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School factors associated with school refusal- and truancy-related reasons for school non-attendance

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Abstract The primary aim of this study was to investigate how students' perceptions of relationships with peers at school and teachers' classroom management are associated with school refusal-related reasons and truancy-related reasons for school non-attendance. The study included controls for emotional stability and relevant parental variables. A student self-report questionnaire was implemented, and students were recruited from 45 schools in seven municipalities in Norway. The survey was conducted at the end of the autumn term in 2012, with a total of 5,465 students from the 6th–10th grades participating. The sample of students was examined to obtain a subsample consisting of those students who reported that they had been absent from school at some time during the past 3 months (N = 3,629). Multivariate associations were studied in this subsample through the use of structural equation modeling. The findings of this study suggest that poor relationships with peers at school could be an important risk factor for school refusal and could be a moderate risk factor for truancy. Moreover, according to these results, teachers' classroom management could play a role in school refusal indirectly by preventing bullying and social exclusion by peers. Finally, a direct association of teachers' classroom management with school refusal-related and truancy-related reasons was found among secondary school students, suggesting that perceived poor support from teachers could increase the risk of school refusal and truancy among these students. The present study underscores the importance of efforts to prevent bullying as a measure to reduce school refusal. Finally, the findings imply that the role of school factors must always be taken into account in connection with unexcused school non-attendance.

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1 Introduction

Consistent school attendance is important for students' personal, emotional, social and academic development (e.g., Fortin et al. 2006; Dube and Orpinas 2009; Pellegrini 2007; Lyon and Cotler 2007; Kearney 2006, 2008b). In contrast, frequent or prolonged non-attendance may lead to deteriorating school performance and create a negative cycle that is difficult to break (Credé et al. 2010; Gottfried 2009; Musser 2011; Sanchez 2012; Reid 2005). The long-term consequences of such non-attendance could be grave and include school dropout, impaired social functioning, unemployment, mental health problems and the need for welfare services (e.g., Allensworth and Easton 2007; Kearney 2008b; Markussen et al. 2008; Silver et al. 2008; Brandibas et al. 2004; Rumberger 1995). There is also evidence linking truancy to delinquent behavior and juvenile crime (Collins 1998; Reid 1999). Unexcused school non-attendance, such as school refusal (SR) and truancy, is relatively common, and approximately 20 % of all school non-attendance is considered unexcused (Kearney 2008a; Kearney and Silverman 1996; Thambirajah et al. 2008).

There is a need for a better understanding of the various factors that contribute to such absence. Especially concerning SR, previous research has primarily taken a clinical or family approach, and samples have often been selected from child mental health clinics (e.g., Fortin et al. 2006; Lyon and Cotler 2007), limiting the information obtained about the role of school factors. Research focusing on the role of school factors and conducted in large normal samples allowing the control of family and individual factors is sparse or lacking. The primary aim of this study is thus to contribute to the knowledge and understanding of the role of school factors in SR and truancy. More specifically, the study investigated the extent to which students' perceptions of peer relationship at school and teachers' classroom management are associated with SR- and truancy-related reasons for non-attendance. The study also included controls for individual and parental factors.

In recent years, certain researchers have combined SR and truancy into one concept, termed school refusal behavior (e.g., Kearney 2008a, b; Kearney et al. 2010). Others scholars have emphasized the need for distinguishing between these two types of unexcused non-attendance because of their differing characteristics (e.g., Hersov 1960; King and Bernstein 2001; Fremont 2003; Place et al. 2000; Berg 1996, 1997). The results of a recent empirical study (Havik et al. 2014) support the need for differentiating between SR and truancy. SR is commonly defined as non-attendance due to the expectation of experiencing strong negative emotions while at school (Kearney 2008b; Kearney and Silverman 1993; Berg et al. 1993; Havik et al. 2013), whereas truancy is believed to be related to anti-school sentiments and antisocial characteristics such as finding school boring and seeking more rewarding activities outside school (Reid 2012; Fremont 2003; Kearney 2008b; Kearney and Silverman 1993; Elliott 1999).

1.1 Previous research on the role of school factors in SR and truancy

Specific school factors such as poor academic and social support, boredom in school and bullying have been hypothesized to be related to non-attendance (Lauchlan 2003; Kearney and Silverman 1996; Kearney 2008b). However, empirical support for this notion is sparse, particularly in terms of SR. Previous studies about school factors related to SR have primarily taken a qualitative approach involving small samples (e.g., Shilvock 2010; Wilkins 2008; Havik et al. 2013; Place et al. 2000). To our knowledge, only one quantitative study with a large sample has addressed school factors related to SR. This study, by Egger et al. (2003), focused on psychiatric disorders among students displaying SR or truancy and had methodological limitations in terms of the measurement of peer relationships and in terms of the lack of a multivariate approach. One reason is that they did not control for individual factors when testing the association between peer relationships at school and school non-attendance. Moreover, no large-scale quantitative study has investigated the role that the teacher may play in school non-attendance.

