



ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/csje20>

The Significance of Traditional Bullying, Cyberbullying, and Mental Health Problems for Middle School Students Feeling Unsafe in the School Environment

Sturla Fossum, Norbert Skokauskas, Bjørn Helge Handegård, Ketil Lenert Hansen & Henriette Kyrrestad

To cite this article: Sturla Fossum, Norbert Skokauskas, Bjørn Helge Handegård, Ketil Lenert Hansen & Henriette Kyrrestad (2021): The Significance of Traditional Bullying, Cyberbullying, and Mental Health Problems for Middle School Students Feeling Unsafe in the School Environment, Scandinavian Journal of Educational Research, DOI: [10.1080/00313831.2021.2006305](https://doi.org/10.1080/00313831.2021.2006305)

To link to this article: <https://doi.org/10.1080/00313831.2021.2006305>



© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 14 Dec 2021.



Submit your article to this journal [↗](#)



Article views: 775



View related articles [↗](#)



View Crossmark data [↗](#)

The Significance of Traditional Bullying, Cyberbullying, and Mental Health Problems for Middle School Students Feeling Unsafe in the School Environment

Sturla Fossum^a, Norbert Skokauskas^b, Bjørn Helge Handegård^a, Ketil Lenert Hansen^a and Henriette Kyrrestad ^a

^aRegional Centre for Child and Youth Mental Health and Child Welfare, Faculty of Health Sciences, UiT The Arctic University of Norway, Tromsø, Norway; ^bRegional Centre for Child and Youth Mental Health and Child Welfare, Faculty of Medicine and Health Sciences, Norwegian University of Science and Technology (NTNU), Trondheim, Norway

ABSTRACT

Feeling safe in school is important for students' learning, well-being, and quality of life. Variables possibly associated with feeling unsafe in school, such as mental health problems, traditional bullying, cyberbullying, and various health problems, were explored. Altogether, 2,028 adolescents ($M_{\text{age}} = 14$ years, 50% boys) from 72 middle schools in northern Norway were respondents. Being unsafe in school resulted from a combination of lack of care provided by the student's teacher and not feeling safe. In all, 5.7% (115) of the students reported feeling unsafe. In the final model, not feeling safe at school was significantly associated with being traditionally bullied, being a victim of cyberbullying, mental health problems including conduct, hyperactivity and peer problems, abdominal pain, and Norwegian not being the mother tongue. Feeling unsafe at school is a potential marker of several difficulties needing attention and interventions from school leaders, teachers and school health services.

ARTICLE HISTORY

Received 17 December 2019
Accepted 7 November 2021

KEYWORDS

Adolescents; feel safe at school; cyberbullying; traditional bullying; mental health problems

In Norway and most other countries, middle school students are supposed to spend approximately 30 hours each week in school. Norwegian legislation states that education up to high school (12 years of education) is a right for all and completing middle school (up to the tenth grade) is mandatory. Since students spend a lot of their time at school, it is important that they experience the school as a safe and secure place, which provides a good learning environment and fosters psychosocial well-being (Udir, 2017).

Victims of both traditional bullying (Moore et al., 2017) and cyberbullying (Kowalski et al., 2014) experience various psychosocial stressors and mental health problems. Many adolescents experience both traditional bullying and cyberbullying across cultures and nations (Chudal et al., 2021). As such, it is not surprising that being traditionally bullied in school influences students' mental health and well-being in a negative way. A study on the consequences of victimization found that victimization was predictive of emotional problems for girls but found no support for emotional problems predicting victimization (Bond et al., 2001). Both younger (Rigby, 2000) and older (Varjas et al., 2009) adolescents being bullied reported being more unsafe in school. The findings on being victims

CONTACT Sturla Fossum  sturla.fossum@uit.no  Regional Centre for Child and Youth Mental Health and Child Welfare, Faculty of Health Sciences, UiT The Arctic University of Norway, Tromsø, Norway

© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

of cyberbullying and the feeling of being unsafe in school are mixed. Varjas et al. (2009) did not find that cyberbullying was associated with school safety, whereas Sourander et al. (2010) did report such an association. Being cyberbullied has also been associated with both headaches and sleep problems but not somatic illness (Sourander et al., 2010). Improved knowledge regarding the possible association of cyberbullying and school safety is consequently needed. Psychosocial stressors such as headaches and stomach aches can be associated with mental health problems (Egger et al., 1999; Shapiro & Nguyen, 2010), which suggests that these are relevant factors when hypothesizing that such issues might be associated with school safety and should be included as independent variables.

A positive school climate has the potential to help students in many ways, such as feeling socially, emotionally, and physically safe in school. When focusing on school climate, Wang and Degol (2016) explained school safety as a combination of physical safety (i.e., reduced violence and aggression), emotional safety (such as lack of traditional bullying and provision of counseling), and order and discipline (including conflict resolution, clarity, fairness, and consistency of rules). Research has suggested that adolescents' aggressive behavior is nested within the school climate, in the sense that increased aggressive behavior is related to a decline in school climate (Wang & Dishion, 2012). A positive teacher–student relationship may function as a protective factor in terms of addressing school, behavioral, and emotional difficulties (Baker, 2006; Sulkowski & Simmons, 2018; Wang et al., 2013), preventing or decreasing school drop-out (Krane et al., 2016), and improving school performance (Baker et al., 2008). A negative teacher–student relationship can make a school day more difficult and challenging for a student; for instance, resulting in students being more involved in bullying (Longobardi et al., 2018). Given the importance of teacher–student relations to students' performance and well-being, one way of measuring this is through students' trust in their teachers, which should thus be included when looking at students' perceptions of school safety.

