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## Happiness and depression in the traditionally bullied and cyberbullied 12-year-old

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### ABSTRACT

This study investigated the overall happiness, school-related happiness, and depression of traditionally bullied and cyberbullied 12-year-old Finnish students. Among the more than 700 participants, traditional bullying (26%) was more frequent than cyberbullying (18%). Receiving insulting text messages or being the subject of offensive comments on the Internet were the most common forms of cyberbullying. Often those who were cyberbullied were also victims of traditional bullying (the poly-victimized comprised 11% of all participants). We found no differences between genders in traditional bullying rates, but cyberbullying was more common among girls. Being victimized, in either form, was related to a decrease in all measures of psychological well-being, with the poly-victimized scoring the lowest. In particular, being victimized predicted depression, with the poly-victimized scoring the highest. The results indicate a clear need to intervene in early adolescents' culture of communicating via electronic devices and especially to identify victims of bullying in both the real and cyberworld.



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Bullying is a common problem in schools all over the world and its consequences are well documented (Kaltiala-Heino, Rimpelä, Marttunen, Rimpela, & Rantanen, 1999; Kaltiala-Heino, Rimpelä, Rantanen, & Rimpelä, 2000). Bullying is defined as intentional aggressiveness repeatedly directed against a victim. It is characterized by an imbalance of power between the perpetrators and the victim, who is usually unable to defend him or herself (e.g. Olweus, 1999, 2003). Several types of bullying have been identified: physical aggressiveness (e.g. hitting, pushing), verbal bullying (e.g. calling names, making threatening comments), relational aggression (e.g. isolating, spreading false rumors), or damaging property (e.g. taking or destroying another's property; Gladden, Vivolo-Kantor, Hamburger, & Lumpkin, 2014). In addition to traditional forms of bullying, bullying via electronic means has become widespread. According to Gladden et al. (2014), bullying via electronic means, or *cyberbullying*, is a form of verbal and relational bullying using information and communication technologies (ICTs). Cyberbullying can include direct bullying, such as verbal

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and photo harassment (sending or posting harmful images) in social media like Facebook, Twitter or Instagram, and indirect modes of bullying, such as stalking or trolling (e.g. commenting in an intentionally provocative way; Kowalski, Limber, & Agatston, 2012; Todd, 2014). Cyberbullying involves multiple ways of bullying, in the form of insults, harassment and social exclusion, that extend beyond the frames of older definitions of bullying (Greene, 2000; Olweus, 1999).

Bullying and cyberbullying frequently co-occur, meaning that often victims of traditional bullying are also victims in the cyberworld (Katzner, Fetchenhauer, & Belschak, 2009; Raskauskas & Stoltz, 2007; Tokunaga, 2010; Ybarra & Mitchell, 2004). Both forms of bullying have been repeatedly connected with a decrease in happiness (Arseneault et al., 2006; Drennan, Brown, & Mort, 2011; Rigby & Slee, 1993), and an increase in depression, suicidal ideation, social anxiety (Boivin, Hymel, & Bukowski, 1995; Gradinger, Strohmeier, & Spiel, 2009; Hinduja & Patchin, 2010), and other psychological adjustment problems, such as school maladjustment and loneliness (see Hawker & Boulton, 2000, for a review).

In the present study, we asked more than 700 12-year-olds about their experiences of traditional bullying and bullying in the cyberworld. We examine the associations between different types of bullying victimization and psychological well-being in terms of overall happiness, happiness in the school context and depression. Here, happiness is defined according to Diener (2000) as subjective well-being consisting of positive and negative affect and life satisfaction. To our knowledge, this is one of the first times that the relationships between happiness, depression and traditional bullying and cyberbullying have been measured simultaneously. In the current study, we use the word 'bullying' to refer to bullying in the traditional sense and 'cyberbullying' to refer to bullying via ICT (see also, Li, 2007).

### *Differences between cyberbullying and traditional bullying*

Cyberbullying refers to repeated, intentionally harmful activity through any electronic media, such as mobile phones and the Internet. Sometimes the often recurrent nature of traditional bullying (e.g. Olweus, 2003) can manifest in a single act in the cyberworld (e.g. posting a harassing message or photo on the Internet). Thus, definitions of cyberbullying vary with regard to the word 'repetitive' (Dooley, Pyżalski, & Cross, 2010; Patchin & Hinduja, 2006; Tokunaga, 2010; Vandebosch & van Cleemput, 2009). Moreover, cyberbullying is hard to escape; it follows you everywhere and may affect its victim for a lifetime (Patchin & Hinduja, 2006). Once posted, a disturbing message or photo may be impossible to remove from the Internet.