1.1.1 Difficult peer relationships at school

Students with poor school attendance appear more likely to have difficulties in social situations, especially concerning making and keeping friends (Wilson et al. 2008; Carroll 2011; Egger et al. 2003). For this reason, such students appear to be more socially isolated (Place et al. 2000). Findings from a study by Egger et al. (2003) suggest that problematic peer relationships, including bullying, are more common among students displaying SR than among truants. Other studies, however, indicate victimization to be frequent also among truant students (Malcolm et al. 2003; Reid 2005; Gastic 2008; Kinder et al. 1995, 1996). Qualitative studies suggest that having good friends who provide social support may prevent SR (Havik et al. 2013; Shilvock 2010). SR students, however, also tend to be shy and socially withdrawn (Egger et al. 2003), and it is possible that both difficult peer relationships and difficulties attending school are caused by an underlying stability in social situations. Studies that apply a multivariate approach to control for such stability when testing the association between difficult peer relationships and indicators of SR are, therefore, warranted.

1.1.2 Teachers' classroom management

Teachers' classroom management, which involves, among other factors, structuring social interactions between students and supporting individual students, has been argued to be crucial for the engagement and well-being of students (e.g., Ertesvåg 2009; Roland and Galloway 2002; Pianta et al. 2012). However, lack of classroom order, structure or organization and the association of teachers' classroom management with SR and truancy have not been carefully investigated.

Teachers may play an important role in structuring social interactions among students. Previous research indicates that effective classroom management promotes supportive relationships between students (Luckner and Pianta 2011) and could prevent bullying (Bru et al. 1998; Roland and Galloway 2002). In this way, teach-

ers' classroom management could influence SR and truancy indirectly by preventing unpleasant or threatening experiences with fellow students or by building supportive and rewarding relationships between students that contribute to a positive motivation for attending school. Teachers that structure classroom activities well could promote a feeling of predictability or perceived control in students regarding the classroom environment. Predictability has been found to protect against stress (Lazarus 2006) and may also serve to clarify rules and expectations concerning school attendance. In a qualitative interview study among parents of SR students, predictability emerged as a factor that was perceived to be crucial for school attendance (Havik et al. 2013). Moreover, lack of classroom order, structure or organization has been suggested by other scholars to be risk factors for non-attendance in general as well as for dropping out (e.g., Fortin et al. 2006; Kinder et al. 1996).

The relationships between teachers and students could also be directly related to SR and truancy. Supportive teacher–student relationships may protect against stress and negative emotions (Murberg and Bru 2009) that could be risk factors for SR. In a qualitative study of parents of students with a history of SR, a lack of teachers' support and a fear of the teacher were mentioned as risk factors by several parents (Havik et al. 2013). However, the role that teachers' classroom management and support for individual students plays in SR has not been tested in a large-scale study controlling for relevant individual and family factors.

1.1.3 Individual and family factors

Persons with emotional instability have a tendency to experience negative emotions, such as anger, anxiety or depression (Matthews et al. 2003). They are often emotionally reactive and vulnerable to stress and might interpret situations as threatening even if they are quite ordinary. Emotionally unstable students are found to be more at risk for SR (e.g., Brand and O'Conner 2004; Brandibas et al. 2004; Kearney and Albano 2004; Kearney 2008b). The level of emotional stability may also negatively affect students' perceptions of the learning environment and create spurious relationships between such perceptions and indicators of SR. A similar mechanism may also exist relative to indicators of truancy. Consequently, emotional stability was included as a control variable in this study.

Parental involvement in education has been found to be related to students' academic achievement (Epstein 1991; Reid 2008; Jeynes 2005). Parents' interest in their children's schoolwork is an aspect of supportive parenting and has been found to be related to lower truancy and lower drop-out risk in several studies (e.g., Epstein and Sheldon 2002; Rumberger et al. 1990). Moreover, parental monitoring of school attendance is likely to influence the risk of SR and truancy (Sheppard 2005).

Parents' attitudes toward school may also influence students' perceptions of the learning environment and contribute in this way to spurious relationships between school factors and indicators of SR and truancy. Parental interest in school work and parental monitoring of reasons for absence will thus be included as control variables in this study.