In a Finnish study, 12.8% of adolescents reported that they only sometimes or almost never felt safe at school (Sourander et al., 2010) and, in Japan, as many as 35.7% reported that they never felt safe at school (Hamada et al., 2018). Feeling safe at school has been linked to academic success for adolescents (Ripski & Gregory, 2009). Among fifth graders, identified sources for feeling unsafe were direct teasing, threats, and traditional bullying (Jacobson et al., 2011). A study conducted among sixth graders in the US showed that those who were victims of aggression felt unsafe at school (Graham et al., 2006). For slightly older adolescent girls in sixth to ninth grades, but not for boys, being bullied was associated with feeling unsafe at school (Carbone-Lopez et al., 2010). Improved knowledge of school safety is relevant since perceived school safety can offer protection from the association between exposure to violence and psychological functioning in addition to recognizing the positive effects of support from important others and lowering the constraints to discussing violence (Ozer et al., 2004).

Current Study

The purpose of this study is to explore variables related to adolescents' feeling of being unsafe in middle school among 2,028 adolescents living in Norway. Lack of trust in their teachers and feeling unsafe in the school environment is hypothesized to be associated with mental health problems, being a victim of traditional bullying and cyberbullying, and psychosomatic problems. Psychosomatic problems include abdominal pain, headaches, and sleep problems. Various demographic variables, such as family income, age, and gender, of the adolescents are also investigated.

Material and Methods

Participants

The sample consisted of 2,028 middle school students in the three northernmost counties of Norway: Nordland, Troms, and Finnmark. The adolescents consisted predominantly of Norwegian 12–

16 year olds. The proportion of boys and girls was similar, but the number of students among the eighth graders was slightly higher compared to those in the ninth and tenth grades. Most students described their family as middle class with a sound economic situation, and they lived with two parents in an urban environment. Rather a large number of students reported some health issues. For more details, see [Table 1](#) for descriptive information on the participants.

Procedures

The epidemiological research design conducted here is part of the multinational European and Asian Adolescent and Child Mental Health Study (EACMHS), the “Adolescent health in a digital world: Associations of well-being, mental health and help-seeking with risk behaviors” (see Chudal et al., 2021). The cross-national collaboration of 13 Asian and European countries led to similarities in the included measures (see above) and this project followed the study about cyberbullying in Finland and utilized the same measures (Sourander et al., 2010). The data was collected in spring 2017. A letter containing information about the study was sent to the owners of the schools in 85

Table 1. Background information.

	n (%)
Sex:	
Girls	1051 (49.6)
Boys	1066 (50.4)
Age:	
12	104 (4.9)
13	763 (36.0)
14	637 (30.1)
15	580 (27.4)
16	33 (1.6)
Traditional bullying and cyberbullying:	
Traditionally bullied weekly or more often	68 (3.3)
Not traditionally bullied	1981 (96.7)
Cyberbullied weekly or more often	57 (2.6)
Not cyberbullied	1990 (97.2)
Adolescent health:	
No health issues	1053 (56.5)
Some health issues	811 (43.5)
No headaches	1335 (65.4)
Headaches monthly or more often	705 (34.6)
No abdominal pain	1477 (73.0)
Abdominal pain monthly or more often	545 (27.0)
No sleep problems	1362 (67.0)
Sleep problems weekly or more often	672 (33.0)
Language (mother tongue):	
Norwegian	1945 (94.3)
Not Norwegian	117 (5.7)
Information about family:	
Two-parent family	1804 (87.2)
One-parent family	223 (10.8)
Not living with biological parents	41 (2.0)
Good economic family situation	1560 (75.7)
Poorer economic family situation	500 (24.3)
Living in rural environment	332 (15.7)
Living in urban environment	1776 (84.3)
	m (sd)
Mean age:	13.9 (.9)
SDQ hyperactivity/inattention	3.9 (2.2)
SDQ emotional symptoms	3.0 (2.4)
SDQ conduct problems	1.7 (1.6)
SDQ peer problems	2.0 (1.8)
SDQ prosocial behaviors	7.6 (1.8)

Notes: SDQ = Strengths and Difficulties Questionnaire; Language = Norwegian being the mother tongue or not.

municipalities. This was followed by an invitation to 220 junior high schools, of which 72 agreed to participate, resulting in a participation rate for schools equal to 32.7%. Each participating school was responsible for distributing information letters to all students, including a study invitation with information sheets, one assigned to the parent(s) and one to the student. Parents had to give their written consent by e-mail to the teachers before their child could complete the online questionnaires anonymously during a school hour. It took around 25 to 35 minutes to fill in the questionnaire. The participating schools accounted for 5,192 students and, as such, we received information from 41% of those enrolled. We have no information about the number of classes that participated. The Regional Committee for Medical Research Ethics approved this study and the procedures (REK 2016/998).

Measures

Demographic variables included information about adolescents' sex, age, grade, and family composition. Family composition could consist of the following variables: one-parent family, two-parent family, and not living with any biological parent, such as adoptive parents or foster care. Adolescents gave information about their mother tongue and their judgment of the financial situation of the family (good or poor). The geographic information about the school was divided into urban or rural using Statistics Norway's definition of more than 20,000 inhabitants in the community or fewer (Langøren et al., 2015).

