



Frequency of Bullying and Cyberbullying Victimization and Associated Factors Among Norwegian Adolescents

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Abstract

The aim of the present study is to identify frequency and psychosocial factors associated with being exposed to traditional bullying and cyberbullying victimization among junior high-school students in Norway. Additionally, the aim was to explore the specific types of bullying and cyberbullying victimization adolescents' experience. This cross-sectional study is conducted among 2049 adolescents aged 13 to 16 years in junior-high schools in Norway. Overall, 13% reported experiences of being victimized of bullying and 12% of cyberbullying in the past 6 months. Two logistic regression analyses examined associations between being victimized of bullying or cyberbullying with gender, grade, socio-economic status (SES), unauthorized absence from school, and alcohol use. The odds of being a victim of bullying or cyberbullying significantly decreased the more the adolescents perceived the SES of the family as good. The odds of being cyberbullied were twice as high for girls and were significantly decreased when the adolescents had zero days with unauthorized absence from school and had not started to drink alcohol. Furthermore, girls experienced more indirect types of bullying (e.g., exclusion) compared to boys. Regarding the direct types of bullying, boys experienced significantly more often physically forms (e.g., hitting), while girls experienced more insulting forms (e.g., being called names). Implications for bullying prevention efforts are discussed.

Keywords Bullying · Cyberbullying · Adolescents · Risk factors · Determinants

Introduction

Bullying is an aggressive intended behavior, commonly repeated, including an imbalance of power between the offender and the victim (Farrington, 1993; Olweus, 1993). Bullying can be defined as follows: "A person is being bullied when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other persons" (Olweus, 1993, p. 9). Cyberbullying is bullying online or through cellphones (Hinduja & Patchin, 2009) and can be defined as "An aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself" (Smith et al., 2008, p. 376). Bullying and cyberbullying can happen in direct forms, such as being called names or threatened, and indirect forms such as being

excluded or spread rumors about. Bullying and cyberbullying have been found to be highly correlated (Baldry et al., 2017; Modecki et al., 2014; Waasdorp & Bradshaw, 2015). However, there has been found little overlap between bullying and cyberbullying among adolescents in the Nordic countries (Arnarsson et al., 2020).

A meta-analysis identified victimization of traditional bullying as the strongest predictor for being exposed to cyberbullying (Kowalski et al., 2012). Prevalence rates of being victimized from bullying and cyberbullying vary. In Europe, the prevalence of bullying victimization is 8.4% (Biswas et al., 2020). The EU Kids Online survey shows that slightly less than 10% are being cyberbullied (Smahel et al., 2020). The cross-national study Health Behavior in School-aged Children (HBSC) reports a mean prevalence rate of 3.9% in bullying victimization and 2.1% in cyberbullying victimization among Norwegian adolescents aged 13 to 15 years (Arnarsson et al., 2020). A Norwegian school survey reports that 4.5% of students have experienced bullying and 2.2% cyberbullying (Wendelborg, 2022). Another annually repeated national survey in Norway, called Ungdata, shows that 7% of adolescents in junior high school

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experience being bullied and 3% experience being cyberbullied in a period of two weeks (Bakken, 2021).

Victimization of bullying, either traditionally or online, puts children and adolescents at multiple risks. Evidence has suggested a causal relation between being exposed to bullying and poor mental health outcomes and substance use (Moore et al., 2017).

Being victimized of bullying or cyberbullying in adolescence is also associated with mental health problems, lower life satisfaction, loneliness, poor grades, and alcohol use (Arnarsson et al., 2020; Cook et al., 2010; Hinduja & Patchin, 2008; Hysing et al., 2021; Kaiser et al., 2020a; Kim et al., 2019; Kowalski et al., 2014; Skilbred-Fjeld et al., 2020; Strøm et al., 2013). Additionally, a longitudinal study from Norway has shown that bullying in adolescence is also associated with later mental health problems (Sigurdson et al., 2015).

Alcohol use is a factor that has been associated with both bullying and cyberbullying victimization (Moore et al., 2017). In the Norwegian context, to the best of our knowledge, there has not been identified an association between alcohol use and bullying or cyberbullying victimization among adolescents.

