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Assessing Reasons for School Non-attendance

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The aim of the present study is to assess reasons for school non-attendance including somatic symptoms, subjective health complaints, truancy, and school refusal and to investigate the relationship of these with gender, grade, and self-reported special educational needs. The study is based on a self-reported questionnaire distributed to students recruited from seven municipalities in Norway. The total sample included 5,465 students in the sixth to tenth grades. The measurement model yielded indices of good fit, and the four suggested dimensions of reasons for school non-attendance were supported. Subjective health complaints emerged as the most commonly reported reason for school non-attendance, whereas 6.2% of students reported that their non-attendance “quite often” was due to truancy- or school refusal-related reasons. There was a tendency for students who report special educational needs to report more truancy reasons and for females to report more school refusal reasons. Implications for research and practice are discussed.

Keywords: school non-attendance, truancy, school refusal, student self-reports

Introduction

School plays an important role in children’s and adolescents’ personal, social, and academic development (Dube & Orpinas, 2009; Fortin, Marcotte, Potvin, Royer, & Joly, 2006; Pellegrini, 2007; Wilkins, 2008). Most students attend school without problem, but some skip classes, arrive late, miss whole schooldays or fail to attend school for a long period of time. School non-attendance might lead to serious short-term and long-term consequences (Kearney, 2008c; Thambirajah, Granduson, & De-Hayes, 2008). The short-term consequences may include deteriorating school performance. The long-term consequences may include more serious negative effects on school performance, dropping out of school, impaired social functioning, employment problems, and mental health problems (Brandibas, Jeunier, Clanet, & Fouraste, 2004; Kearney & Bates, 2005). According to Reid (2005), poor school attendance can create a cycle that is hard to break. To prevent long-term non-attendance, schools and teachers have to identify and address illegitimate school non-attendance at an early stage (Kearney, 2001; Thambirajah et al., 2008). Early intervention is important to avoid negative social, psychological, and academic consequences (Lyon & Cotler, 2007). There is a lack of research and knowledge about the different reasons for school non-attendance, including somatic symptoms, subjective health complaints, truancy and school refusal, and about the prevalence of these different reasons. Such knowledge is important to determine the need for stronger action to reduce school non-attendance and also to identify

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how these measures should be framed. The main aim of the present study is thus to assess different reasons for school non-attendance.

Reasons for School Non-attendance

The reasons for school non-attendance can be roughly differentiated into legitimate and illegitimate reasons. Approximately 80% of school non-attendance is considered legitimate, legal, or authorized (Kearney, 2008a). Legitimate school non-attendance is primarily due to illness but may also be attributable to holidays and emergencies in the family (Kearney, 2008a; Kearney & Silverman, 1996; Thambirajah et al., 2008). However, non-attendance that is considered legitimate might also include subjective health complaints, such as headaches, dizziness, musculoskeletal complaints, or gastrointestinal symptoms (Oatis, 2002; Perquin et al., 2000; Roth-Isigkeit, Thyen, Raspe, Stöven, & Schmucker, 2004; Simonsson, Nilsson, Lepert, & Vinod, 2008). Studies show that psychosomatic or subjective health complaints increase among adolescents in several countries (Simonsson et al., 2008). Simonsson et al. found that approximately 5–10% of adolescents have psychosomatic problems that are severe enough to affect their daily lives. Musculoskeletal and subjective health complaints are also a common reason for absences from work (Eriksen, Hellesnes, Staff, & Ursin, 2004). The students with these types of somatic or psychosomatic complaints might be showing early signs of illegitimate non-attendance (Elliott & Place, 1998), such as school refusal or truancy, which might have serious long-term consequences if not identified and countered. In a study of students who refuse school, 66% reported that somatic pain is the reason for non-attendance (Stickney & Miltenberger, 1998). In another study, by Bernstein, Massie, Thuras, and Perwien (1997), 32% of adolescents with comorbid anxiety and depression who refuse school reported somatic symptoms such as headaches, sweatiness, dizziness, and stomach aches. These findings highlight the importance of inquiring about somatic and subjective health complaints among students who are absent from school. The early identification of subjective health complaints as the reason for school non-attendance could be important in preventing school refusal, truancy, and other illegitimate forms of non-attendance.

School refusal behavior is often used as an umbrella term for illegitimate school non-attendance (Kearney, 2003, 2008a, 2008c; Kearney & Albano, 2004). A common definition of school refusal behavior is “child-motivated refusal to attend school or difficulties remaining in school for the entire day” (Kearney & Silverman, 1999, p. 345). Kearney (2008b) uses the following definition: (1) missing more than 25% of school time during the last two weeks; (2) experiencing severe difficulty attending classes for at least two weeks; (3) having more than 10 days (or 15%) of non-attendance during any period of 15 weeks in a school year.

It is estimated that approximately 5–28% of all school-aged children display school refusal behavior at one time or another, making it a considerable challenge for schools (Kearney, 2001, 2007). Kearney and Silverman (1990) have developed a School Refusal Assessment Scale (SRAS-R) to identify the function(s) of school non-attendance, including (a) to avoid school-related objects or situations that cause general distress such as anxiety and depression or physiological symptoms, such as feelings of depression, fear, nervousness; (b) to escape from uncomfortable peer interactions and/or academic performance evaluation situations such as test-taking or oral presentations; (c) to seek attention from parents; and (d) to pursue positive reinforcement outside of school. The first two functions are closely related to

what other scholars in the field have defined as school refusal, whereas function (c) is closely related to separation anxiety and function (d) is likely related to truancy.