1.2 Aims and research questions of this study

The primary aim of this study is to investigate how students' *perceived peer relationships at school*, including *being bullied* and feeling *socially isolated at school*, and *perceptions of teachers' classroom management* are associated with SR- and truancy-related reasons for non-attendance. The study includes controls for *individual emotional stability* and relevant *parental variables*. The research questions of this study are as follows:

1. How are students' perceptions of relationships with peers at school and teachers' classroom management associated with SR-related and truancy-related reasons for school non-attendance if controls are included for emotional stability, parental interest in schoolwork and parental monitoring of reasons for absence?
2. Do these associations differ between students in primary and secondary school?

2 Methods

2.1 Sample

Students were recruited from 45 schools in seven municipalities in Norway, including a relatively large Norwegian city as well as several towns and rural districts. A total of 5,465 students from the 6th to 10th grades participated (ages 11–15; 51 % male and 49 % female). The response rate was 84 %.

The questionnaire included an item about the number of *full days of school non-attendance in the past 3 months*. The item had a five-step scoring format (from 0 to 4): "None", "1–4 days", "5–7 days", "8–10 days" and "More than 10 days". Students that reported no absence during the past 3 months (32 %) were excluded from further analyses. The final sample of students who reported non-attendance within the past 3 months consisted of 3,629 students (49.6 % male and 50.4 % female). Of these students, 38.4 % (n = 1,395) attended primary school, and 61.6 % (n = 2,234) attended secondary school.

2.2 Procedure and ethical considerations

The data were collected with self-report questionnaires. A survey was conducted at the end of the fall term in 2012. The students were asked to complete a web-based questionnaire during an ordinary 45-min classroom period. A teacher or a school administrator was present in the classroom and was given advance written instructions from the researchers on the implementation of the survey.

The study was conducted in accordance with the standards described by the Norwegian Data Inspectorate for an anonymous study and was therefore conducted without written consent from parents. Parents and students were well informed about the details of the study, and parents were given the possibility to examine the questionnaire in beforehand. Unless they requested that their child to be exempted from participating in the study, parental consent was assumed. The students were told in advance that

participation would be voluntary. Anonymity was ensured by giving each student an individual password that would be used to log on to the survey. This password was not connected to the student's name, class or school; it was connected only to the municipality and the student's school level. The study was organized in a way that made it impossible to identify individual students. Certain questions that were asked could also generate thoughts that needed to be expressed and a need for someone with whom to talk afterwards. To meet this possible need, the schools offered the possibility of contacting a counselor or advisor, a school nurse or the educational psychological service.

The study was approved by the Norwegian Data Inspectorate and was conducted in accordance with the guidelines of The Norwegian National Committees for Research Ethics.

2.3 Measurements

The questionnaire had an overall introductory text. Additionally, scales or items that needed more explanation had a specific introductory text. Information about the wording of items and psychometric properties of the measurements is given in "Appendix".

2.3.1 Measurement of reasons for school non-attendance

The approach used to measure *school refusal-related reasons* (SR reasons) and *truancy-related reasons* (truancy reasons) for school non-attendance was developed and documented by Havik et al. (2014). The items related to SR reasons centered on expectations or experiences of negative emotions while at school, whereas the items on truancy reasons focused on the characteristics of finding school boring and seeking more attractive activities outside school. Each scale had four items and a four-step scoring format (from 0 to 3): "Never", "Seldom", "Sometimes" and "Quite often".

2.3.2 Independent variables

Being bullied was measured with an instrument previously documented and used by the Norwegian Centre for Learning Environment and Behavioral Research in Education (e.g., Bru et al. 1998; Roland and Idsoe 2001; Idsoe et al. 2012). The scale included four items about being bullied within the past school year with a five-step scoring format according to Olweus (1993) (from 0 to 4): "Never", "Seldom", "2–3 times per month", "About every week" and "About every day". See Table 1 and "Appendix" for information about the psychometric properties of the measurement of being bullied and other measurements included in the study.

The measurement of experiencing *social isolation at school* included five items and used a four-step scoring format (from 0 to 3): "Totally disagree", "Somewhat disagree", "Somewhat agree" and "Totally agree". Although the bullying scale included an item about being bullied via social isolation, a statistical test of the measurement models indicated that being bullied and social isolation should be considered separate concepts.