Both girls and boys are exposed to bullying, but they can be exposed to it in different ways. Generally, research shows that boys are more frequently exposed to direct bullying, while girls are more often exposed to indirect bullying and cyberbullying (Kim et al., 2019; Salmon et al., 2018; Smith et al., 2019). However, data from the HBSC shows that among adolescents in the Nordic countries, girls are significantly more cyberbullied than boys, but there are no gender differences in prevalence rates of traditional bullying (Arnarsson et al., 2020). Salmon et al. (2018) identified bullying related to body size or shape as the most prevalent type of harassment for both boys and girls. However, differences between genders vary by country, survey, and age (Smith et al., 2019). As such, to better adapt preventive measures, there is a need to investigate whether boys and girls in Norway experience different types of traditional and online bullying victimization.

Over time, bullying and cyberbullying victimization have been shown to be generally more prevalent among younger adolescents (Kennedy, 2021). The annual official student survey in Norway shows that junior high school students report a slight decrease in being exposed to traditionally bullying from 4.7% in the 8th grade to 3.6% in the 10th grade. Similar results are found for cyberbullying victimization (2.3% in the 8th grade to 1.9% in 10th the grade; Wendelborg, 2022). A large Canadian study showed increased odds of bullying in older grades compared to lower grades (Salmon et al., 2018). However, a Norwegian study on young adults between 18 and 21 years ($N=4531$), reported 3% cyberbullying victimization which is not that different from

prevalence among junior high school students (Skilbred-Fjeld et al., 2020).

Several determinants of traditional bullying victimization among children and adolescents have been identified, but the evidence is mixed. Even fewer determinants of cyberbullying victimization are identified. Children and adolescents of parents with low socioeconomic status (SES) are found to be more often exposed to traditional bullying (Jansen et al., 2011; Liu et al., 2021). On the opposite, high SES has also been found to be associated with increased risk of being cyberbullied (Wang et al., 2009). However, a Norwegian study did not find any association between SES and bullying victimization (Undheim & Sund, 2010). Overall, the meta-analysis by Tippet and Wolke (2014) showed that being exposed to bullying and low SES was only weakly related.

Generally, research shows that schools which make their adolescent students feel safe, and that create a good school-student attachment, are less likely to allow bullying behavior to occur (Espelage et al., 2015; Fite et al., 2019; Fossum et al., 2021; Glew et al., 2008; Karlsson et al., 2014; Sourander et al., 2010). A Norwegian study showed that this relates to both being a victim of traditional bullying and cyberbullying (Fossum et al., 2021). Williford et al. (2021) showed that feeling unsafe at school and being exposed to traditional bullying is associated with unauthorized absence from school, but they did not find the same associations for cyberbullying. However, Grinshteyn and Yang (2017) found that being exposed to cyberbullying was significantly associated with absence from school among a US sample. Also, Havik et al. (2015) showed that among Norwegian students from the 6th to 10th grade, traditionally bullying victimization was strongly associated with school refusal, but more weakly associated with unauthorized absence. Less is known about the association between cyberbullying victimization and unauthorized absence in a Norwegian context.

To sum up, the findings about associations between traditional bullying and socioeconomic status, absence from school, and alcohol use are somewhat mixed. Even less is known about these determinants for adolescents being exposed to cyberbullying indicating a clear need for further research. Identifying relationships between these variables may be important for prevention- and intervention efforts related to bullying and cyberbullying and may help to reduce the negative effects of such events on the mental health of adolescents. The overall aim of the present study was therefore to identify the frequency of bullying and cyberbullying victimization and its associated factors among junior high-school students in Norway. More precisely, the aims were (1) to identify the frequency of bullying and cyberbullying victimization among an adolescent sample in Norway; (2) to explore the association between bullying victimization and cyberbullying victimization with perceived SES, unauthorized absence from school, and alcohol debut; and (3) to

examine possible differences between genders in specific types of bullying and cyberbullying victimization.

Methods

Participants and Procedure

The PIN-study is an epidemiological research project in Norway and is a part of a multinational study from the European and Asian adolescent and child mental health study (EAC-MHS) called the “Adolescent health in a digital world: Associations of well-being, mental health and help-seeking with risk behaviors” (Chudal et al., 2021; Mori et al., 2022). The data for this cross-sectional study was collected in the three northernmost counties in Norway: Nordland, Troms, and Finnmark during spring 2017. An information letter about the study was sent to the school owners in 85 municipalities with an invitation to 220 junior high schools of which 72 headmasters along with their teacher staff agreed to participate. The final sample consisted of 2049 junior high school students in the age between 12 and 16 years. Each participating school was responsible for distributing information letters to all students including a study invitation with information sheets, one assigned for the parents, and one assigned for the student. Parents had to give an active consent for their student to fill in the anonymous online questionnaire during school hours. The Regional Committee for Medical Research Ethics approved the study (REK No: 2016/998).

