model 3, all the family related variables add significantly to the model. Attention and warmth has the strongest effect (Exp(B)=1.366, p<.001). According to Nagelkerkes´s R^2, Model 3 explains 28.4% of the dependent variable distribution. In Model 4, both the peer related variables add significantly to the predictive value of the model where having friends at school has the strongest effect (Exp(B)=1.546, p<.001). According to Nagelkerke´s R^2, Model 4 explains 38.9% of the dependent variable distribution.

To investigate whether there were any moderating effects for gender, interactions between gender and all the predictor variables were added to the model. The whole family talking together predicted more strongly how boys felt during school lessons than girls (Exp(B)=.810, p<.05). On the other hand, having many friends predicted more strongly how girls felt during school lessons than boys (Exp(B)=1.383, p<.01). Other predictor variables did not significantly differ between the genders.

Table 3. Multivariate logistic regression models, predicting well-being during school lessons.

Model	Model 1			Model 2			Model 3			Model 4		
	B	SE	Exp(B)	B	SE	Exp(B)	B	SE	Exp(B)	B	SE	Exp(B)
(Constant)	.897	.156	2.452	-4.267	.249	.014	-6.346	.319	.002	-8.607	.373	.000
Demographic variables												
Gender	.459	.075	1.582***	-.078	.086	.925	-.148	.087	.862	-.179	.093	.836
Grade	.216	.045	1.241***	.486	.051	1.625***	.429	.052	1.535***	.304	.055	1.356***
Family structure	.558	.080	1.747***	.361	.088	1.435***	.226	.090	1.254*	.147	.097	1.158
School variables												
School subjects are fun				.343	.035	1.409***	.308	.036	1.360***	.343	.038	1.409***
Like teachers at school				.686	.053	1.985***	.710	.054	2.034***	.772	.058	2.165***
School subjects too hard				.415	.040	1.514***	.361	.040	1.434***	.239	.042	1.270***
Praised by teachers				.360	.040	1.433***	.288	.041	1.334***	.241	.043	1.272***
Family variables												
Attention and warmth							.312	.312	1.366***	.147	.072	1.158*
Help with school subjects							.259	.259	1.295***	.177	.064	1.194**
Whole family talks together							.204	.204	1.226***	.152	.041	1.164***
Peer related variables												
Friends										.436	.048	1.546***
Bullying										.237	.015	1.268***
Cox & Snell R/NR Sq	1% / 2.4%			11.2% / 25.8%			12.4% / 28.4%			16.9% / 38.9%		
Df	3			7			10			12		
Chi-square	102.647***			1156.373***			1282.588***			1801.103***		

B = unstandardized coefficient, SE =standard error, Exp(B) = odds ratio
*P<0.05 **P<0.01 ***P<0.001 (two-tailed tests).

To study the mediating effect of the school related variables on the relationship between the genders and well-being during school lessons further, the effects of each school related variable were tested separately, using multivariate logistic regression (Table 4). The variable, subjects taught at school are fun, alone, turned out to block out the effects of gender. All the four steps necessary for testing mediation, according to Baron and Kenny (1986), were met: 1) there was a correlation between gender and how children felt during school lessons, 2) there was a correlation between gender and finding subjects taught at school fun, 3) finding subjects taught at school fun affected how children felt during school lessons 4) and when the variable finding subjects taught at school fun was controlled, the relationship between gender and well-being at school was no longer significant. The variable, subjects taught at school are fun, therefore, fully mediated the effects of gender. According to Nagelkerke´s R^2 the variable, subjects taught at school are fun, explains 13.9% of the dependent variable distribution.

Table 4. Multivariate logistic regression model, predicting well-being during school lessons, separately for each school related variable.