Table 1 Total and indirect effects (associations) for variables included in the structural model (path model)

	School refusal-related reasons		Truancy-related reasons	
	Primary school	Secondary school	Primary school	Secondary school
(A) Total effects				
Independent variables				
Teachers' classroom management	−.17**	−.26**	−.08**	−.28**
Socially isolated at school	.17**	.24**	.12**	.10**
Being bullied	.48**	.27**	.13**	.18**
Control variables				
Emotional stability	−.35**	−.31**	−.10**	−.11**
Parental interest in schoolwork	−.10**	−.17**	−.05	−.12**
Parental monitoring	−.09**	−.10**	−.24**	−.23**
(B) Indirect effects				
Independent variables				
Teachers' classroom management	−.16**	−.11**	−.06**	−.06**
Socially isolated at school	.16**	.08**	.04**	.06**
Being bullied	–	–	–	–
Control variables				
Emotional stability	−.22**	−.13**	−.04	−.07**
Parental interest in schoolwork	.03*	−.11**	−.02	−.11**
Parental monitoring	.04**	−.02**	−.02**	−.03**

Note that "−" is given when the structural model (path model) did not specify an indirect association for the variable (N = 3,629)

* $p = 0.05$; ** $p = 0.01$

Teachers' classroom management Students' perceptions of teachers' classroom management were assessed by items from a scale originally developed by the Norwegian Centre for Learning Environment and Behavioral Research in Education (Bru et al. 1998, 2002). Items included from this scale were intended to measure *students' perceptions of teachers' academic support, teachers' emotional support* and *teachers' monitoring*. In addition, two items were developed for this study to assess how teachers *follow up school non-attendance* and three items to assess how students perceived the *predictability* of the learning environment. All items had a four-step scoring format (from 3 to 0): "Totally agree", "Somewhat agree", "Somewhat disagree" and "Totally disagree". The various dimensions of classroom management have been found to be relatively strongly correlated with each other (Bru et al. 2002). A second-order measurement model for *teachers' classroom management* was therefore considered.

2.3.3 Control variables

Emotional stability was measured by five items from the neuroticism dimension of the short-form of the Junior Eysenck Personality Questionnaire Revised (JEPQR-S) (Fran-

cis 1996; Eysenck and Eysenck 1965). Neuroticism or emotional stability/instability is viewed as a fundamental personality trait and as a disposition for anxiety, depression and negative emotions. Thus, it may be an important individual-level antecedent of school non-attendance, especially SR, as well as for the perception of classroom management and relationships with peers at school. This dimension was therefore included in this study as a control variable. The scale has a two-point scoring format (1 or 2): "Yes" or "No". The scale *parental interest in schoolwork* was derived from Majoribanks (1979) and included four items, and the scale *parental monitoring of reasons for absence* was developed for this study and included three items related to follow-up by parents on their children's reasons for not attending school. In these two scales, a four-step scoring format was used (from 0 to 3): "Totally disagree", "Somewhat disagree", "Somewhat agree" and "Totally agree". "Appendix" gives the wording of all items included in the measurement models.

2.4 Statistical data analyses

The statistical data analyses included descriptive statistics, Cronbach's alpha, confirmatory factor analyses (CFA) and structural modeling. The analyses were conducted with the statistical software packages IBM SPSS version 20 [IBM SPSS (2009) SPSS for Windows, Rel. 20.0.0 Chicago: IBM SPSS Inc.] and Mplus 7.11 (Muthén and Muthén 2013).

To investigate the measurement and structural models, we applied a SEM model with a latent variable framework to partial out measurement errors. For the measurement models, parameters were constrained to remain equal across primary and secondary schools. Because certain variables exceeded the recommended cutoff values for skewness, the statistical assumptions underlying parametric testing might not be obeyed. Therefore, the models were fitted to the data by means of the robust maximum likelihood procedure, MLR.

To assess the goodness of fit of the models, Hu and Bentler (1999) have recommended using a cut-off value close to .08 for the standardized root mean squared residual (SRMR) supplemented with the Tucker–Lewis Index (TLI) (Tucker and Lewis 1973) and the Comparative Fit Index (CFI), with cut-off values close to .95, in addition to the Root Mean Square Error of Approximation (RMSEA), with a cut-off value of approximately .06 or less. These recommendations were followed, and the RMSEA score was supplemented with a 90 % confidence interval (90 % CI).

3 Results

3.1 Measurement models

The second-order measurement model for *teachers' classroom management* yielded a good fit: RMSEA: .029, 90 % CI (.028–.030); CFI: .95; TLI: .95; SRMR: .045. Accordingly, the second-order measurement model for teachers' classroom management was implemented.