Measures

Demographic Characteristics

Demographic variables included information about the adolescent’s gender (male or female) and grade (8th grade, 9th grade, or 10th grade).

Bullying Victimization

Bullying was defined according to Olweus (1993) as “a student is being bullied when he or she is exposed repeatedly over time to negative and hurtful actions on the part of one or more students”. It is difficult for the student being bullied to defend himself or herself. Bullying may take place frequently or infrequently. Bullying can be verbal (e.g., name-calling, threats), physical (e.g., hitting), or psychological (e.g., rumors, shunning/exclusion). It is bullying when someone is teasing repeatedly in a mean or hurtful way”. Two questions measured bullying victimization: “How often have you been bullied in school in the past six months?” and “How often have you been bullied away from school in the past six months?” The response categories were “Never” (1),

“Less than once a week” (2), “More than once a week” (3), and “Almost daily” (4). The two questions were merged, and the adolescents were categorized as bullying victim (1) if they reported to have experienced bullying “Less than once a week” or more often the past six months and recoded as zero (0) if the response was “Never”.

Experience of Bullying

If adolescents had experienced bullying, they received 19 additional questions measuring “How often has someone bullied you in these ways”. Eleven questions measured direct bullying (e.g., “Hit, slapped, pushed or punched you”, “Directed sexual jokes, comments or gesture at you”). Eight questions measured indirect bullying with questions (e.g., “Have you been excluded from social activities”, “Have someone spread rumors or lies about you?”). The response categories ranged from “Never” (1), “Less than once a week” (2), “More than once a week” (3), and “Almost daily” (4). Responses were recoded into “Yes” (1) if they reported to have experienced bullying “Less than once a week” or more often and “No” (0) for “Never”.

Cyberbullying Victimization

Cyberbullying was defined according to Hinduja and Patchin (2008) in the following way: “Cyberbullying is when someone repeatedly makes fun of another person online or repeatedly picks another person through email or text messages or when someone posts something online about another person that they do not like”. One question measured cyberbullying victimization (i.e., “How often have you been bullied online the past six months?”). The response categories ranged from “Never” (1), “Less than once a week” (2), “More than once a week” (3), and “Almost daily” (4). The adolescents were categorized with cyberbullying experience if they reported to have experienced cyberbullying victimization “Less than once a week” or more often (1) the past six months and recoded to zero (0) if the response was “Never”.

Experience of Cyberbullying

If the adolescent’s response to being cyberbullied was positive, they received additionally nine statements. How often have you been bullied online in forms of: “Ignored by others”, “Not respected”, “Called names by others”, “Spread rumors about”, “Threatened by others”, “Bombed with messages from others”, “Insulted by others”, “Make me look like a fool”, and “In a way that I have feared for my own safety”. The response categories ranged from “Never” (1), “Less than once a week” (2), “More than once a week” (3), and “Almost daily” (4). Responses was recoded into “Yes”

(1) if they reported the experience “Less than once a week” or more often and otherwise “No” (0).

Socio-economic Status

Perceived socio-economic status (SES) within the family was measured by one statement: Do you perceive that your family has: “Very low economy” (1), “Low economy” (2), “Adequate economy” (3), “High economy” (4), or “Very high economy” (5). The response categories were recoded into “Low economy” (1), “Adequate economy” (2), and “High economy” (3).

Unauthorized Absence from School

One statement measured unauthorized absence from school (i.e., “During the last three months, how many whole days with unauthorized absence have you been away from school?”). Response categories were “0 day” (1), “1–4 days” (2), “5–7 days” (3), “8–10 days” (4), and “More than 10 days” (5). Response category (4) and (5) were merged to (4) “More than 8 days”.

Alcohol Debut

Alcohol debut was assessed by one item adopted from (Aas & Klepp, 1992): “Have you ever consumed at least one glass of alcohol?”. Response categories were “Yes” (1) or “No” (2).