Some researchers and scholars claim that it is important to distinguish between school refusal and truancy because they differ in many ways (McShane, Walter, & Rey, 2001; Place, Hulsmeier, Taylor, & Davis, 2000; Shilvock, 2010). In the present study, school refusal is considered illegitimate school non-attendance related to the experience of strong negative emotions when attending school, whereas truancy is considered a different form of non-attendance characterized by poor motivation for school or a negative attitude toward school and a tendency to seek more pleasurable activities outside of school during school time.

Kearney and Silverman's functional model does not include somatic and subjective health complaints. In addition, one could argue that their functional model is rather extensive and therefore may not be optimal for use in a normal population. Therefore, a measurement model was developed to assess four main dimensions of the reasons for school non-attendance in a normal population: (1) reasons related to somatic symptoms (somatic reasons); (2) reasons related to subjective health complaints (subjective health reasons); (3) truancy-related reasons (truancy reasons); and (4) reasons related to school refusal (refusal reasons). The main aim of the present study is to assess the reasons for school non-attendance in a normal population of students.

Reasons for school non-attendance in relation to grade, gender, and self-reported special educational needs

The reasons for school non-attendance may vary according to grade, gender, and self-reported special educational needs and, therefore, a third aim was to investigate the relationship between these aspects and students' self-reported reasons for school non-attendance.

Subjective health complaints increase during adolescence (Kaspersen, Bungum, Buland, Slettebak, & Ose, 2012; Ravens-Sieberer et al., 2009). Therefore, it could be anticipated that subjective health reasons for school non-attendance increase with age and also that somatic-related reasons for non-attendance increase, given that these two types of complaint are associated. Accordingly, the prevalence of school refusal also seems to be higher in pre-adolescence and adolescence (Elliott & Place, 1998; Heyne, Rollings, King, & Tonge, 2002). School refusal can affect students at any age, but in times of transition (e.g., from primary to secondary school) school non-attendance is more likely (Berg, 1997; Elliott, 1999; Fremont, 2003; King, Heyne, Tonge, Gullone, & Ollendick, 2001; Knollmann, Knoll, Reissner, Metzelaars, & Hebebrand, 2010). However, Reid (2005) claims that truancy may start as early as primary school. Malcolm, Wilson, Davidson, and Kirk (2003) also found that more students reported being truant in primary school compared with secondary school. Typically, truancy begins at approximately age 11 and increases between ages 13 and 17 (Egger, Costello, & Angold, 2003; Knollmann et al., 2010). However, in Norway, truancy is most common in lower secondary and upper secondary school (Mounteney & Johannessen, 2009).

Some studies indicate that students who refuse to attend school fairly equally are divided by gender (Fremont, 2003; Heyne et al., 2002; Kearney, 2001; Kearney & Albano, 2000; Kearney & Bates, 2005; King & Bernstein, 2001). Nevertheless, Brand and O'Conner (2004) found that females reported more school refusal than males. However, males seem more likely to be truant in primary school, whereas truant females are more common in grades 7, 8, and 9 (Reid, 2005). Malcolm et al. (2003) found that females were truant

more than males during the seventh to ninth grades where all the students are white, and boys were more likely to truant during the seventh and eighth grades in mixed-race schools. Another study showed no significant difference between the genders with regard to truancy (Øia, 2011).

Subjective health complaints and somatic symptoms seem to be more common among females (Bertsson, Kohler, & Gustafsson, 2001; Kaspersen et al., 2012; Murberg & Bru, 2004; Ravens-Sieberer et al., 2009; Simonsson et al., 2008). Headache seems to be the most common psychosomatic complaint among children and adolescents and might also be a common reason for school non-attendance. Given the contradictory results of the relatively few studies addressing gender and reasons for school non-attendance, this issue will be further investigated.

Research on the relationship between school refusal and learning difficulties or special educational needs and school refusal is sparse and rather dated. A previous study suggests that school refusers have normal intelligence and include gifted students as well as children with learning difficulties (Hampe, Miller, Barrett, & Noble, 1973). However, school refusal is linked to emotional problems (King & Bernstein, 2001; McShane et al., 2001), especially anxiety, and students with learning difficulties are found to report more emotional problems (Nelson & Harwood, 2011). On the other hand, truant students are more consistently found to have special educational needs (Berg & Nursten, 1996; Davies & Lee, 2006), and often exhibit poor academic progress and academic difficulties (Berg & Nursten, 1996). Based on previous research, one might expect that special educational needs are more related to truancy than to school refusal.

Perceiving learning difficulties may trigger stress reactions, which are associated with subjective health complaints (Wiklund, Malmgren-Olsson, Öhman, Bergström, & Fjellman-Wiklund, 2012). Previous research suggests that such complaints are related to self-reported learning difficulties (Bru, Boyesen, Munthe, & Roland, 1998). Other research indicates that subjective health complaints are related to academic stress (Kosmala-Anderson & Wallace, 2007) and that school-related stress contributes to the development and maintenance of subjective health complaints (Torsheim & Wold, 2001; Ystgaard, 1997). However, to the best of our knowledge, different reasons for non-attendance among students with special educational needs have not been investigated and this will therefore be an aim of this study.

Aims of the Study

In summary, the aims of this study are:

- (1) To test a model for measuring reasons for school non-attendance.
- (2) To assess the prevalence of different types of reason for school non-attendance.
- (3) To investigate the relationships between gender, grade, and self-reported special educational needs and the reasons for school non-attendance.