Feeling of Safety in the School Environment

Two statements addressing students' perception of their safety in the school settings were included: "I feel that the teachers at my school care about me" and "I feel safe at school". The response categories were: (1) "almost never", (2) "sometimes", (3) "often", and (4) "almost always". Adolescents who replied 1 on "The teachers at my school care about me" combined with 1, 2 or 3 on the statement "I feel safe at school" were considered not safe in the school environment.

Traditional Bullying

The definition of traditional bullying used was that

a student is being bullied when he or she repeatedly and over time is exposed to negative and hurtful verbal, physical, or psychological actions on the part of one or more persons. Examples of verbal bullying are name-calling or threats and physical bullying such as hitting or kicking and finally psychological bullying such as spreading rumors, shunning, or exclusion. Traditional bullying can be frequent or infrequent. It is traditional bullying when someone is repeatedly teasing another person in a mean or hurtful way.

In total, two questions measured the perception of being a victim of bullying: (1) "How often have you been bullied in school in the past six months?" and (2) "How often have you been bullied away from school in the past six months?" The response categories were: (1) "never", (2) "less than once a week", (3) "more than once a week", and (4) "almost daily". Responses were divided into "yes" for those traditionally bullied weekly or more often on statements (3) and (4), or "no" for those bullied less than once a week or never on statements (1) and (2).

Cyberbullying

"Cyberbullying is when someone repeatedly makes fun of another person online or repeatedly picks on someone else through e-mail or text messages, or posts something online about another person that they don't like" (Hinduja & Patchin, 2009, p. 91). One question measured the perception of being a victim of cyberbullying: "How often have you been bullied online in the last six months?"

The response categories ranged from: (1) “never”, (2) “less than once a week”, (3) “more than once a week”, and (4) “almost daily”. Responses were divided into “yes” for adolescents being cyberbullied weekly or more often according to statements (3) and (4), or “no”, indicating being cyberbullied less than weekly or never according to statements (1) and (2).

Health and Mental Health Problems

Physical health was identified with the question: “Do you have an illness or other health-related problems?” The conditions specifically mentioned were asthma, epilepsy, allergies, diabetes and atopic eczema, with the answer options of “yes” or “no”. If the adolescents suffered from other conditions, the answer option was “other, please specify”. For the statistical analyses, this was dichotomized into having or not having any illness or other health-related problem.

Mental health was measured using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997, 1999). The self-report version administered to children and adolescents aged 11–16 years has been shown to discriminate community and clinic samples to a satisfactory level, and the measure is validated for use in Norway (Rønning et al., 2004). The SDQ consists of 25 items that screen for both positive and negative behavioral traits. The items are divided into five scales: the hyperactivity-inattention scale, the emotional symptoms scale, the conduct problem scale, the peer problem scale, and the prosocial behavior scale. Each scale consists of five items. The answers are scored 0 for not true, 1 for somewhat true, and 2 for certainly true. The score for each scale ranges from 0 to 10.

Sleep and Psychosomatic Problems

Sleep problems were explored with the question: “During the past 6 months, have you had problems with falling asleep or sleeping?” The options were: (1) “every night or almost every night”, (2) “3 to 5 times a week”, (3) “once or twice a week”, (4) “less than once a week”, and (5) “never or less frequent than once a month”. The alternatives 1–3 and 4–5 were pooled together into two categories for statistical purposes.

Headaches were studied with the question: “During the past 6 months, have you experienced distracting headaches?” The answers were (1) “at least once a week”, (2) “at least once a month”, (3) “less frequently than monthly”, and (4) “hardly ever”. For the statistical analysis, alternative 1 was combined with 2 and 3 was combined with 4. Abdominal pain was queried with the question: “During the past 6 months, have you experienced recurring abdominal pain?” The answer alternatives were: (1) “at least once a week”, (2) “at least once a month”, (3) “less frequently”, and (4) “hardly ever”. For the statistical analysis the answers were pooled into two categories: 1–2 and 3–4. Adolescents who indicated they suffered from migraines, gluten allergy or celiac disease were excluded as suffering from potential psychosomatic difficulties with headaches or abdominal pains, but they were still included in the analyses.

Statistics

Descriptive statistics were obtained for all variables. The associations between the dependent variable feeling safe or unsafe at school and various independent variables were explored. The independent variables included “being victims of traditional bullying/cyberbullying”, “mental health problems”, “psychosomatic problems”, and “sleep difficulties”. The associations between the dependent variable feeling safe or unsafe at school and various independent variables were analyzed using univariable and multivariable logistic regression.

Odds ratios (ORs) and 95% confidence intervals (95% CI) were calculated to quantify the strength of associations between feeling safe in school status and the predictors. Following suggestions by Hosmer and Lemeshow (2000), variables were fitted into a multivariable logistic regression

model if the p -value was <0.25 in the univariable analysis. Statistically significant variables were fitted into a multivariable logistic regression model in order to determine their relative contribution to participation. One might suspect that adolescents going to the same school would show some dependency in the unsafe variable. A crude analysis gave a school level intraclass correlation (ICC; the ratio between school-level variance and the total variance for the unsafe variable) of $= .003$. With on average 40 students per school, this gives a design effect (Snijders & Bosker, 1999) of just 1.12. Thus, it was deemed unnecessary to control for nesting of adolescents within schools (see Muthén & Satorra, 1995). The largest category was the chosen reference. Data was analyzed using the Statistical Package for Social Sciences (SPSS 24.0; IBM). The n in the tables varies due to missing data on some of the variables.