Statistical Analyzes

Data was analyzed using the Statistical Package for Social Sciences (SPSS-29). Descriptive statistics were calculated for all variables. The association between the dependent variable bullying victimization and cyberbullying victimization and the independent variables was explored. The independent variables were gender (female or male), grade (8th, 9th, or 10th), perceived SES (low, adequate, or high), unauthorized absence from school (0 day, 1–4 days, 5–7 days, or > 8 days), and alcohol debuted (Yes or No). Two logistic regression analyses with binary outcomes (i.e., bullying victimization yes/no and cyberbullying victimization yes/no) were used to estimate odds ratios (OR) and confidence intervals (95% CI) to calculate the strength of the association between the dependent and independent variables. The category least likely to have the outcome was the chosen as reference.

Results

A total of 2049 adolescents participated in the study. Gender was equally distributed in the sample (boys: $n = 1066$, 50.4%). Most students were in the 8th grade ($n = 828$, 39.1%)

with an approximately even distribution of students between the 9th ($n = 649$, 30.7%) and 10th grade ($n = 640$, 30.2%). Most of the students ($n = 1560$) reported that they perceived the family economic situation as high (75.7%), and 438 adolescents (21.3%) perceived that their family had an adequate economy. Only few students ($n = 62$, 3.0%) perceived that their family had low economy. The majority of the students ($n = 1733$, 87.8%) had zero days of unauthorized absence from school, 10.3% ($n = 204$) between one and four days, and 1.9% ($n = 37$) had 5 days or more. Approximately one-fourth of the sample ($n = 510$, 24.9%) had debuted with alcohol drinking.

Bullying Victimization

Of the 2049 adolescents, a total of 13.4% reported that they had been exposed to bullying the past 6 months. The logistic regression assessed the effect of gender, grade, SES, unauthorized absence from school, and alcohol debut on the likelihood of being a victim of bullying. The overall model was statistically significant when compared to the null model ($\chi^2(9) = 58.86$, $p < .001$) and correctly predicted 86.5% of cases. SES ($p < .001$) was a significantly associated factor with being a victim of bullying. The better the adolescents considered the SES of their family, the lowered the odds of being exposed to bullying. No association between being a victim of bullying and gender, grades, unauthorized absence from school, or alcohol onset was detected (Table 1).

Types of Bully Victimization

Specific types of bullying experience among bully victims are shown in Table 2. Overall, the three most common types of bullying were “Spoke ill of you” (85.9%) followed by “Called you names” (83.7%) and “Not talking or answering to you” (71.9%). Of the 19 categories of specific types of bullying, girls were significantly more often represented in 12 categories and boys in one category. No significant gender differences were found in six categories.

Cyberbullying Victimization

Of the 2049 adolescents, a total of 11.9% reported being exposed to cyberbullying the past sixth months. The results of the logistic regression analysis showing the association with cyberbullying victimization and the association with gender, grade, SES, unauthorized absence from school, and alcohol debut are presented in Table 3. The overall model was statistically significant when compared to the null model ($\chi^2(9) = 98.03$, $p < .001$) and correctly predicted 88.3% of cases. Gender ($p < .001$), SES ($p < .001$), unauthorized absence ($p < .001$), and onset of alcohol drinking

Table 1 Logistic regression analysis—bullying victimization

	Been bullied <i>n</i> (%)	<i>B</i> (SE)	Odds Ratio [95% CI]
<i>Gender</i>			
Females	145 (14.2)	.13 (.14)	1.14 [.88, 1.49]
Males	130 (12.7)		
<i>Grades</i>			
8th th	103 (12.8)	.02 (.17)	1.03 [.73, 1.43]
9 th	86 (13.9)	.04 (.17)	1.04 [.74, 1.47]
10 th	86 (13.8)		
<i>Perceived SES</i>			
Low	25 (41.7)		
Adequate	80 (18.5)	-.93 (.31)	.39 [.22, .71]**
High	169 (10.9)	-1.55 (.29)	.21 [.12, .38]***
<i>Unauthorized absence from school</i>			
0 day	210 (12.1)	-.99 (.60)	.37 [.12, 1.21]
1–4 days	42 (20.6)	-.53 (.62)	.59 [.18, 1.99]
5–7 days	6 (26.1)	-.20 (.77)	.82 [.18, 3.72]
> 8 days	5 (35.7)		
<i>Alcohol debuted</i>			
Yes	87 (17.1)		
No	188 (12.2)	-.28 (.16)	.75 [.55, 1.03]

p* < .01; *p* < .001

(*p* < .001) were significantly associated with being a victim of cyberbullying. Girls were twice as likely to be cyberbullied as compared to boys (OR = 2.02, 95% CI [1.51, 2.72]).