The average rates of being bullied, either traditionally or in the cyberworld, vary widely, reflecting differences in definitions of bullying. According to the Health Behavior in School-Aged Children, HBSC, survey (WHO, 2012), the rates of 11-year-olds being bullied range between 2% (girls in Armenia) and 32% (boys in Lithuania). The HBSC average is 15% for boys and 12% for girls. In turn, the rates of those being cyberbullied range from 6.5% (Ybarra & Mitchell, 2004) to as much as 72% (Juvonen & Gross, 2008). In his review article, Tokunaga (2010) estimates that between 20% and 40% of youth are victimized in the cyberworld. In Finland, almost 20% of students between the ages of 7 and 20 had received hurtful comments themselves or seen others receiving such comments on the Internet (Aarnio & Multisilta, 2012). In their large-scale study, with more than 2400

participants, offensive Internet chatting and mockery were largely considered common, normal, or at least inevitable if they involved social media, and were not necessarily deemed instances of bullying.

Cyberbullying seems to occur in all youth age groups that have access to the Internet or mobile phones. Heavy Internet users are more often involved in cyberbullying processes than those who visit web sites only occasionally (Juvonen & Gross, 2008; Patchin & Hinduja, 2006). In a study of 5th, 8th, and 11th graders (Williams & Guerra, 2007), the proportion of cyberbullied youth peaked among 14-year-old 8th graders (12.9%); 5th graders were the least victimized (4.5%), with the incidence among 11th graders between these extremes (9.9%). Tokunaga (2010) proposed a curvilinear relationship between cyberbullying rates and age, with the highest rates occurring among seventh and eighth graders.

Taking into account the cascade of effects that even a single act can trigger and the breadth of the reachable audience (Slonje & Smith, 2008), victimization through cyberbullying may be even more harmful than traditional bullying (see e.g. Aoyama, Saxon, & Fearon, 2011). Recently, Bonanno and Hymel (2013) found that involvement in cyberbullying, whether as a victim or a bully, and irrespective of experiences of traditional bullying, predicted both depression and suicidal ideation. Potential anonymity adds to the fear of cyberbullying, since not knowing the perpetrators may sow distrust in one's peers and prevent one from seeking help from friends. In a study by Katzer et al. (2009), cyber-victims were found to share similarities with victims of traditional bullying (e.g. a low level of popularity, low self-esteem and over-protective parents), but differences also existed. Cyber-victims, more often than victims of traditional bullying, acted as aggressors in the environment of their victimization, suggesting that many cyber-victims belong to the group of bully-victims, those who bully and are bullied.

Indeed, the roles of the perpetrators and victims of cyberbullying may differ from those of traditional bullying. Some researchers have suggested that victims of traditional bullying may be the aggressors in the cyberworld (e.g. Beran & Li, 2007). This theory is based on the assumption that 'the weak' could seek revenge via the anonymity of cyberspace (Ybarra & Mitchell, 2004). However, the veracity of this theory remains contested. In a study by Sourander et al. (2010), the assumption of victims 'bullying back' in the cyberworld held true among girls but not among boys: girls who were victims of traditional bullying tended to be both victims and bully-victims in the cyberworld. Cross-sectional studies do not permit an assessment of temporal order, so it is unclear which came first. Participation in cyberbullying processes can also precede involvement in traditional bullying. Consensus prevails only on the fact that the same victims are often targeted in the real world and the cyberworld (Beran & Li, 2007; Gradinger et al., 2009; Hinduja & Patchin, 2010; Juvonen & Gross, 2008; Raskauskas & Stoltz, 2007).

Some previous reports show that, overall, girls are cyberbullied more often than boys (DeHue, Bolman, & Völlink, 2008; Li, 2007; Tokunaga, 2010; Ybarra & Mitchell, 2008), but a meta-analysis by Tokunaga (2010) found no differences between gender representations in cyberbullying. This contrasts with the overrepresentation of males in traditional bullying and especially in physical bullying processes (Bosworth, Espelage, & Simon, 1999; Boulton & Underwood, 1992). Thus, the hidden nature of cyberspace would seem to suit the indirect way of bullying common among girls (Lagerspetz, Björkqvist, & Peltonen, 1988). Furthermore, the effects of bullying seem to differ between genders. Among Finnish girls, severe suicidal ideation was associated with the frequency of being bullied or being a

bully; for boys, it was associated with being a bully (Kaltiala-Heino et al., 1999). Furthermore, in a study of Australian adolescents (Bond, Carlin, Thomas, Rubin, & Patton, 2001), being bullied significantly affected the future emotional well-being of young adolescent girls independent of their social relations, but this did not hold true for boys.