Method

Sample

This study used a self-report questionnaire for students recruited from schools in seven municipalities in Norway. The municipalities included a relative large Norwegian city, towns, and rural districts. The survey was conducted at the end of the autumn term in

2012. A total of 5,465 students from the sixth to the tenth grades from 45 schools participated (ages 11–15; 51% males and 49% females). The response rate was 84%.

The students who reported being absent for any full school days in the last three months were included in further analyses about the reasons for school non-attendance, resulting in a sub-sample of 3,629 students (49.6% males and 50.4% females). Table 1 shows the distribution of all the respondents in the sub-sample across grades, including the students who reported being absent, showing a relatively equal distribution across grades and gender.

Measures

Items for assessing the four types of *reasons for school non-attendance* were developed based on the conceptual framework for school non-attendance presented in the introduction. The items related to somatic symptoms focused on the common complaints among young people, such as having the flu or a severe cold, vomiting, or having a fever. Headache, stomach ache, muscle pain, and fatigue are some of the common subjective health complaints (Eriksen & Ihlebæk, 2002). The items related to subjective health complaints, therefore, included these complaints in addition to items related to feeling unwell or weary. Truant students often find school boring and seek activities they find more rewarding outside of school (Kearney, 2008b; Kearney & Silverman, 1993; Reid, 2012); therefore, the measurement of truancy-related reasons for non-attendance focused on finding school boring and seeking more attractive activities outside of school. School refusal is commonly defined as non-attendance from school due to the expectation of experiencing strong negative emotions at school (Kearney, 2008c; Kearney & Silverman, 1993; Havik, Bru, & Ertesvåg, 2013). Refusal-related reasons for school non-attendance were thus centered on these expectations or past experiences of strong negative emotions at school.

A preliminary scale including 23 items was presented to a small sample of students in sixth grade to obtain feedback on the understandability and relevance of the items. On the basis of this feedback, the wording of the items was adjusted. A revised scale was then administered to a sample of 136 students from two schools, enabling some preliminary analyses. An exploratory factor analysis of the 23 items revealed four separate factors, as intended. However, six items were removed because they were associated with lower loadings and cross-loadings. The preliminary analysis indicated that 17 items relating to reasons for non-attendance functioned well, and these items were included in the present study.

The questions concerned with reasons for non-attendance had an introductory text that asked the students to consider their non-attendance during the last three months and to

Table 1
Respondents at Each Grade and Percentage of Female and Male Students of the Sub-sample

Grade	N	Percentage of the sample (%)	Female (%)	Male (%)
6	665	18.3	47.4	52.6
7	730	20.1	52.0	48.0
8	726	20.0	52.4	47.6
9	763	21.0	49.4	50.5
10	745	20.5	50.7	49.3

indicate the reasons for their school non-attendance. All the items had four response alternatives—never, seldom, sometimes, and quite often—that were scored 0–3.

The questionnaire also included an item about the *number of full days of school non-attendance* in the last three months, which had five response alternatives—none, 1–4 days, 5–7 days, 8–10 days, and more than 10 days—that were scored 0–4.

Gender, grade, and self-reported special educational needs were included in the study. The indicator of self-reported special educational needs was a single item asking the students, “Do you have adapted education or special education?” This item was scored as 1 or 2: yes or no.

Procedure

The students were asked to complete a web-based questionnaire while at school, with a teacher or a school administrator present. The administrator was given written instructions from the researchers in advance about how to administer the survey. All the students were given an individual password that they used to log on to the survey. This password was not connected to the student’s name, class or school, only to the municipality and the grade in school. The survey was completed during a lesson. All the parents were informed about the survey and given the right to prevent their child from participating. The study was organized in a way that made it impossible to identify individual students. These procedures are in accordance with the standards described by the Norwegian Data Inspectorate for this anonymous study.

The rate of missing answers on the questions relating to reasons for school non-attendance varied from 1.4–2.6%. In addition, 14 students (0.4%) did not provide gender information. The variable indicating gender was scored as 1 for males and 2 for females. Twenty students (0.6%) had missing data on the single item about special educational needs. Missing data were replaced by single imputation.

Statistical Data Analyses

The statistical data analyses included descriptive statistics, internal consistency calculations (Cronbach’s alpha), confirmatory factor analyses (CFA), cross-tabulations, and structural equation modeling (SEM). Effect sizes were estimated using Cohen’s *d* (Cohen, 1988). All the analyses except for the estimation of Cohen’s *d* were conducted with the statistical software packages IBM SPSS version 20 and AMOS version 20 (Arbuckle, 2011; Verma, 2013).

The root mean square error of approximation (RMSEA) was used as the criterion in the covariance structure modeling (Byrne, 2001; Steiger, 1990). The value of the RMSEA for a good model should be ≤ 0.05 for a “close fit”; values between 0.05 and 0.08 indicate an adequate fit; values between 0.08 and 0.10 indicate a mediocre fit; values > 0.10 are not acceptable (Browne & Cudeck, 1993). It has been argued that, with a large sample size, a cut-off value of 0.06 or less indicates a good fit, representing relatively good alignment between the model and the data (Hu & Bentler, 1999).

A Tucker–Lewis index (Tucker & Lewis, 1973), TLI-value, close to 0.95 is seen as an indicator of good fit (Hu & Bentler, 1999). The comparative fit index (CFI) is the goodness-of-fit indicator that is least affected by sample size (Hu & Bentler, 1995, 1998, 1999). An acceptable model fit is a CFI value greater than 0.90 (Bentler, 1992), and a fit index ≥ 0.95 indicates a good or excellent fit (Bentler, 1990; Hu & Bentler, 1999).