Results

The majority of the adolescents, 1,913 (94.3%), felt safe at school. When combining the information on the adolescents reporting that the teacher never cared and feeling unsafe in school, we found that a total of 115 (5.7%) adolescents fulfilled the definition of “feeling unsafe at school”. This number is based on combining the 119 (5.3%) adolescents reporting that they felt the teacher almost never cared about them and the 502 (24.8%) adolescents who reported that they felt almost never, sometimes, or often safe at school.

In the univariable analyses, 13 of the 17 variables of interest were significant. Sex, since girls outnumber boys in feeling unsafe, not having Norwegian as the mother tongue, poorer family finances, having sleep problems, experience of headaches, and reporting having abdominal pain were significant. Further, being more traditionally bullied and cyberbullied were significant. Finally, more spoken about mental health problems were significant. The non-significant variables were health problems, living environment, adolescents’ family situations, and age. When exploring mental health problems, all five scale variables on the SDQ were significantly associated with reporting feeling unsafe at school, indicating that those with lower prosocial behavior or higher levels of difficulties more often feel unsafe.

In the multivariable analysis, seven variables remained significant. These variables included higher levels of abdominal pain, being victims of both traditional bullying and cyberbullying, higher levels of conduct problems, hyperactivity problems and peer problems and, finally, language in the sense that adolescents not being native speaking Norwegian felt more unsafe. Table 2 provides detailed information on the numbers of adolescents feeling safe or unsafe at school within groups for categorical predictors, in addition to univariable and multivariable analyses, giving odds ratios, 95% CI for the OR and p -values for the effects of individual variables.

Discussion

The purpose of this study was to explore whether the feeling of being safe or unsafe in school was associated with mental health problems, being victims of traditional bullying and cyberbullying, as well as other potential stressors. In total, 5.7% of the adolescents aged 12–16 years old reported that they felt unsafe in the school environment in a sample consisting of 2,028 adolescents living in northern Norway. We found, in line with our hypotheses, that elevated scores of mental health problems (according to SDQ), being victims of both traditional bullying and cyberbullying, as well as not having Norwegian as a mother tongue were related to feeling unsafe in the school environment. Evidently, adolescents’ perceptions and feelings regarding not trusting their teachers combined with not being safe at school need attention. Such problems could be an important marker of various psychosocial difficulties, which must be focused on by teachers and school health services. The findings in this study correspond well with the findings in a recent systematic review reporting that feeling unsafe in school is associated with mental health problems and being bullied (Mori et al., 2021).

Table 2. Feeling safe or unsafe in the school environment: univariable and multivariable analysis.

		Unsafe <i>n</i> (%)	Safe <i>n</i> (%)	Univariable analysis			multivariable analysis		
				OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>
Sex	Male	46 (4.5)	968 (95.5)	Ref.					
	Female	69 (6.8)	945 (93.2)	0.65	0.44–0.96	.028	0.72	0.42–1.23	–
Age				0.93–1.40	–	1.14	0.89–1.46	–	
	12	7 (7.1)	92 (92.9)						
	13	33 (4.5)	703 (95.5)						
	14	36 (5.9)	570 (94.1)						
	15	37 (6.5)	528 (93.5)						
	16	2 (9.1)	20 (90.9)						
Family:	Live with two parents	95 (5.4)	1675 (94.6)	Ref.					
	Live with one parent	18 (8.4)	197 (91.6)	1.61	0.95–2.72	–	1.13	0.59–2.15	–
	No biological parents	2 (5.0)	38 (95.0)	0.93	0.22–3.90	–	0.21	0.03–1.31	–
Language (mother tongue):	Norwegian	97 (5.1)	1811 (94.9)	Ref.					
	Other	18 (15.9)	95 (84.1)	3.54	2.05–6.09	<.001	3.47	1.79–6.75	<.001
Family economy:	Good	68 (4.4)	1468 (95.6)	Ref.					
	Poorer	45 (9.3)	438 (90.7)	2.22	1.50–3.28	<.001	1.58	0.98–2.55	–
Living milieu:	Urban	92 (5.4)	1618 (94.6)	Ref.					
	Rural	23 (7.2)	295 (92.8)	1.37	0.85–2.20	–	1.12	0.64–1.96	–
Sleep problems:	No sleep problems	65 (4.8)	1283 (95.2)	Ref.					
	Sleep problems	48 (7.2)	621 (92.8)	1.53	1.04–2.24	.032	0.62	0.37–1.04	–
Headache:	No headache	55 (4.1)	1271 (95.9)	Ref.					
	Headache	60 (8.6)	637 (91.4)	2.18	1.49–3.18	<.001	1.14	0.67–1.93	–
Abdominal pain:	No abdominal pain	58 (4.0)	1410 (96.0)	Ref.					
	Abdominal pain	57 (10.6)	481 (89.4)	2.88	1.97–4.21	<.001	1.95	1.13–3.38	.017
Health problems	No health problems	51 (4.9)	981 (95.1)	Ref.					
	Health problems	49 (6.2)	746 (93.8)	1.26	0.84–1.89	–	0.93	0.59–1.47	–
Traditional bullying	Not traditionally bullied	80 (4.4)	1734 (95.6)	Ref.					
	Traditionally bullied	35 (16.4)	179 (83.6)	4.24	2.77–6.49	<.001	2.34	1.04–5.28	.040
Cyberbullying:									

(Continued)

Table 2. Continued.