The odds of being exposed to cyberbullying decreased the more the adolescents perceived the SES of the family as good. Further, having zero days of unauthorized absence

Table 2 Types of bullying experience among bully victims (*n* = 275)

	Total % (<i>n</i>)	Girls % (<i>n</i>)	Boys % (<i>n</i>)	χ^2
<i>Direct bullying</i>				
Made fun of you because of your looks or way you talk	63.0 (<i>n</i> = 270)	71.1 (<i>n</i> = 142)	53.9 (<i>n</i> = 128)	<i>p</i> < .01
Hit, slapped, pushed, or punched you	60.9 (<i>n</i> = 271)	52.4 (<i>n</i> = 143)	70.3 (<i>n</i> = 128)	<i>p</i> < .01
Directed sexual jokes, comments or gestures at you	40.0 (<i>n</i> = 270)	51.0 (<i>n</i> = 143)	27.6 (<i>n</i> = 127)	<i>p</i> < .001
Called you names	83.7 (<i>n</i> = 270)	85.2 (<i>n</i> = 142)	82.0 (<i>n</i> = 128)	<i>p</i> = .48
Took your money	26.1 (<i>n</i> = 272)	27.3 (<i>n</i> = 143)	24.8 (<i>n</i> = 129)	<i>p</i> = .64
Made you work for other students, such as homework or carrying bags for them	12.6 (<i>n</i> = 270)	13.3 (<i>n</i> = 143)	11.8 (<i>n</i> = 127)	<i>p</i> = .72
Took away your school supplies and snacks	32.6 (<i>n</i> = 270)	31.5 (<i>n</i> = 143)	33.9 (<i>n</i> = 127)	<i>p</i> = .68
Threatened to hurt you or beat you up	37.8 (<i>n</i> = 270)	36.4 (<i>n</i> = 143)	39.4 (<i>n</i> = 127)	<i>p</i> = .61
Chased you like he or she was really trying to hurt you	23.4 (<i>n</i> = 269)	18.9 (<i>n</i> = 143)	28.6 (<i>n</i> = 126)	<i>p</i> = .06
Pulled your hair	40.5 (<i>n</i> = 269)	47.9 (<i>n</i> = 142)	32.3 (<i>n</i> = 127)	<i>p</i> < .01
A student told you he or she would not like you unless you do what they say	27.1 (<i>n</i> = 269)	33.6 (<i>n</i> = 143)	19.8 (<i>n</i> = 126)	<i>p</i> < .05
<i>Indirect bullying</i>				
Spread rumors or mean lies about you	71.7 (<i>n</i> = 269)	81.7 (<i>n</i> = 142)	60.6 (<i>n</i> = 127)	<i>p</i> < .001
Left you out during recess or lunch time	52.2 (<i>n</i> = 270)	65.0 (<i>n</i> = 143)	37.8 (<i>n</i> = 127)	<i>p</i> < .001
Not talking or answering to you	71.9 (<i>n</i> = 270)	80.3 (<i>n</i> = 142)	62.5 (<i>n</i> = 128)	<i>p</i> < .01
Spoke ill of you	85.9 (<i>n</i> = 270)	91.6 (<i>n</i> = 143)	79.5 (<i>n</i> = 127)	<i>p</i> < .01
Left you out of what he or she was doing	67.9 (<i>n</i> = 265)	79.4 (<i>n</i> = 141)	54.8 (<i>n</i> = 124)	<i>p</i> < .001
Left you out of an activity or conversation that you really wanted to be included in	60.3 (<i>n</i> = 267)	71.4 (<i>n</i> = 140)	48.0 (<i>n</i> = 127)	<i>p</i> < .001
Did not invite you at a party or other social event even though he or she knew that you wanted to go	56.0 (<i>n</i> = 268)	65.7 (<i>n</i> = 140)	45.3 (<i>n</i> = 128)	<i>p</i> < .001
A student you wanted to be with would not sit near to you at lunch or in class	36.2 (<i>n</i> = 268)	44.4 (<i>n</i> = 142)	27.0 (<i>n</i> = 126)	<i>p</i> < .01