Finally, the values for the standardized root mean square residual (SRMR) range from 0 to 1.0, with good-fitting models obtaining values ≤ 0.05 (Byrne, 1998; Diamantopoulos & Siguaw, 2000); however, values as high as 0.08 are deemed acceptable (Hu & Bentler, 1999).

Results

Self-reported Non-attendance

Almost 70% of the students in the total sample reported *being absent for one day or more for the last three months* (see Table 2). The majority had fewer than five days of non-attendance (49.1%), but approximately 4% (3.9%) had more than 10 days of non-attendance for the last three months; 7.5% of the students reported being absent for more than eight days, which constitutes 13.3% or more of the school days in the given period. There was a weak but statistically significant tendency for older students to report more non-attendance than younger students (Spearman's $\rho = 0.08$, $p < 0.01$) and for females to report more non-attendance than males (Spearman's $\rho = 0.05$, $p < 0.01$). No differences in the reported number of absences were found between those reporting special educational needs and those who did not report these needs.

Of the students in the sub-sample, 72.5% reported being absent for between one and five days, 16.5% from five to seven days, and 11.1% reported being absent for more than eight days the last three months.

Reasons for Non-attendance

One aim of this study was to assess the reasons for school non-attendance. It was assumed that the reasons would be related to (1) somatic symptoms, (2) subjective health complaints, (3) truancy, and (4) school refusal and that these four different reasons would form distinct dimensions of reasons for school non-attendance. This assumption or hypothesis was tested by performing a confirmatory factor analysis (CFA) among the sub-sample of those who reported non-attendance. The measurement model included four latent variables reflecting the observed types of reasons for school non-attendance (see Table 4). The results from the CFA supported the proposed measurement model, and the non-modified model yielded indices indicating good fit according to the recommendations of Hu and Bentler (1999). The goodness-of-fit values for this model were as follows: TLI = 0.95, CFI = 0.96, RMSEA = 0.055, 90% CI 0.052–0.058, SRMS = 0.046.

Table 2
Reported Days Not Attending School in Last Three Months, Total Sample (N = 5,465)

	Total sample (%)	Female (%)	Male (%)
No days absent	32.3	30.3	34.1
1–4 days	49.1	49.5	48.8
5–7 days	11.1	12.2	10.2
8–10 days	3.6	4.3	2.8
More than 10 days	3.9	3.7	4.0

Table 3

Goodness-of-fit Indices for Separate CFAs for the Measurement Models for the Four Proposed Dimensions of Reasons for School Non-attendance (N = 3,629)

	Somatic symptoms-related reasons	Subjective health complaints-related reasons	Truancy-related reasons	School refusal-related reasons
RMSEA	0.054	0.062	0.053	0.061
LO90-HI90 (90% CI)	(0.035–0.074)	(0.051–0.075)	(0.034–0.073)	(0.043–0.080)
TLI	0.976	0.977	0.992	0.987
CFI	0.992	0.989	0.997	0.996
SRMS	0.015	0.018	0.010	0.012

Although it was not strictly necessary because we tested a four-dimensional model for the concept of school non-attendance, we also tested the model for each of the four dimensions separately to investigate potential measurement problems in each dimension. The goodness-of-fit indices for these separate CFAs are given in Table 3. The results suggested a good fit for each of the measurement models.

The correlations between the latent variables for the dimensions of school non-attendance were moderate to strong, yielding coefficients from 0.34 to 0.72, which were all statistically significant (see Table 4). The variables related to subjective health complaints and somatic symptoms showed the strongest associations. Moreover, the variables assessing reasons related to truancy and school refusal were relatively strongly correlated (0.57). The variable assessing the reasons related to school refusal was also relatively strongly related to the variable assessing subjective health complaints (0.52). Finally, the variables assessing the reasons related to truancy and somatic symptoms yielded the weakest correlation.

Scales were computed for the four proposed and empirically identified dimensions of school non-attendance. When computing the scale, all the items were equally weighted. These scales all had acceptable or good internal consistency (see Table 4). In addition, the percentages of students responding “quite often” to at least one item on the different scales were computed.

Table 5 shows the mean scores and standard deviations for each dimension of school non-attendance and the percentage of the students who reported “quite often” on at least one of the four or five items in each dimension. The scale assessing subjective health complaints as reasons for non-attendance yielded the highest mean score and affected twice as many students as the somatic symptoms. Nearly 20% of the students from the sub-sample responded “quite often” to at least one of the items on the scale about subjective health complaints. In addition, 5.9% responded “quite often” for at least one of the items on the scale for truancy-related reasons; 5.3% responded “quite often” for refusal-related reasons. This constituted 4 and 3.6% of the total sample, respectively. Finally, 9.4% of those reporting non-attendance responded “quite often” to at least one of the items related to illegitimate reasons (i.e., truancy-related or refusal-related reasons), which constituted 6.2% of the total sample.

The cross-tabulations (SPSS) indicated that even when students in the sub-sample who responded “quite often” on the questions relating to not attending school because of somatic symptoms were removed, as many as 13.2% of the students responded being absent “quite often” due to subjective health complaints.