		Unsafe <i>n</i> (%)	Safe <i>n</i> (%)	Univariable analysis			multivariable analysis		
				OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>
Mental health – SDQ	Not cyberbullied	101 (5.1)	1874 (94.9)	Ref.					
	Cyberbullied	14 (26.4)	39 (73.6)	6.66	3.50–12.67	<.001	2.92	1.28–6.65	.011
	Emotional symptoms	–	–	1.21	1.13–1.30	<.001	0.99	0.88–1.12	–
	Conduct problems	–	–	1.41	1.28–1.55	<.001	1.21	1.04–1.40	.012
	Hyperactivity/inattention	–	–	1.25	1.15–1.36	<.001	1.13	1.00–1.26	.042
	Peer relationship problems	–	–	1.35	1.24–1.48	<.001	1.19	1.05–1.36	.008
	Prosocial behaviors	–	–	0.89	0.81–0.98	.018	1.01	0.89–1.14	–

Notes: SDQ = Strengths and Difficulties Questionnaire; Language = Norwegian being the mother tongue or not.

Mental health problems were associated with feeling unsafe in school. In the univariable analyses, all five scales of the SDQ were significant, implying a huge impact on these adolescents' lives. Three of these scales were also significant in the multivariable analysis, i.e., higher levels of conduct problems, hyperactivity problems, and peer problems. All these variables indicate externalizing behavior problems. Of the variables on mental health problems, peer problems were most strongly related to feeling unsafe at school, followed by conduct and hyperactivity problems. This is to be expected since peer problems were connected to both traditional bullying and cyberbullying, which, in turn, relate to feeling unsafe at school, as is evident in Finland, too (Sourander et al., 2010). Previous research has shown that perceived changes in the school climate, such as declines in both peer and teacher support, result in increased aggression (Wang & Dishion, 2012), suggesting that improving students' trust in their teachers and reducing unsafety in the school environment could have a positive impact on adolescents.

Being a victim of traditional bullying and cyberbullying, at least weekly or more often, was significantly related to feeling unsafe in the school environment. In a previous study, school safety was predicted by being a victim of bullying but not a victim of cyberbullying (Varjas et al., 2009). In the present study, however, being a victim of cyberbullying was significantly associated with feeling unsafe in school, too. This would imply that being cyberbullied influences adolescents' functioning and well-being in the school environment and may influence students' school performance. This is also evident for those adolescents being bullied. School support is effective for both male and female adolescents by acting as a buffer against the effects of victimization, and school support becomes increasingly important for more senior students (Stadler et al., 2010). Reductions in victimization, both cyberbullying and traditional bullying, make more students feel safe at school (Tiiri et al., 2019). This could indicate that steps to improve the school environment for the better and thereby improve adolescents' safety can be taken successfully by school owners, leaders, health services, counsellors, and teachers.

In general, belonging to a minority group can lead to feeling left out and marginalized and thereby constitute a potential risk for various difficulties such as emotional distress, loneliness, and peer problems (Clark et al., 2012). During the last 40 years, Norway has become more multicultural, and half of immigrants are from another European country (NOU, 2015). After the inclusion of several Eastern European countries in the European Union, labor migration from Poland, Lithuania, and Russia has risen in northern Norway (Bergsli, 2019), and minority youths in Norway have reported dreading going to school and being more bullied than native adolescents (Bakken, 2003). Language was related to feeling unsafe in the school environment, which could be a possible effect of not having sufficient language skills in Norwegian, the majority language. This lack of proficiency may result in uncertainty and disengagement among some foreign middle school students. The association between poorer language skills and reduced school safety has been seen previously, too (Hong et al., 2016). A possible solution to this situation could be helping these adolescents improve their Norwegian language skills. Teachers and school leaders may also need to take steps to improve some of the foreign students' safety and well-being in school. One step teachers can take is to improve their presence, clarity of purpose, and relations with these students. Teacher–student relations have important positive effects such as reducing peer victimization, mental health problems, and future drop-out (see Krane et al., 2016; Sulkowski & Simmons, 2017; Wang et al., 2013). It is feasible that teachers can work proactively to include foreign students and to interact with them in a positive manner. It is important to bear in mind that the majority (84.1%) of foreign students in this sample felt safe at school while a minority (15.9%) reported feeling unsafe. In general, it would seem reasonable to assume that the development of trust between teachers and adolescents is an ongoing process. Teachers reported that a trusting relationship leads to more conversation, which improves trust further (Russell et al., 2016).

Sleep problems, headaches, and abdominal pain are all common in adolescence (see Fatima et al., 2018; Korterink et al., 2015; Krogh et al., 2015). This was also the case in this sample. In the univariable analyses all of these variables were significant when related to feeling safe in school, but in

the multivariable analysis only abdominal pain remained significant. As such, our final hypothesis achieved only limited support. Still, abdominal pain is related to both depression and anxiety (Härmä et al., 2002; Korterink et al., 2015) and SDQ emotion problems were significant in the univariable analysis. As such, the burden of not feeling safe in the school environment could be associated with emotional difficulties as well.