In accordance with Jöreskog (1993), measurement models were investigated separately (see "Appendix"). In the measurement models, factor loadings were constrained
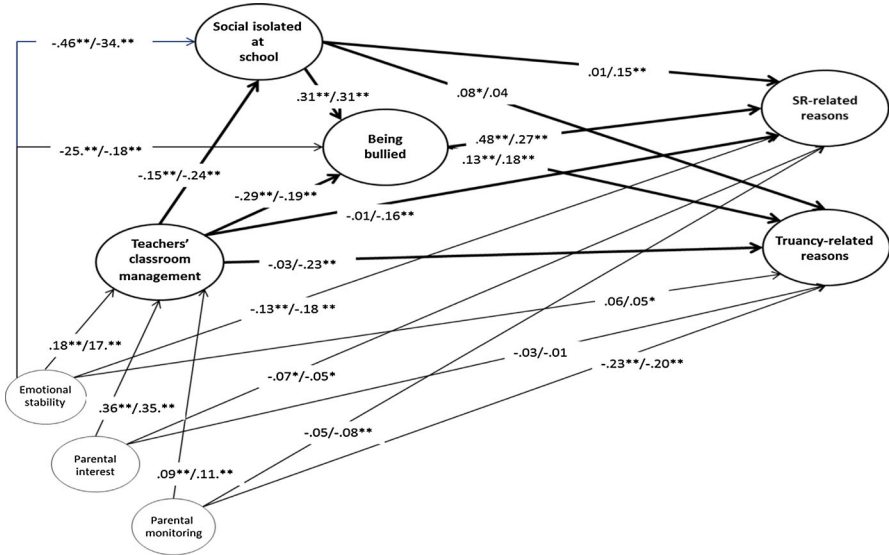
Fig. 1 Results from the Structural Models with latent variables. Coefficients are given in standardized metric (N = 3,629). Coefficient for the primary school student sample is presented to the left for the slash and for the secondary school student sample to the right (/). Independent and dependent variables and the links between them are highlighted. See "Appendix" for information about measurement models. Note that all paths were estimated simultaneously

to be equal across primary and secondary schools. This approach was taken to achieve a comparable measurement of concepts across school levels. Subsequently, the parameters of the measurement models and the structural model were estimated simultaneously.

3.2 Structural models

The final structural or path model is depicted in Fig. 1. All paths were analyzed simultaneously implying that the different paths were partialled out against each other. Moreover, in the final model not all possible paths were included. This was because modification indices indicated that optimal fit for the model was achieved without these paths included, reflecting coefficients for the paths to be insignificant. Structural models were designed to give results separately for primary and secondary school students. Results are presented in Fig. 1. The results for the primary school student sample are presented to the left of the slash, those for the secondary school student sample to the right. Results from the structural equation model showed that *being bullied* was relatively strongly associated with SR reasons for non-attendance, especially among primary school students, although it was also associated with SR reasons among secondary school students. *Being bullied* also showed a moderate, statistically significant association with truancy reasons for non-attendance among both primary and secondary school students. The variable related to the experience of *social isolation at school* only showed a direct association with SR reasons among secondary

school students. *Social isolation at school* showed a weak, although statistically significant, association with SR reasons among secondary school students, whereas there was a non-significant direct association with truancy reasons. However, *social isolation at school* was relatively strongly associated with *being bullied* among primary and secondary school students, contributing to an indirect relationship between social isolation at school and SR reasons for non-attendance.

Teachers' classroom management also yielded an indirect association through *social isolation at school* and *being bullied* among both primary and secondary school students. Among the control variables, *emotional stability* showed moderate direct associations with SR reasons among both primary and secondary school students but was not correlated with truancy reasons. However, the total standardized effects (Table 1) showed relatively strong associations between emotional stability and SR reasons among both primary and secondary school students.

Parental monitoring of reasons for absence showed significant, although moderate, associations with truancy reasons among both primary and secondary school students but was uncorrelated with SR reasons. *Parental interest in schoolwork* showed weak associations with unexcused reasons for school non-attendance and was only significant for SR reasons (see Fig. 1).

Among secondary school students, the model also yielded statistically significant direct associations of teachers' classroom management with both SR reasons and truancy reasons for non-attendance. In addition, the total standardized effects for teachers' classroom management varied from $\beta = -.29\,(p < 0.01)$ for the association with truancy reasons among secondary school students to $\beta = -.27\,(p < 0.01)$ for the association with SR reasons among secondary school students and $\beta = -.16\,(p < 0.01)$ for the association with SR reasons among primary school students (see Table 1).