Table 4

Results of the Confirmatory Factor Analysis of Variables Assessing Students' Reported Reasons for School Non-attendance in the Last Three Months and Cronbach's Alphas for Factor-based Scales ($N = 3,629$)

How often have you been absent from school in last three months because ...	Factor 1	Factor 2	Factor 3	Factor 4
<i>Somatic symptoms</i> (factor 1)				
... you had a bad cold or flu?	0.66			
... you felt nauseated and threw up/vomited?	0.62			
... you had another sickness?	0.60			
... you had a fever?	0.63			
<i>Subjective health complaints</i> (factor 2)				
... you had a headache?		0.71		
... you had a stomach ache?		0.71		
... you had muscle pain?		0.61		
... you felt unwell?		0.75		
... you felt tired/worn-out?		0.75		
<i>Truancy-related reasons</i> (factor 3)				
...you were going to work on something you found boring?			0.80	
...you had arranged to be with friends?			0.87	
...you went to do more appealing activities outside school?			0.87	
...you were tired after playing computer games during the night?			0.64	
<i>School refusal-related reasons</i> (factor 4)				
...you were afraid or worried about something at school?				0.71
...you would have felt sad or sorry if you went to school?				0.80
...you wanted to avoid unpleasant situations at school?				0.89
...you were afraid of making a fool of yourself at school?				0.73
<i>Correlations with factor 1</i>		0.72***	0.34***	0.42***
<i>Correlations with factor 2</i>			0.38***	0.52***
<i>Correlations with factor 3</i>				0.57***
<i>Cronbach's alpha for factor-based scales</i>	0.72	0.83	0.85	0.85

*** $p < 0.001$.

An SEM model was used to assess the relationship between of gender, grade, and self-reported special educational needs with the four dimensions of non-attendance (Figure 1). The goodness-of-fit measures indicated a fair fit: TLI = 0.93, CFI = 0.94, RMSEA = 0.054, 90% CI 0.051–0.056, SRMS = 0.043.

The results from the structural model showed generally weak associations between gender, grade, and self-reported special educational needs with the four reasons for non-attendance. The highest coefficient was found for the association between self-reported special educational needs and truancy-related reasons, reflecting a tendency for students reporting special educational needs to report more truancy-related reasons for school non-attendance. The second-strongest association was found between gender and school refusal-related reasons, reflecting a tendency for females to report more school refusal-related reasons for school non-attendance.

Absence related to subjective health problems was reported more frequently among secondary school students (21.5% reporting "quite often") than among primary school

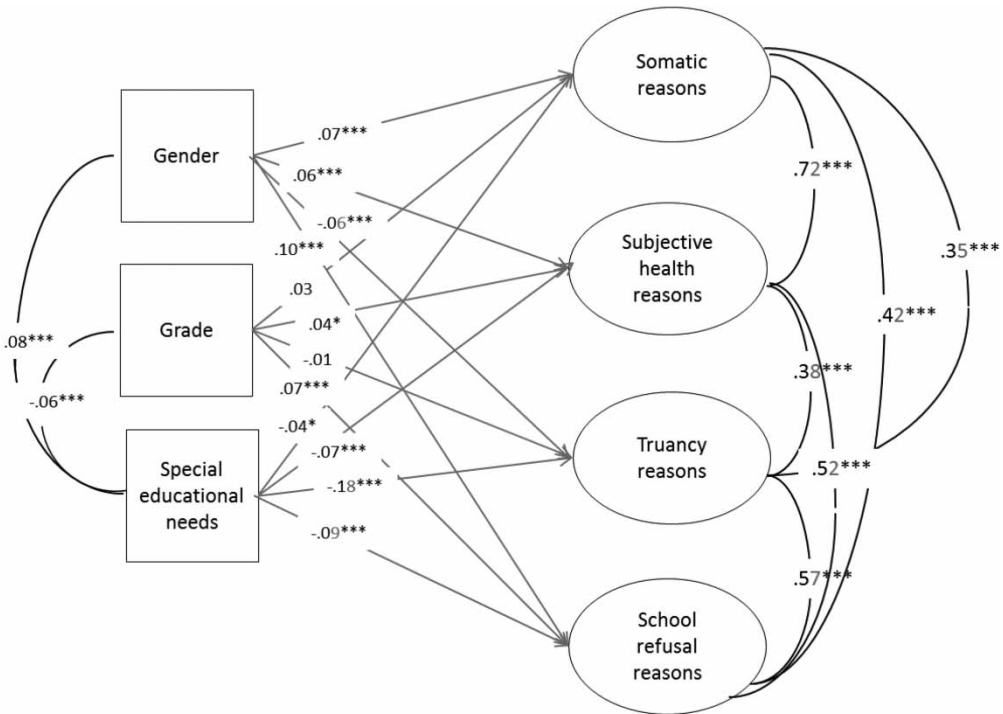
Table 5

Mean (M) Values, Standard Deviations (SDs) and Percentages of Students Reporting “Quite Often” on at Least One Item Included in the Four Different Dimensions Assessing Reasons for School Non-attendance (N = 5,465/N = 3,629)

	Somatic symptoms-related reasons	Subjective health complaints-related reasons	Truancy-related reasons	School refusal-related reasons
M (SD)	0.69 (0.64)	0.86 (0.74)	0.21 (0.53)	0.27 (0.55)
Percentages reporting the different reason «quite often»:				
As percentage of those reporting being absent in the last three months	10.5	19.8	5.9	5.3
As percentage of total sample	7.0	13.2	4.0	3.6

Note: Scoring range: 0–3 (0 = never and 3 = quite often).

students (16.9% reporting “quite often”), but this difference was not significant. In addition, females reported more somatic symptoms, subjective health complaints, and school refusal reasons with increasing grades; however, the effect size was small (Cohen’s *d* = 0.22 for



Note: **p* < 0.05; ***p* < 0.01; *** *p* < 0.001.