The findings in this study should be considered by policymakers, school owners, school leaders and teachers when creating plans to make schools a safer place for adolescents. Teachers need to work continuously to strengthen alliances with all students. When a trusting relationship is not within reach with a particular student, the teacher may need to identify the reasons for this situation, be aware of possible mistrust, and perhaps, at times, even step down as their teacher if they are not able to improve the relationship. Some teachers feel unsafe in school, too (Vettenburg, 2002), which is an important factor to consider when teachers and school leaders search for solutions in cases when students feel unsafe. Conduct problems among students are significantly associated with feeling unsafe. Adolescents' conduct problems could in many cases influence how teachers perceive their students and consequently the student–teacher relationship. It is important to mention that few teachers themselves feel very unsafe in their work, approximately only 1% (Vettenburg, 2002). In future research, more knowledge about how school safety influences students' school performance is needed, as is a closer examination of both individual and contextual factors related to adolescents' perceptions of school safety. Future studies should be designed to better understand the mechanisms involved in what causes what.

Limitations

The cross-sectional design of this study makes it impossible to determine the causes and effects between the variables associated with feeling unsafe at school. Some adolescents may feel unsafe because of mental health problems, whereas others may experience a deterioration in mental health due to feeling unsafe at school. A categorical approach was used, with “safe” and “unsafe” as the two categories. Using an approach with a continuous variable could perhaps improve the understanding of levels of trust. Adolescents can experience distrust of their teachers for many reasons, such as disagreement on grades, feeling that the teacher always blames them for disruption of the teaching and so on. Due to the restrictions

applied in the ethical approval process to ensure respondents' anonymity, we have information about which continent they came from only and not their nationality in relation to our finding that adolescents not having Norwegian as their mother tongue more often felt unsafe. It would, of course, be useful to know the country of origin of those adolescents feeling unsafe and how long they have resided in Norway. Such knowledge could improve our understanding of the effects of such adolescents' cultural or religious backgrounds and how these factors influence our findings. Attrition could possibly influence the results both in terms of which schools participated and of students in the classroom. Still, in our study scores on this SDQ measure were similar to those of another study exploring the norms of this measure in regions in northern Norway (Rønning et al., 2004). Furthermore, all information was based on self-reports, including mental health problems, the perception of being bullied or cyberbullied, and feeling safe at school. Perceptions of feeling safe at school are, however, highly personal and parent or teacher reports could be even less reliable.

Conclusion

Not being safe at school and not trusting the teacher can result in experiences that need to be heeded because they may be important markers of various difficulties in adolescents' daily lives. The predictor of feeling unsafe at school most referred to was not being a native Norwegian speaker. Furthermore, feeling unsafe in the school environment was related to mental health problems,

traditional bullying, cyberbullying and abdominal pain. It is important to consider both individual and contextual factors associated with perceptions of school safety among adolescents in middle school.

Acknowledgements

We would like to express our gratitude to all participating schools and adolescents for completing the survey. We would also like to thank Kjersti Bergum Kristensen, Aida Babaii, and Anastasia Makarova for their assistance with the PIN study. The authors wish to express their gratitude to Professor Andre Sourander at the University of Turku in Finland for initiating a cross-cultural group of researchers focusing on bullying and cyberbullying, and the researchers in the Eurasian Child Mental Health Study (EACMHS) for their collaboration and interesting and important discussions.

Disclosure Statement

No potential conflict of interest was reported by the authors.

Ethical Information

The Regional Committee for Medical Research Ethics in northern Norway approved this study and related procedures (REK: 2016/998).

ORCID

Henriette Kyrrestad  <http://orcid.org/0000-0003-1515-6502>

References

- Baker, J. A. (2006). Contributions of teacher–child relationships to positive school adjustment during elementary school. *Journal of School Psychology, 44*(3), 211–229. <https://doi.org/10.1016/j.jsp.2006.02.002>
- Baker, J. A., Grant, S., & Morlock, L. (2008). The teacher–student relationship as a developmental context for children with internalizing or externalizing behavior problems. *School Psychology Quarterly, 23*(1), 3–15. <https://doi.org/10.1037/1045-3830.23.1.3>
- Bakken, A. (2003). *Minoritetsspråklig ungdom i skolen. Reproduksjon av ulikhet eller sosial mobilitet?* [Minority speaking youth in school. Reproduction of disparity or social mobility?] Norsk institutt for forskning om oppvekst, velferd og aldring. Rapport 15/2003. Oslo.
- Bergsli, A. T. (2019). *Nærmer Oss 200 000 arbeidsinnvandrere fra Øst-Europa [We are closing in on 200 000 work immigrants from eastern European countries]*. FAFO. arbeidslivet.no. Downloaded on the 26th of June 2019, 17.51.
- Bond, L., Carlin, J. B., Thomas, L., Rubin, K., & Patton, G. (2001). Does bullying cause emotional problems? A prospective study of young teenagers. *British Medical Journal, 323*(7311), 480–484. <https://doi.org/10.1136/bmj.323.7311.480>
- Carbone-Lopez, K., Esbensen, F.-A., & Brick, B. (2010). Correlates and consequences of peer victimization: Gender differences in direct and indirect forms of bullying. *Youth Violence and Juvenile Justice, 8*(4), 332–350. <https://doi.org/10.1177/1541204010362954>
- Chudal, R., Tiiri, E., Klomek, A. B., Ong, S. H., Fossum, S., Kaneko, H., Kolatis, G., Lesinskienė, S., Li, L., Nguyen, M. H., Pr,aharaj, S. K., Sillanmäki, L., Slobodskaya, H. R., Srabstein, J. C., Wiguna, T., Zamani, Z., Sourander, A., & the Euroasian Child Mental Health Study (EAMCHS) Group. (2021) Victimimization by traditional bullying and cyberbullying and the combination of these among adolescents in 13 European and Asian countries. *European Child and Adolescent Psychiatry*. doi: 10.1007/s00787-021-01779-6
- Clark, C. R., Mercer, S. H., Zeigler-Hill, V., & Dufrene, B. A. (2012). Barriers to the success of ethnic minority student in school psychology graduate programs. *School Psychology Reviews, 41*(2), 176–192. <https://doi.org/10.1080/02796015.2012.12087519>
- Egger, H. L., Costello, E. J., Erkanli, A., & Angold, A. (1999). Somatic complaints and psychopathology in children and adolescents: Stomach aches, musculoskeletal pains, and headaches. *Journal of the American Academy of Child & Adolescent Psychiatry, 38*(7), 852–860. <https://doi.org/10.1097/00004583-199907000-00015>