3.3 Test of differences between school levels

To test if the relationships between the independent variables and the dependent variables were significantly different between primary and secondary school, structural models with constrained and unconstrained parameters for these relationships were compared. The fit indices for the model with structural parameters constrained to remain equal across primary and secondary school student samples showed a good fit to the data: RMSEA: .034, 90 % CI (.033–.035); CFI: .95; TIL: .95; SRMR: .044. However, unconstraining these parameters yielded a significant improvement in goodness of fit: $\Delta \chi^2(9) = 60.169$, $p < 0.05$, indicating that attending primary or secondary school moderated the associations between the independent and dependent variables. The values of the indices were RMSEA: .034, 90 % CI (.033–.035); CFI: .95; TIL: .95; and SRMR: .048. The results from this model with unconstrained structural parameters but with constrained factor loadings are presented in Fig. 1. Standardized regression coefficients are given.

3.4 Test of unique variance explained by school related variables

To assess the variance explained by the control variables, a structural model without variables assessing teachers' classroom management and relationships with peers at school was conducted. This model yielded a good fit: RMSEA: .046, 90 % CI (.044–.048); CFI: .95; TLI: .95; SRM: .048). In all, the control variables explained 15 and 19 % of the variance in SR reasons among primary and secondary school students, respectively. The corresponding percentages for truancy reasons were 7 and 9 %. Variables assessing teachers' classroom management and relationships with peers at school explained an additional 19 and 15 % of the variance in SR reasons among primary and secondary school students, respectively, whereas the corresponding percentages of unique explained variance in truancy reasons were 2 and 9 %.

4 Discussion

The primary aim of this study was to investigate how students' perceptions of relationships with peers at school and teachers' classroom management are associated with school refusal reasons (SR reasons) and truancy reasons for school non-attendance, using controls for individual emotional stability, parental interest in schoolwork and parental monitoring of reasons for non-attendance. The results suggest that school factors are more closely linked to SR reasons for non-attendance than to truancy reasons. Moreover, the findings suggest that poor relationships with peers at school may be an important risk factor for SR reasons for non-attendance. Furthermore, the findings suggest that teachers' classroom management can play a role in SR and truancy, primary through influencing relationships among peers. However, among secondary school students, the results indicate that teacher support in the form of good classroom management is directly linked to a reduced risk of SR and truancy (see Fig. 1).

The results for the control variables will be briefly addressed before the included school factors are discussed in detail. The results confirmed that emotional stability was associated with both students' perceptions of teachers' classroom management and SR reasons for non-attendance (e.g., Kearney 2001, 2003, 2008b; King et al. 1998) and was thus a relevant control variable to include in terms of SR. Parental monitoring of reasons for absence was moderately associated with truancy reasons and only weakly with SR reasons. Parental interest in schoolwork showed also relatively weak associations with the assessed reasons for absence. The strongest association was found among secondary school students. These findings suggest that it might be difficult for parents to prevent truancy. This outcome could be due to the cleverness with which truants conceal their absence from their parents (Reid 2012). In terms of students who show signs of SR, the results may reflect that it could be difficult for parents to force their children to attend school, especially if the children express a fear of school.

4.1 Findings for relationships with peers at school

Being bullied showed a strong association with SR reasons for non-attendance among primary school students and somewhat a weaker association among sec-

ondary school students. These relatively strong associations with SR emerged even if control variables were included, especially among primary school students. In contrast, experiencing bullying was more weakly associated with truancy reasons for non-attendance. Not attending school to avoid being bullied is understandable. Accordingly, these findings could reflect that experiencing bullying is primarily a risk factor for SR and is a relatively minor risk factor for truancy. The difference between the findings about SR- and truancy reasons for non-attendance, suggest that there is a need to differentiate between these two types of non-attendance to implement effective preventive measures. Anti-bullying interventions appear to be especially important for preventing SR. The relatively stronger association between bullying and SR reasons among primary school students might be explained by the finding that younger students are usually exposed to more direct physical bullying, which might have a more devastating effect (e.g., Woods and Wolke 2004). When cognitive, verbal and social skills develop, children will demonstrate more sophisticated styles of aggression, such as relational aggression or bullying (Woods and Wolke 2004). Although relational bullying is hurtful, it may be possible for certain victims to ignore it and thus to be able to attend school. Moreover, adolescents may also be better able to attend school even if they are being bullied because they might be able to compensate by focusing on other things at school, for example, seeking social support from friendly peers or teachers (Rigby 2000).

In this multivariate approach, social isolation at school showed a moderate association with SR reasons only among secondary school students. Feeling left out by peers at school may be a greater challenge among adolescents than younger students because friends are of greater importance to adolescents (Scholte and Van Aken 2006; Arnett 2003). In contrast, the weak association between social isolation at school and truancy reasons suggests that truant students are not necessarily unpopular among peers at school. However, previous studies indicate that truants are lonely, insecure and lack friends (Reynolds et al. 1980). Reid (2000, 1999) mentions that 'fallen out with peers' is a warning sign for truancy. Another possible explanation could thus be that truants are less affected by feelings of isolation because they are likely to have some friends outside of school or classes even though these friends might not be a positive influence (Ek and Eriksson 2013; Kinder et al. 1996; Yahaya et al. 2009). Nevertheless, the inconsistent findings suggest a need for additional research concerning the role of peer relationships in truancy.