Total percentage of bullied adolescents with the specific bullying experience

χ^2 Pearson's chi-square

Table 3 Logistic regression analysis—cyberbullying victimization

	Been cyberbullied <i>n</i> (%)	<i>B</i> (SE)	Odds ratio [95% CI]
<i>Gender</i>			
Females	154 (15.1)	.71 (.15)	2.02 [1.51, 2.72]***
Males	89 (8.7)		
<i>Grades</i>			
8 th	77 (9.6)		
9 th	82 (13.3)	.20 (.18)	1.22 [.86, 1.74]
10 th	84 (13.5)	.09 (.19)	1.20 [.76, 1.58]
<i>Perceived SES</i>			
Low	20 (33.3)		
Adequate	57 (13.2)	-.87 (.34)	.42 [.21, .82]*
High	165 (10.7)	-1.05 (.32)	.35 [.19, .65]***
<i>Unauthorized absence from school</i>			
0 day	175 (10.1)	-1.58 (.58)	.21 [.07, .65]**
1–4 days	42 (20.6)	-.98 (.60)	.37 [.12, 1.21]
5–7 days	7 (30.4)	-.45 (.75)	.64 [.15, 2.76]
> 8 days	7 (50.0)		
<i>Alcohol debuted</i>			
Yes	101 (19.9)		
No	142 (9.2)	-.79 (.16)	.46 [.33, .62]***

* $p < .05$; ** $p < .01$; *** $p < .001$

from school ($p < .01$) and not yet debuted with alcohol drinking significantly decreased the odds of being cyberbullied ($p < .001$).

Types of Cyberbullying

Specific types of bullying experience among cyberbully victims are shown in Table 4. The three most common types of cyberbullying were “Disrespected by others” (64.1%), followed by “Been ridiculed” (63.7%) and “Called named by others” (63.4%). In four of the nine types of cyberbullying victimization, girls were significantly overrepresented compared to boys. No significant gender difference was found in five of the nine categories.

Table 4 Types of cyberbullying experience among cyberbully victims ($n = 243$)

	Total (%) <i>n</i>	Girls (%)	Boys (%)	χ^2
Ignored by others	60.9 ($n = 238$)	68.4 ($n = 152$)	47.7 ($n = 86$)	$p < .01$
Disrespected by others	64.1 ($n = 237$)	66.2 ($n = 151$)	60.5 ($n = 86$)	$p = .37$
Called named by others	63.4 ($n = 238$)	64.5 ($n = 152$)	61.6 ($n = 86$)	$p = .66$
Rumors spread by others	59.7 ($n = 238$)	69.7 ($n = 152$)	41.9 ($n = 86$)	$p < .001$
Been threatened by others	28.6 ($n = 238$)	26.3 ($n = 152$)	32.6 ($n = 86$)	$p = .31$
Been email bombed by others	40.3 ($n = 236$)	41.6 ($n = 149$)	37.9 ($n = 87$)	$p = .58$
Picked on by others	47.0 ($n = 236$)	46.4 ($n = 151$)	48.2 ($n = 85$)	$p = .78$
Been ridiculed	63.7 ($n = 237$)	69.5 ($n = 151$)	53.5 ($n = 86$)	$p < .05$
Been scared for safety	30.3 ($n = 238$)	35.5 ($n = 152$)	20.9 ($n = 86$)	$p < .05$

Total percentage of cyberbullied adolescents with the specific cyberbullying experience

χ^2 Pearson's chi-square

Discussion

The aim of the present study was to identify frequency rates and associated factors with traditional bullying and cyberbullying victimization among junior high-school students in Norway. In addition, we sought information to explore the specific types of bullying and cyberbullying victimization adolescents' experience. A total of 13.4% of adolescents reported to have experienced being bullied, and 11.9% had experienced being cyberbullied the past sixth months. The reported frequency of bullying and cyberbullying victimization is somewhat higher compared to results from other studies (Arnarsson et al., 2020; Bakken, 2021; Biswas et al., 2020; Smahel et al., 2020; Wendelborg, 2022). This may be related to the fact that we used a timeframe of six months to measure bullying and cyberbullying victimization. However,

our findings are in line with the national Ungdata survey in Norway (Bakken, 2021). Taking into account the negative effects, bullying victimization, both traditionally and online, can have on adolescents mental health (Arnarsson et al., 2020; Hysing et al., 2021; Kaiser et al., 2020a; Moore et al., 2017; Myklestad & Straiton, 2021) this underlines the importance of preventive efforts to reduce the frequency of bullying and of providing effective interventions so that exposed adolescents receive the help and support they need (Gaffney et al., 2019).