- Fatima, Y., Cairns, A., Skinner, I., Doi, S. A. R., & Mamun, A. A. (2018). Prenatal and early life origins of adolescence sleep problems: Evidence from a birth cohort. *International Journal of Adolescent Medicine and Health*. 2018 electronic press ahead of print. doi: [10.1515/ijamh-2018-0048](https://doi.org/10.1515/ijamh-2018-0048)
- Goodman, R. (1997). The Strengths and Difficulties Questionnaire: a research note. *Journal of Child Psychology and Psychiatry*, 38(5), 581–586. <https://doi.org/10.1111/j.1469-7610.1997.tb01545.x>
- Goodman, R. (1999). The extended version of the Strengths and Difficulties Questionnaire as a guide to child psychiatric caseness and consequent burden. *Journal of Child Psychology and Psychiatry*, 40(5), 791–799. <https://doi.org/10.1111/1469-7610.00494>
- Graham, S., Bellmore, A. D., & Mize, J. (2006). Peer victimization, aggression, and their co-occurrence in middle school: Pathways to adjustment problems. *Journal of Abnormal Child Psychology*, 34(3), 363–378. <https://doi.org/10.1007/s10802-006-9030-2>
- Hamada, S., Kaneko, H., Ogura, M., Yamawaki, A., Maezono, J., Sillanäki, L., Sourander, A., & Honjo, S. (2018). Association between bullying behavior, perceived school safety, and self-cutting: A Japanese population based school survey. *Child and Adolescent Mental Health*, 23(3), 141–147. <https://doi.org/10.1111/camh.12200>
- Härmä, A.-M., Kaltialo-Heino, R., Rimpelä, M., & Rantanen, P. (2002). Are adolescents with frequent pain symptoms more depressed? *Scandinavian Journal of Primary Health Care*, 20(2), 92–96. <https://doi.org/10.1080/pri.20.2.92.96>
- Hinduja, S., & Patchin, J. W. (2007). Offline consequences of online victimization. *Journal of School Violence*, 6(3), 89–112. https://doi.org/10.1300/J202v06n03_06
- Hinduja, S., & Patchin, J. W. (2009). *Bullying beyond the schoolyard: Preventing and responding to cyberbullying*. Corwin Press.
- Hong, J. S., Merrin, G. J., Crosby, S., Jozefowicz, D. M. H., Lee, J. M., & Allen-Meares, P. (2016). Individual and contextual factors associated with immigrant youth feeling unsafe in school: A social-ecological analysis. *Journal of Immigrant Minority Health*, 18(5), 996–1006. <https://doi.org/10.1007/s10903-015-0242-9>
- Hosmer, D. W., & Lemeshow, S. (2000). *Applied logistic regression* (2nd edition). John Wiley & sons inc.
- Jacobson, G., Riesch, S. K., Temkin, B. M., Kedrowski, K. M., & Kluba, N. (2011). Students feeling unsafe in school: Fifth graders' experiences. *The Journal of School Nursing*, 27(2), 149–159. <https://doi.org/10.1177/1059840510386612>
- Kortterink, J. J., Diederer, K., Benninga, M. A., & Tabbers, M. M. (2015). Epidemiology of pediatric functional abdominal pain disorders: A meta-analysis. *PLoS ONE*, 10(5). <https://doi.org/10.1371/journal.pone.0126982>
- Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth. *Psychological Bulletin*, 140(4), 1073–1137. <https://doi.org/10.1037/a0035618>
- Krane, V., Karlson, B. E., Ness, O., & Kim, H. S. (2016). Teacher-student relationship, student mental health, and drop-out from upper secondary school: A literature review. *Scandinavian Psychol.* e3. doi: [10.15714/scandpsychol.3.e11](https://doi.org/10.15714/scandpsychol.3.e11)
- Krogh, A.-M., Larsson, B., & Linde, M. (2015). Prevalence and disability of headache among Norwegian adolescents: A cross-sectional school-based study. *Cephalgia*, 35(13), 1181–1191. <https://doi.org/10.1177/0333102415573512>
- Langoren, A., Løkken, S. A., & Aaberge, R. (2015). Gruppering av kommunestorrelse etter folkeemngde og økonomiske rammebetingelser 2013. [Division of municipalities in residents and economic situation]. Statistics Norway Report 2015/19.
- Longobardi, C., Iotti, N. O., Junger, T., & Settani, M. (2018). Student-teacher relationships and bullying: The role of student social status. *Journal of Adolescence*, 63, 1–10. <https://doi.org/10.1016/j.adolescence.2017.12.001>
- Moore, S. E., Norman, R. E., Suetani, S., Thomas, H. J., Sly, P. D., & Scott, J. G. (2017). Consequences of bullying victimization in childhood and adolescence: A systematic review and meta-analysis. *World Journal of Psychology*, 7(1), 60–76. <https://doi.org/10.5498/wjp.v7.i1.60>
- Mori, Y., Tiiri, E., Khanal, P., Khakurel, J., Mishina, K., & Sourander, A. (2021). Feeling unsafe at school and associated mental health difficulties among children and adolescents: A systematic review. *Children*, 8(3), 232. <https://doi.org/10.3390/children8030232>
- Muthén, B. O., & Satorra, A. (1995). Complex sample data in structural equation modeling. *Sociological Methodology*, 25, 267–316. <https://doi.org/10.2307/271070>
- NOU [Norwegian Public Assessment]. (2015). *Å høre til. Virkemidler for et trygt psykososialt skolemiljø* [Belonging. Means for a safe psychosocial school environment]. Norwegian Public assessment 2015:2. Oslo.
- Ozer, E., & Weinstein, J., & S, R. (2004). Urban adolescents' exposure to community violence: The role of support, school safety, and social constraints in a school-based sample of boys and girls. *Journal of Clinical Child and Adolescent Psychology*, 33(3), 463–476. https://doi.org/10.1207/s15374424jccp3303_4
- Rigby, K. (2000). Effects of peer victimization in schools and perceived social support on adolescent well-being. *Journal of Adolescence*, 23(1), 57–68. <https://doi.org/10.1006/jado.1999.0289>
- Ripski, M. B., & Gregory, A. (2009). Unfair, unsafe, and unwelcome: Do high school students' perceptions of unfairness, hostility, and victimization in school predict engagement and achievement? *Journal of School Violence*, 8(4), 355–375. <https://doi.org/10.1080/15388220903132755>