4.2 Findings for teachers' classroom management

The results showed that teachers' classroom management was indirectly associated with SR reasons for non-attendance. This finding suggests that classroom management could influence the risk of SR by regulating student–student relationships (Fig. 1; Table 1). Due to the effect of modeling, supportive teacher behavior could increase the probability that students would be more supportive towards their peers (Bru et al. 2002; Wentzel 1997; Noddings 1992). In addition, the results could reflect

that the teacher may prevent SR by effective organization of the various classroom activities.

The results showed only direct associations between teachers' classroom management and SR or truancy reasons for school non-attendance among secondary school students. Previous research indicates that students' perception of teacher support becomes increasingly negative from primary to secondary school (Bru et al. 2010; Furman and Buhrmester 1992; Malecki and Demaray 2002; Bokhorst et al. 2009). This change occurs at the same time as many students begin to experience school as increasingly demanding academically and socially. In addition, physical and identity-related changes occur during these years (Ek and Eriksson 2013). Other explanations might include heightened levels of mistrust between teachers and students, students' perceiving that teachers no longer care about them and fewer opportunities for establishing meaningful relationships between students and teachers (Eccles 1993; Harter 1996). Moreover, previous research indicates that students' disengagement increases with age (Marks 2000; McDermott et al. 2001). The increase in disengagement might be explained by increased pressure and stress due to a less predictable school situation marked by an increased number of teachers, more tests and exams and the introduction of grades in Norway. Because of the increasing academic demands during secondary school, teachers' support may be even more important for reducing school-related stress that could lead to SR or truancy. The findings may also reflect that, among secondary school students, difficult relationships with teachers could increase an anti-school attitude that makes the student skip school.

4.3 Methodological considerations

The large sample of students from an extensive area of Norway is a positive feature of this study. This advantage made it possible to implement an advanced multivariate approach controlling for individual emotional stability, perceptions of parental support towards school and parental monitoring of the reasons for absence, all believed to play a significant role in unexcused school non-attendance, in particular SR, as well as in students' perceptions of the school factors studied. Another advantage is that the analysis suggests the good quality of the measurements used.

However, a limitation of this study is the use of students' self-report of SR-related and truancy-related reasons for school non-attendance. These implemented dependent variables could imply a risk for SR and truancy, but are not direct indicators of these types of unexcused non-attendance. However, this approach could be considered relevant for identifying possible risk factors for SR and truancy at an early stage, a measure that is imperative for effective prevention and early intervention. Moreover, one cannot rule out that other control variables should have been included. Finally, it is possible that the directions of causality are different from those indicated by the structural model. Absence could, for example, increase the likelihood of being bullied. The differences in the strengths of association of exposure to bullying with SR and truancy reasons argue against this possibility. However, further research is needed with designs that are more able to assess the direction of causality.

4.4 Concluding thoughts and implications for practice

School personnel are frequently the first professionals to identify school non-attendance (Kearney and Bates 2005; Thambirajah et al. 2008; Kearney 2001; King et al. 1998). They are in the best position to prevent non-attendance and to implement early interventions. Most likely, their ability to consider different reasons for unexcused school non-attendance is crucial for effective prevention or early intervention. The findings of this study indicate that school factors, such as relationships with peers at school and teachers' classroom management, most likely play a significant role in SR regardless of individual or parental risk factors. Therefore, school factors should be carefully considered, especially when SR is identified. In particular, the findings of this study suggest that victimization to bullying is an important school related risk factor for SR. The findings also imply that effective classroom management could reduce the risk of students being bullied and thus reduce SR. Finally, for secondary school students, the findings indicate that good teacher–student relationships could directly influence the prevalence of SR and truancy. However, future research implementing longitudinal designs is needed to confirm these tentative conclusions.

Appendix

Factor loadings and goodness-of-fit indices for all measurement models. Factor loadings were constrained to be invariant across school level (primary or secondary school). Moreover, internal consistency (Cronbach's alpha) for factor-based indexes is given.