While there were no gender differences in victimization of traditionally bullying, more girls than boys reported having been cyberbullied. This finding is in line with the HBSC study among adolescents in the Nordic countries (Arnarsson et al., 2020), cross-nationally (Smith et al., 2019), and also with a Swedish study, which suggests that girls use technology devices differently than boys (Beckman et al., 2013). The Norwegian Media Authority (2020) showed that girls spend slightly more time on social media platforms than boys, and boys spend more time gaming. Also, as suggested by Smith et al. (2019), girls are more vulnerable to relational type of bullying, especially on social media platforms. Because of these differences, efforts targeting cyberbullying should consider gender differences.

The better the adolescents perceived the SES within their family, the lower the odds of being victimized by bullying or cyberbullying. This association has also been revealed in several other studies (Arnarsson et al., 2020; Jansen et al., 2011, 2012; Liu et al., 2021; von Rueden et al., 2006). Our findings are, however, contrary to Wang et al. (2009), who found that in a US sample of adolescents, that high SES increased the risk of cyberbullying. Wang et al. (2009) argued that families with high SES have greater access to technology devices. The Norwegian Media Authority (2020), on the other hand, showed that Norwegian adolescents, overall, have good access (97%) to technology devices. Jansen et al. (2012) found also that low SES was associated with all types of bullying victimization. They suggest to increase the social skills of adolescents from families with low SES in order to teach them to better cope with bullying.

Furthermore, having unauthorized absence from school was significantly associated with cyberbullying, but was not associated with traditional bullying. One reason for this could be that adolescents exposed to bullying are more likely to seek help than those who experience cyberbullying (Kaiser et al., 2020b). The help adolescents exposed to bullying victimization receive might prevent them from having unauthorized absence. The association between school absence and being bullied or cyberbullied has also been identified in previous research (Kowalski & Limber, 2013; Williford et al., 2021). Williford et al. (2021) showed that both being bullied and cyberbullied increased school absence. Also, an

Israeli study showed that adolescents exposed to bullying had more absence from school due to fear of peers (Berkowitz & Benbenishty, 2012). As such, receiving help when bullied may prevent school absence.

Our findings showed that having debuted with alcohol drinking was significantly associated with being cyberbullied, but not with being traditionally bullied. Lee et al. (2020) found that it was an increased risk of alcohol use for boys who experienced bullying victimization and for girls who experienced cyberbullying victimization. However, Lee et al. (2020) showed that when they included social-ecological variables, such as parental monitoring, the association between bullying and alcohol use among boys was no longer significant. Also, the meta-analysis by Moore et al. (2017) identified a significant association between alcohol use and being exposed to bullying and suggested that adolescents exposed to bullying victimization and who develop mental health issues may medicate themselves with alcohol.

Our analyses did not find a significant difference in the frequency of being bullied or cyberbullied for different grades. Adolescents participating in this study were pupils from junior-high schools in Norway, which includes an age range between 13 to 16 years. Within the same school level, we might not expect large differences between grades.

There was no significant difference between boys and girls in the frequency of being traditionally bullied, but the ways they were bullied differed. In general, girls reported more often experiencing victimization through indirect bullying (such as being left out, spreading rumors, talking ill of another), but for direct forms of bullying (such as being hit, threatened, and chased), the results were mixed. This is, in line with previous research (Carbone-Lopez et al., 2010; Waasdorp & Bradshaw, 2015; Wang et al., 2009). With respect to the direct types of bullying, boys experienced significantly more often physical forms of bullying victimization (e.g., being hit, slapped, pushed, or punched) while girls experienced more insulting forms of direct bullying victimization (e.g., sexual jokes, made fun of, pulled in hair). There were no gender differences in being stolen from (taken money from or taken school supplies and snacks from). Girls being victimized of cyberbullying experienced four of nine cyberbullying types more often than boys (e.g., ignored, spread rumors about, been ridiculed). This is an interesting finding and underlines the importance of prevention and intervention efforts that are gender specific.