- Rønning, J. A., Handegård, B. H., Sourander, A., & Mørch, W. T. (2004). The Strengths and Difficulties Self-Report Questionnaire as a screening instrument in Norwegian community samples. *European Child & Adolescent Psychiatry*, 13(2), 73–82. <https://doi.org/10.1007/s00787-004-0356-4>
- Russell, S. L., Wentzel, K. R., & Donlan, A. E. (2016). Teachers' beliefs about the development of teacher–adolescent trust. *Learning Environments Research*, 19(2), 241–266. <https://doi.org/10.1007/s10984-016-9207-8>
- Shapiro, M. A., & Nguyen, M. L. (2010). Psychosocial stress and abdominal pain in adolescent. *Mental Health in Family Medicine*, 7(2), 65–69.
- Snijders, T. A. B., & Bosker, R. J. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modeling*. Sage Publications.
- Sourander, A., Klomek, A. B., Ikonen, M., Lindroos, J., Luntamo, T., Koskelainen, M., ... Henenius, H. (2010). Psychosocial risk factors associated with cyberbullying among adolescents. *Archives of General Psychiatry*, 67(7), 720–728. <https://doi.org/10.1001/archgenpsychiatry.2010.79>
- Stadler, C., Feifel, J., Rohrmann, S., Vermeiren, R., & Poutska, F. (2010). Peer-victimization and mental health problems in adolescents: Are parental and school support protective? *Child Psychiatry & Human Development*, 41(4), 371–386. <https://doi.org/10.1007/s10578-010-0174-5>
- Sulkowski, M. L., & Simmons, J. (2018). The protective role of teacher-student relationships against peer victimization and psychosocial distress. *Psychology in Schools*, 55(2), 137–150. <https://doi.org/10.1002/pits.22086>
- Tiiri, E., Luntamo, T., Mishna, K., Sillanmäki, L., Klomek, A. B., & Sourander, A. (2019). Did bullying victimization decrease after nationwide school-based antibullying program? A time-trend study. *Journal of the American Academy of Child & Adolescent Psychiatry*, electronic published ahead of print. doi: 10.1016/j.jaac.2019.03.023.
- Udir [The Norwegian Directorate for Education and Training]. (2017). Guide for parents: if your child does not thrive at school. <https://www.udir.no/laring-og-trivsel/mobbing/guide-til-skoleforeldre-med-barn-som-ikke-har-det-bra-pa-skolen/guide-for-parents-if-your-child-does-not-thrive-at-school/> Downloaded 19.11.2018 at 15.08
- Varjas, K., Heinrich, C. C., & Meyers, J. (2009). Urban middle School Students' perceptions of bullying, cyberbullying, and school safety. *Journal of School Violence*, 8(2), 159–176. <https://doi.org/10.1080/15388220802074165>
- Vettenburg, N. (2002). Unsafe feelings among teachers. *Journal of School Violence*, 1(4), 33–49. https://doi.org/10.1300/J202v01n04_03
- Wang, M.-T., Brinkworth, M., & Eccles, J. (2013). Moderating effects of teacher–student relationship in adolescent trajectories of emotional and behavioral adjustment. *Developmental Psychology*, 49(4), 690–705. <https://doi.org/10.1037/a0027916>
- Wang, M.-T., & Degol, J. L. (2016). School climate: A review of the construct, measurement, and impact on student outcomes. *Educational Psychology Review*, 28(2), 315–352. <https://doi.org/10.1007/s10648-015-9319-1>
- Wang, M.-T., & Dishion, T. J. (2012). The trajectories of adolescents' perceptions of school climate, deviant peer affiliation, and behavioral problems during the middle school years. *Journal of Research on Adolescence*, 22(1), 40–53. doi:10.1111/j.1532-7795.2011.00763.x