School refusal-related reasons	*Factor loadings*
SRMR = .035, RMSEA = .046, 90 % CI (.033–.059); CFI = .98; TLI = .97. (α = .85)	
Absent from school because…you have been afraid or worried about something at school	.71
Absent from school because…you would feel sad or sorry if you went to school	.80
Absent from school because…you wanted to avoid unpleasant situations at school	.90
Absent from school because…you have been afraid of making a fool of yourself at school	.77
Truancy-related reasons	
SRMR = .045, RMSEA = .042, 90 % CI (.029–.055); CFI = .98; TLI = .97. (α = .85)	
Absent from school because…you were going to do something you find boring	.81
Absent from school because…you had planned to be with friends outside of school during school time	.90
Absent from school because…you were going to do more appealing things outside of school	.89
Absent from school because…you were tired after playing computer games during the night	.67
Emotional stability	
SRMR = .051, RMSEA = .044, 90 % CI (.040–.047); CFI = .95; TLI = .95. (α = .76)	
Are you easily hurt when people find things wrong with you or the work you do?	.67
Do you worry for a long time if you have made a fool of yourself?	.55
Do you often feel your life is sad?	.58
Are your feelings easily hurt?	.75
Are you vulnerable in some areas?	.64
Parental interest in school work	
SRMR = .046, RMSEA = .038, 90 % CI (.035–.042); CFI = .96; TLI = .96. (α = .82)	
My parents are interested in my schoolwork	.79
My parents often help me with schoolwork	.72
My parents often praise me for my schoolwork	.71
My parents follow-up on how school is going	.75
Parental monitoring of reasons for absence	
SRMR = .054, RMSEA = .039, 90 % CI (.035–.044); CFI = .96; TLI = .96. (α = .77)	
If I am sick and cannot attend school, my parents will ask what is wrong with me	.50
If I am sick and cannot attend school, I am not allowed to go to my friends' houses	.86
If I am sick and cannot attend school, I am not allowed to attend activities or training after school	.87
Being bullied	
SRMR = .051, RMSEA = .041, 90 % CI (.038–.045); CFI = .96; TLI = .96. (α = .87)	
How often have you been bullied/bothered at school by other students in the last school year?	.87
How often have you been bullied/bothered at school by being teased by other students in the last school year?	.85
How often have you been bullied/bothered at school by not being allowed to spend time with others or being isolated/excluded in the last school year?	.73
How often have you been bullied/bothered at school by being beaten, kicked or pushed by other students in the last school year?	.68

Socially isolated at school
SRMR = .044, RMSEA = .041, 90 % CI (.037–.044); CFI = .96; TLI = .96. (α = .88)

I can feel left out in my class	.76
Sometimes it is hard for me to find someone to cooperate with	.75
I sometimes feel lonely at school	.87
Sometimes is it hard for me to find someone to spend time with during recess	.82
I have few friends at school	.69

Teachers' classroom management (second order)
SRMR = .044, RMSEA = .033, 90 % CI (.032–.035); CFI = .96; TLI = .96. (α = .92)

Teachers' emotional support	.79
Teachers' academic support	.85
Teachers' monitoring	.72
Teachers' follow-up of non-attendance	.66
Students' perceived predictability	.73

Teachers' emotional support
SRMR = .044, RMSEA = .039, 90 % CI (.036–.043); CFI = .97; TLI = .97. (α = .93)

I can trust my teacher	.77
I feel that my teachers have faith in me	.82
My teachers will always help me if I have problems	.82
I feel that my teachers care about me	.91
I feel my teachers appreciate me	.89

Teachers' academic support
SRMR = .043, RMSEA = .037, 90 % CI (.033–.040); CFI = .97; TLI = .97. (α = .87)

When we are doing group work or project work, the teachers are good at explaining what to do	.78
Our teachers teach the whole class well	.81
When we work by ourselves, the teachers are good at explaining what to do	.81
It is easy to understand the teacher's explanations	.74

Teachers' monitoring
SRMR = .045, RMSEA = .039, 90 % CI (.035–.043); CFI = .96; TLI = .96. (α = .80)

The teachers make sure we do our homework well	.64
The teachers ensure we are doing our best in our classes	.82
The teachers ensure that we behave well in our classes	.71
The teachers ensure that we behave well during recess	.62

Teachers' follow-up of non-attendance
SRMR = .047, RMSEA = .040, 90 % CI (.036–.045); CFI = .96; TLI = .96. (α = .62)

The teachers make sure to write down those who are absent	.68
The teachers make sure to check if we deliver a message when we have been absent from school	.71

Students' perceived predictability
SRMR = .048, RMSEA = .040, 90 % CI (.036–.044); CFI = .96; TLI = .96. (α = .77)

I know what the school day will include	.67
I know what to do in my lessons	.78
When changing between activities, I know what is happening	.79

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