	B	SE	Exp(B)	B	SE	Exp(B)	B	SE	Exp(B)	B	SE	Exp(B)	B	SE	Exp(B)
(Constant)	.902	.143	2.464	-.638	.158	.528	-2.928	.203	.053	-3.705	.219	.025	-4.089	.226	.017
Demographic variables															
Gender	.449	.070	1.566***	-.062	.076	940	-.104	.078	.901	-.053	.079	.949	-.085	.079	,919
Grade	.222	.042	1.248***	.352	.044	1.423***	.468	.046	1.597***	.477	.046	1.611***	.472	.047	1.603***
Family structure	.499	.074	1.647***	.390	.077	1.477***	.393	.080	1.481***	.335	.081	1.398***	.330	.081	1.391***
School variables															
School subjects are fun				.653	.028	1.922***	.471	.030	1.601***	.380	.031	1.462***	.333	.032	1.395***
Like teachers at school							.867	.046	2.379***	.854	.047	2.349***	.716	.049	2.046***
School subjects to hard										.409	.036	1.505***	.382	.036	1.465***
Praised by teachers													.321	.037	1.378***
Cox & Snell R/NR Sq	1% /2.3%			6.2% / 13.9%			9.3% /20.9%			10.5% / 23.5%			11.1% /24.8%		
Df	3			4			5			6			7		
Chi-square	110,202			695,214			1060,546			1198,859			1273,150		

B = unstandardized coefficient, SE = standard error, Exp(B) = odds ratio

*P<0.05 **P<0.01 ***P<0.001 (two-tailed tests).

Discussion

The purpose of the study was to examine self-reported well-being during school lessons among Icelandic boys and girls in 5th to 7th grade. The purpose was also to examine whether school, family, and peer related factors predicted well-being among children during school lessons and if these factors explained the gender difference.

As hypothesized, boys reported less well-being during school lessons than girls. These results are consistent with prior studies, where boys have reported less school satisfaction and more negative attitude toward school than girls (e. g. Margrét Lilja Guðmundsdóttir et al., 2007; Sund et al., 2001; Svavarsdottir, 2008). The results also indicated that boys were more negative than girls towards all the school lessons related factors in the study (subjects taught at school are too hard, subjects taught at school are fun, praised by teachers at school, like teachers at school).

The current findings suggest that school, family, and peer related factors all independently predict how children feel during school lessons. These results confirm the second hypothesis. The school variables were important factors in explaining how children felt during school lessons, where liking teachers at school had the strongest effect. The results underline how important the teacher is in shaping students´ feelings about school. Prior studies have also found teachers to have an important influence on students´ attitude towards school and academic behavior (e. g. Bong, 2008; Chen, 2005; Hallinan, 2008). The family related and peer related variables also predicted well-being during school lessons, which is in line with prior studies. Prior studies have shown the relationship between parents and children to be related to attitude towards school and academic performance (e. g. Catalano et al., 2004; Chen, 2005; Eccles et al., 1997). Friends at school and peer relationships have also been found to be related to well-being at school (e. g. Catalano et al., 2004; Stadler et al., 2010; Véronnau and Dishion, 2010; Wentzel et al., 2004).

In general, these results suggest that school, family and peer related factors should all be accounted for when trying to improve or explain children´s well-being during school lessons.

The school predictor variables explained the gender difference in well-being among children during school lessons. In fact the variable, subjects taught at school are fun, fully mediated the effects of gender. These results are in accordance to prior studies which have shown boys to be less interested in school subjects than girls (e. g. Amalía Björnsdóttir, 2008; D'Ailly, 2004; Margrét Lilja Guðmundsdóttir et al., 2007; Margrét Lilja Guðmundsdóttir et al., 2009). Furthermore, they underline how important subjects taught at school are in explaining the gender difference in self-reported well-being among children during school lessons. This suggests that subjects taught at schools and related factors must be evaluated if it is intended to increase boys´ well-being during school lessons.