Limitations

There are several limitations to consider when interpreting the findings of this study. First, since this is a cross-sectional study, it is not possible to make causal conclusions. Also, the data was collected from the northernmost regions in Norway, which might limit the representativeness of the

findings. Also, the data for this study is solely based on self-report measures. Self-report measures may in general be a potential threat to validity, but self-reports of bullying victimization have shown modest to good validity (Lee & Cornell, 2009; Olweus, 2013; Volk et al., 2017). Furthermore, self-reported bullying victimization could be biased due to socially desired responses (Volk et al., 2017). However, the adolescents in the present study were assured anonymity. Also, most variables used in this study consisted of one single item only. As such, construct validity could not be tested. However, the measurement of bullying with one or two items is common in research (Inchley et al., 2020; Kärnä et al., 2011; Wendelborg, 2022). No observational data from other sources such as teachers, parents, peers, or significant others were collected which could be a limitation. However, research suggests that self-reported exposure to bullying victimization corresponds with peer nomination (Branson & Cornell, 2009). Finally, using the bullying definition from Olweus without the corresponding response categories and cut-off values raises some issues. A newly proposed definition of bullying was presented at the International World Anti-Bullying Forum in Sweden 2021 (Norman et al., 2021). The suggested definition focuses more on the experience of the target, regardless of how many times they have been bullied. Originally, the definition by Olweus included the concept of repetition or frequency to be more certain that the negative act was intended and to exclude one-time episodes of aggressive acts (Olweus, 2013). In the present study, the scale point “less than once a week” in the past sixth months could be unclear. We chose to include all adolescents reporting to have experienced bullying or cyberbullying victimization. However, this may have led to an overrepresentation of adolescents exposed to bullying and cyberbullying (Solberg & Olweus, 2003). Being part of the EACMHS multinational study group, the present study used the same response categories as the other countries (Chudal et al., 2021; Mori et al., 2022).

Future Research Directions

Despite the limitations of the present study, our findings supplement existing research with extended knowledge of risk factors associated to bullying and cyberbullying in adolescence. However, to make causal conclusions about factors associated with bullying and cyberbullying victimization, there is a need for more longitudinal research to understand the degree, direction, and change over time (Caruana et al., 2015). Also, data from a larger region, preferable on a national level with a representative sample, is warranted to make valid conclusions.

Implications for Practice

The current findings contribute to the theoretical understanding of bullying and its associated factors and may also have practical implications for bullying prevention and interventions. Professionals working with adolescents, such as teachers, school psychologists, or school nurses, should be aware of these factors and, in an optimal case, apply this knowledge in their praxis. This can either be done through implementing it in different types of interventions that target to prevent bullying and cyberbullying or in interventions used to deal with a bullying or cyberbullying event.

This study shows that too many adolescents have experience with bullying and cyberbullying victimization. There is a need to implement evidence-based preventive interventions to reduce the number of victims. Some of the identified factors in this study may be easier to work with than others. While it may be more difficult for schools to change the perceived SES of adolescents, schools have a responsibility that adolescents both are and feel safe at school to prevent unauthorized absence. School climate has also been found to be an important factor for adolescent participation in bullying, both traditional and online, in previous research (Dorio et al., 2020; Fite et al., 2019). Improving the school climate could therefore be an important part to tackle bullying and cyberbullying.

Also, professionals should note that more girls experience being a victim of cyberbullying. Being exposed to cyberbullying showed significant associations with unauthorized absence from school and having alcohol debuted. This finding could indicate that cyberbullying victimization constitutes a slightly different victim group as compared to victims of traditional bullying.

Conclusion

The results from this study show that many adolescents are victims of bullying and cyberbullying. Also, this study shows that adolescents are at less risk of being bullied or cyberbullied when perceiving their family SES as good. Further, adolescents with no unauthorized absence from school and not having debuted with alcohol drinking have a decreased risk of being cyberbullied. These factors may help school personnel and professionals that need to prevent bullying and cyberbullying and to identify children and adolescents at risk for being exposed to it. The findings of the present study that identified the significant associations of bullying and cyberbullying victimization may help to improve such efforts.

Author Contribution SF is the principal investigator of the study. HK wrote the first draft of the manuscript, and SK and SF read, edited, and approved the final version.

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Data Availability The dataset used in this study is available from the corresponding author on reasonable request.

Declarations

Ethics Approval The Regional Committee for Medical Research Ethics approved the study (REK No: 2016/998).

Consent to Participate Parents had to give an active consent for their student to fill in the anonymous online questionnaire during school hours.

Competing Interests The authors declare no competing interests.

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