Figure 1. Standardized coefficients from the computation of the structural model (N = 3,629).

Note: **p* < 0.05; ***p* < 0.01; *** *p* < 0.001.

somatic reasons among females from sixth to tenth grades; Cohen's $d = 0.20$ for subjective health reasons among females from sixth to tenth grades; and Cohen's $d = 0.21$ for refusal reasons among females in sixth to tenth grades).

There was a weak but statistically significant relationship between male gender and truancy (Spearman's $\rho = 0.08$, $p < 0.01$). There were weak but statistically significant relationships between female gender and somatic symptoms (Spearman's $\rho = 0.05$, $p < 0.01$), female gender and subjective health complaints (Spearman's $\rho = 0.04$, $p < 0.01$) and female gender and school refusal (Spearman's $\rho = 0.07$, $p < 0.01$).

There was also a weak but statistically significant tendency toward a relationship between the four main reported reasons for non-attendance and the increasing number of absences: subjective health complaints (Spearman's $\rho = 0.25$, $p < 0.01$), somatic symptoms (Spearman's $\rho = 0.22$, $p < 0.01$), school refusal (Spearman's $\rho = 0.16$, $p < 0.01$), and truancy (Spearman's $\rho = 0.097$, $p < 0.01$).

Discussion

The main aim of this study was to assess various legitimate and illegitimate reasons for school non-attendance. In addition, the students were also asked to report their non-attendance rates for the last three months. Because there are no official statistics covering this area and there is little information about non-attendance rates among Norwegian students (Kaspersen et al., 2012), we will present our findings related to non-attendance rates, but we will also give a descriptive presentation of the student-reported prevalence of non-attendance for full schooldays.

Nearly 70% of the students in the total sample reported not attending school for at least one full day in the last three months. Nearly 20% of the students reported being absent for more than five school days, and 7.5% reported being absent for more than eight days, which constitutes more than 10% of the school days in the given period. Female and older students tended to report more school non-attendance. Our findings concerning non-attendance rates are similar to the findings from a study of Norwegian upper secondary school students between the ages of 13 and 15 (Kaspersen et al., 2012). In the study, approximately 20% reported more than five days of non-attendance in the last three months, and 4% reported more than 10 days of non-attendance. Missing 10% or more of a whole school year as a result of both legitimate and illegitimate non-attendance is often seen as a warning sign for considered chronic absence (Balfanz & Byrnes, 2012; Sanchez, 2012). In a study in one state in the US, approximately the same rates of chronic absence were found (Sanchez, 2012), and studies from other states in the US estimate that 10–15% of students are chronically absent each year (Balfanz & Byrnes, 2012). This result indicates that fewer students in the total sample reported rates of non-attendance that may be seen as “chronic non-attendance” (more than 10%) compared with students in the US.

However, the relatively high percentage (7.5%) of students in the total sample losing more than 10% of school days because of school non-attendance is a reason for concern, because high levels of non-attendance are linked to problems with academic achievement (Credé, Roch, & Kieszczyńska, 2010; Gottfried, 2009; Musser, 2011; Sanchez, 2012) and school dropout (Allensworth & Easton, 2007; Kearney, 2008b; Markussen, Frøseth, Lødding, & Sandberg, 2008; Silver, Saunders, & Zarate, 2008). This relationship is most likely especially strong if the reasons for non-attendance are illegitimate. Therefore, knowing more about different types of reason for school non-attendance might be important.

Reasons for School Non-attendance

The measurement model for assessing reasons for school non-attendance proposed four different types of reason for school non-attendance: (1) reasons related to somatic symptoms (somatic reasons); (2) reasons related to subjective health complaints (subjective health reasons); (3) truancy-related reasons (truancy reasons); and (4) reasons related to school refusal (refusal reasons). The measurement model was tested by performing a confirmatory factor analysis (CFA). The results of the CFA indicated that the measurement model provided a good fit for the four types of reason for school non-attendance.

It is interesting to note that the findings from the present study indicate that non-attendance related to school refusal and non-attendance related to truancy should be considered as two separate dimensions. Kearney et al. argue (Kearney & Hugelshofer, 2000; Kearney & Silverman, 1996, 1999) that there is considerable overlap between school refusal and truancy and introduced the term school refusal behavior to cover both school refusal and truancy. This definition of school refusal behavior has been influential in the field of school non-attendance, but some researchers prefer a more integrated understanding (e.g., Lyon & Cotler, 2007; Pilkington & Piersel, 1991). An integrated approach might lead to an understanding that these dimensions are overlapping phenomena that should be understood and treated in similar ways. However, our findings suggest that school refusal and truancy constitute different reasons for school non-attendance. This result is in line with other researchers and scholars who distinguish between school refusal and truancy (Berg, 1996, 1997; King & Bernstein, 2001; Thambirajah et al., 2008). However, it should be noted that the association between reasons for non-attendance related to school refusal and reasons related to truancy was relatively strong. This result is in accordance with the finding of Egger et al. (2003) that students who refuse to attend school also display truancy-related behaviors. School refusal has been related to emotional problems, especially anxiety and depression (Bernstein et al., 1997; Kearney, 2001; King & Bernstein, 2001). Moreover, some studies indicate that depression is related to resistant behavior toward school, including skipping class (Roeser, Eccles, & Strobel, 1998), and to school disengagement (Vaughn et al., 2011). These responses could be viewed as more typical for truanting students. It is thus possible that the students who report refusal-related reasons for school non-attendance, especially those with a tendency toward depression, might also report truancy-related reasons. However, more research is needed to further explore the relationship between school refusal-related reasons and truancy-related reasons for school non-attendance.