Finally, the family and peer related factors were found to differ somewhat for the genders when predicting well-being during school lessons. The whole family talking together affected more strongly how boys felt during school lessons than girls. Prior studies have shown mixed results on the effects of support from parents for girls and boys. One study indicated that the effect of support and monitoring from parents on academic achievement is similarly important for boys and girls (Kristjansson and Sigfusdottir, 2009). Another study suggested that support from the mother has a positive effect on girls´ academic self-concept in science but a negative effect on boys (Bhanot and Jovanovic, 2009). In the current study, the effect of attention and warmth from parents and help with school subjects from parents on well-being during school lessons was not significantly different for the genders. These results suggest that getting warmth and attention and help with school subjects from parents are just as important factors for girls´ well-being during school lessons as they are for boys´ well-being.

Having many friends at school affected more strongly how girls felt during school lessons than boys. According to the literature, boys are more likely than girls to have large peer groups; on the other hand, girls focus more on close relationships (Rose and Rudolph, 2006). The relationship between popularity and friendship, and depression and emotional adjustment has been quite well studied, but results for gender difference have been inconsistent. Oldenburg and

Kerns (1997) reported popularity only to be related to depressed mood for girls. Demir and Urberg (2004) reported that perceived positive qualities in the best friendship were associated with emotional adjustment only for boys, among adolescents. On the other hand, Nangle, Erdley, Newman, Mason and Carpender (2003) found no gender difference on middle school children. The question used in the current study only measured how many friends at school the children reported having, not the quality of the relationships or if the friendship was mutual, which make the results difficult to interpret. It would be interesting to examine further the influence of friendship on well-being at school using more accurate measurement tools.

This study has some limitations which have to be addressed. The data used was cross-sectional; therefore, the study cannot provide causal evidence. The study relies on self-reported measures, and therefore, recall biases and inaccuracy in answers cannot be ruled out. The participants were young children, who might not have fully understood the questions. They were, though, encouraged to ask the teachers, if there was something in the questionnaire that they did not understand. Most of the measures used in the study were based on single questions, including the dependent variable. This might interfere with the reliability and validity of the study. Furthermore disabilities that affect learning, such as attention deficit-hyperactivity disorder (ADHD) and dyslexia are not taken into consideration in the current study. ADHD is a disorder that affects children´s well-being at school and educational performance (Spira and Fischel, 2005). The worldwide prevalence is about 5.3% among children and adolescents (Polanczyk, Silva de Lima, Horta, Biederman and Rohde, 2007), and boys are diagnosed with the disorder more often than girls (Polanczyk et al., 2007; Schneider and Eisenberg, 2006). People with dyslexia suffer from severe reading and spelling problems despite normal intelligence (Gersons-Wolfensberger, 1997), dyslexia is also more common among boys than girls (Lambe, 1999). Learning disabilities might explain a part of the well-being during school lessons among children, and should, therefore, be included in future studies (Lambe, 1999; Polanczyk et al., 2007; Schneider and Eisenberg , 2006).

The study strength is that it is based on a population data and the response rate was high (88%).

In summary, the current results suggest that school, family and peer related factors all contribute to well-being among children during school lessons. The school related factors turned out to be the most important factors when predicting well-being during school lessons, including teachers. The most important factor explaining the gender difference, were subjects taught at school. Accordingly, the subjects taught at school appeal more to girls than boys, and thus, in the current study, explain why a higher proportion of boys report feeling bad during school lessons than girls.

These results have important implications for prevention and public health practices in schools. They indicate that boys feel worse at school than girls which is a great concern for school personnel and authorities. The results also suggest that to improve boys well-being at school, factors related to school, should be emphasized on. Family and peer related factors must, though, be taken in to consideration. It is, of course, not acceptable that boys do worse at school compared to girls, and their well-being at school must be improved. But it is important that it will not be done at the cost of girls´ education and their well-being at school. It must, also, not be forgotten that girls´ do worse than boys on general well-being which is a serious matter and must be addressed.

It would be interesting to study further why so many boys dislike the subjects taught at school, and what could make the subjects more appealing to them. This could, for example, be done with qualitative research methods, interviewing male students and teachers. It would also be interesting to examine if disabilities that affect learning, such as ADHD and dyslexia, might explain a part of the gender difference.

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