Subjective health complaints were found to be a distinct reason for school non-attendance in upper secondary school (Kaspersen et al., 2012). In accordance with this result, our findings confirmed that subjective health complaints could also be considered a separate dimension of non-attendance in the two last years of primary school and in secondary school. It should also be noted that the results revealed a relatively strong association between refusal-related reasons and subjective health reasons for non-attendance. This association was twice as strong as that between truancy-related reasons and subjective health reasons. These findings, taken together with the empirical support for the measurement model assuming that school refusal and truancy are separate reasons for school non-attendance, indicate that these reasons may have different risk factors. The relatively strong association between refusal reasons and subjective health reasons is in accordance with the results from previous research showing that students who refuse school often complain about

illnesses such as headaches and stomach aches (e.g., Brand & O’Conner, 2004; Stickney & Miltenberger, 1998). Anxiety and depression are also common among these students (e.g., Egger et al., 2003; King & Bernstein, 2001). These findings could reflect that the students who show refusal tendencies are sensitive to different types of stressor in school and that exposure to such stressors results in negative emotions, psychophysiological symptoms, and avoidance behaviors. Truanting students also have an elevated tendency toward depressive symptoms (Egger et al., 2003; Hunt & Hopko, 2009; Lehmkuhl & Lehmkuhl, 2004) but not toward symptoms of anxiety (Berg, 1997; Muhammad et al., 2011), and their non-attendance at school is less likely to be a result of strong, negative emotional reactions to stressors at school. However, more research is needed to investigate the possible differences in the risk factors for school refusal and truancy.

The findings of this study indicate that, even though there are associations between the different reasons for school non-attendance, four distinct types of reason were identified. In the following section, we will discuss the prevalence of each of the reported reasons for school non-attendance.

Prevalence of Different Reasons for Non-attendance

Somatic symptoms, a legitimate reason for school non-attendance, were the second-most commonly reported reason for school non-attendance. Approximately 1 in 10 in the sub-sample reported that they had been absent “quite often” in the last three months because of somatic symptoms. In comparison, nearly 1 in 5 of the students in the sub-sample (more than three students in a class of 25) reported being absent because of subjective health complaints “quite often”; subjective health complaints were the most commonly reported reason for non-attendance. With little knowledge available about student non-attendance due to subjective health complaints, we can draw on studies from work research. According to work research, subjective health complaints are a common and increasing reason for work absences (e.g., Anderson, 1999; Eriksen et al., 2004; Rikstrygdeverket, 2003). There are indications that subjective health problems are also an increasing problem among children and adolescents (Aarø et al., 2001; Brage, Nossen, & Thune, 2013; Due, Lynch, Holstein, & Modvig, 2013; Simonsson et al., 2008). Our findings show that subjective health complaints are the primary reported reason for non-attendance among students in primary and secondary school. It is normally possible to attend school when experiencing subjective health complaints, and considering the possible negative effects of non-attendance on learning and academic outcomes, it is worrisome that so much school non-attendance seems to be related to subjective health complaints. Having good routines for recording non-attendance and its causes and creating individual follow-up plans for students who do not attend school could be effective measures for reducing illegitimate non-attendance. In this case, research into the factors related to absence and presence at work may be of interest for schools (Kaspersen et al., 2012). A Swedish report concludes that sickness-related absences are transmitted from parents to their children (Josephson, Karnehed, Lindahl, & Persson, 2013). Thus, it is reasonable to assume that absences from work caused by subjective health problems might be a possible reason for the high prevalence of these complaints as reported reasons for school non-attendance. These findings may indicate that adults’ attitudes toward reasons for sickness-related absences are important factors related to students’ non-attendance at school. Therefore, parents should be actively involved in this work; however, school non-attendance is the responsibility of society as a whole.

Another concern is that prevalent non-attendance because of subjective health complaints could increase the risk for illegitimate non-attendance (e.g., school refusal and truancy) either because it makes illegitimate non-attendance more acceptable or because it makes it more difficult to identify the students at risk for school refusal or truancy. The first indications of school refusal often include stomach aches, headaches, or other subjective health complaints (e.g., Brand & O'Conner, 2004). If such complaints are considered legitimate and common, it may be harder for teachers to identify these students at an early point, which is important given the need for early intervention (Kearney, 2001). Of the students in this study, 6.2% responded "quite often" to at least one of the items related to illegitimate reasons for non-attendance (truancy-related and refusal-related reasons combined), which is a slightly lower percentage than Egger et al. (2003) observed (a prevalence rate of 8.2%) among youth with anxiety-based school refusal and truancy. Although reasons related to school refusal and truancy were reported least often, the results still indicate that, in a school class of 25 students, approximately one student reported being absent for refusal-related reasons on average, and another student reported being absent due to truancy in the last three months. Relatively few students (in terms of percentages) reported frequent absences because of refusal or truancy, but there may be serious consequences for the students in question.

Relationships between Gender, Grade and Self-reported Special Educational Needs and the Various Reasons for School Non-attendance

The final aim of this study was to investigate the relationships between gender, grade, and self-reported special educational needs with reasons for school non-attendance. Because of the large sample size, many statistically significant associations emerged, but most of them were weak. With regard to gender, there was a weak tendency for females to report more non-attendance because of somatic symptoms, subjective health complaints, and school refusal, whereas there was a slight tendency for males to report more truancy-related reasons for non-attendance. The higher tendency to report somatic symptoms and subjective health complaints as reasons for non-attendance could reflect the fact that females are more physiologically reactive (Caudell & Gallucci, 1995) and that pain related to the menstrual period is a leading cause of recurrent short-term school absenteeism among adolescent females (Klein & Litt, 1981). Certain situations in school, such as tests, exams, and oral presentations, are more stressful for females than males (Chapell et al., 2005; Woodfield, Novell, & Solomon, 2005). The slightly elevated tendency for females to report subjective health complaints and school refusal as reasons for school non-attendance might be related to the fact that females find school more stressful than males, possibly because females are more motivated to perform in school compared with males (Wigfield, Eccles, Schiefele, Roeser, & Davis-Kean, 2006). Furthermore, boys are more often underachievers in school (McCall, Evahn, & Kratzer, 1992), which could explain why females tend to report fewer truancy-related reasons for non-attendance than males. Previous findings related to gender differences in school non-attendance, however, are ambiguous (e.g., Fremont, 2003; Heyne et al., 2002; Kearney & Bates, 2005), and the weak tendencies found should be interpreted with caution.

There was a weak tendency for students to report subjective health complaints as reasons for non-attendance more often with increasing grade levels, although the difference was not significant. However, this tendency aligns with previous research indicating that such

complaints seem to increase with grade level (Kaspersen et al., 2012; Ravens-Sieberer et al., 2009). In addition, females report slightly more somatic symptoms, subjective health complaints, and school refusal as reasons for non-attendance in tenth grade than in sixth grade. It has to be emphasized that grade was not directly related to self-reported reasons for non-attendance.

Students reporting special educational needs tended to report more of all reasons for school non-attendance than students who did not report such needs. However, the strongest association was found for truancy-related reasons. This result might indicate that the need for special education is a primary predictor of truancy, as suggested by previous research (Berg & Nursten, 1996; Thambirajah et al., 2008). The findings could reflect that feelings of failure in school could push some students toward truancy.

Methodological Considerations

There are some limitations to this study. Although the response rate was relatively high, the absence rates might be underestimated because 16% of the students did not participate. Most of the non-responders did not participate because of school non-attendance, and it is not unlikely that these students have more non-attendance than those who participated. Moreover, the validity of the estimates of non-attendance rates would have been strengthened if it had been possible to obtain school records of student non-attendance.

The strong association between subjective health complaints and somatic symptoms suggest that it may be difficult to differentiate between these reasons for non-attendance and that the measurement model could be improved upon to better achieve such differentiation. This correlation may influence the estimated prevalence rates of the two types of reason for school non-attendance. However, the cross-tabulations indicated that about 13% of the students reported being absent from school because of subjective health complaints “quite often” without reporting the same for somatic symptoms.

We differentiated four types of reason for school non-attendance, and the model fit was good. However, it is possible that other items would represent each dimension even better. To ensure the validity of the measurement model and the dimensions for non-attendance, we could conduct follow-up interviews with students.

A possible limitation of this study is that special educational needs was assessed by self-report and a single-item. Ideally, information about special educational needs should have been collected from school records. This was not possible in the present study because individual students were not allowed to be identified.

A strength of this study is that students are the best source of information on reasons for school non-attendance. In addition, the large sample of students from a wide-ranging area of Norway strengthened the study. The sample represents a broad group of schools from seven Norwegian municipalities from the south to the north of the country, and the municipalities included a relatively large city, towns, and rural districts. In addition, the absence rates were relatively similar to another Norwegian study (Kaspersen et al., 2012). This result indicates that these findings might be representative.

Conclusions and practical implications

School personnel are frequently the first professionals to identify school non-attendance. A tool for identifying the reasons for school non-attendance might facilitate immediate and

successful attention and intervention. The measurement model for assessing the reasons for school non-attendance documented in this study could serve as such a tool for both educational psychological services and schools.

The results indicated that subjective health complaints among students in primary and secondary school are commonly reported reasons for school non-attendance. More attention should be given to this type of non-attendance because it may often reflect unnecessary non-attendance that could negatively affect learning results (Credé et al., 2010) and because it could contribute to undesirable attitudes concerning non-attendance that could carry over into work life (Markussen, Røed, Røgeberg, & Gaure, 2011). Information about how to prevent this type of non-attendance is available in the research related to work life, but specific research on how to prevent non-attendance among students would also be helpful.

The findings in this study reveal that approximately two students in a class of 25 may tend toward giving truancy- or refusal-related reasons for non-attendance. This result indicates that teachers need information about different reasons, signs, and interventions for non-attendance, and investigations into interventions for these students are needed to develop successful interventions and avoid failure.

Several researchers and scholars claim that there are multiple reasons for school non-attendance (Brandibas et al., 2004; Egger et al., 2003; Kearney, 2008a; Pellegrini, 2007; Pilkington & Piersel, 1991), and we do not exclude the possibility that there may be other reasons for non-attendance. Further development of a measurement model for reasons for school non-attendance could include other causes, such as going on holiday or visiting family abroad during the school year, emergencies in the family, parent-condoned non-attendance, or chronic illness, and could also include various school factors related to reasons for school non-attendance.

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