The definition of poly-victimization (Finkelhor, Ormrod, & Turner, 2007; Turner et al., 2006), or being victimized in multiple environments, can be applied to victims of both traditional and cyberbullying. Extensive studies by Finkelhor, Ormrod, Turner, and Hamby (2005), Finkelhor et al. (2007), and Finkelhor, Turner, and Ormrod (2006) evidence that victimization tends to cluster. For example, being victimized by siblings at home is associated with victimization at school (Duncan, 1999). Accordingly, those victimized in the real world tend to be victimized in the cyberworld by the same, as well as different, perpetrators (Raskauskas & Stoltz, 2007; Smith et al., 2008). Studies have found poly-victimization to be highly predictive of trauma symptoms. Being bullied or otherwise abused in several surroundings may cause a child to generalize his or her defensive coping to nearly every person in his or her interpersonal environment (Finkelhor et al., 2007; Gradinger et al., 2009; Hinduja & Patchin, 2010). Defensive, self-protective coping can manifest in multiple ways, also as aggression and acting out behaviors that may trigger more bullying.

To summarize, being insulted in the cyberworld seems to be connected to a variety of problems that may seriously weaken youth's ability to cope socially. Furthermore, bullying in the cyberworld has some unique features that distinguish it from traditional forms of bullying, such as greater distrust of peers – not just aggressive peers, but potentially *all* peers. Experiencing both traditional bullying and cyberbullying leads to an increasing fear of failing to integrate into the peer group. This is a severe threat to mental well-being, since social affiliation and popularity among peers are among the most important factors contributing to the happiness of the youth (Holder & Coleman, 2008, 2009). Correspondingly, loneliness and a lack of friends often underlie youth depression (Nangle, Erdley, Newman, Mason, & Carpenter, 2003; Segrin, Hanzal, Donnerstein, Taylor, & Domschke, 2007).

## *Happiness*

The paradigm of positive psychology (Seligman & Csikszentmihalyi, 2000) has given rise to new fields of study, including subjective well-being and happiness (Diener, 2000; Lyubomirsky, Sheldon, & Schkade, 2005; Veenhoven, 2015). These themes complement the traditional psychopathology-centered orientations focused mainly on ill-being. The major idea of positive psychology builds on the fact that being happy requires more than just the absence of misery (Jahoda, 1958), a notion supported by several studies (see, e.g. Keyes, 2002). For instance, it seems that happiness and depression, though highly interrelated, are not predicted by entirely the same factors (Cheng & Furnham, 2003).

In Western culture, personal characteristics such as extraversion, low neuroticism, and high self-esteem are strong predictors of children's and youth's life satisfaction (Gilman & Huebner, 2006; Huebner, 1991; Suldo, Minch, & Hearon, 2015). Research on adults has shown that social relationships are not only predictors of happiness but are necessary for happiness (Chaplin, 2009; Diener & Oishi, 2005). Fortunately, the mean values of measures of child and youth happiness and life satisfaction have been high (Dew &

Huebner, 1994; Holder & Coleman, 2008; Huebner, 1991; Natvig, Albrektsen, & Qvarnstrom, 2003), meaning that they generally feel quite happy. However, not all children show high happiness (Uusitalo-Malmivaara, 2012, 2014; Uusitalo-Malmivaara & Lehto, 2013; Uusitalo-Malmivaara et al., 2012), and in many cases, happiness seems to decrease over the course of puberty. A Finnish study by Uusitalo-Malmivaara (2012) has shown that it was the least happy students, more often than others, who wanted to have more friends.

Children's and adolescents' perceptions of their academic abilities, teacher support, and overall satisfaction with school strongly predict overall happiness. However, academic abilities in terms of grades only weakly correlate with students' global happiness (Gilman & Huebner, 2006; Huebner, 1991; Natvig et al., 2003; Suldo, Riley, & Shaffer, 2006). In Western countries (e.g. in the USA, in the UK, and in Finland) most students report being content with their schooling (Brantley, Huebner, & Nagle, 2002; Ivens, 2007; McCullough & Huebner, 2003; Rask, Åstedt-Kurki, Tarkka, & Laippala, 2002), but not all (Uusitalo-Malmivaara, 2012; Uusitalo-Malmivaara et al., 2012). Dissatisfaction with school is associated with various social problems with parents and peers, as well as psychological and physical symptoms, such as depression, headaches, and fatigue (Natvig et al., 2003; Rask et al., 2002). Bullying strongly correlates with school dissatisfaction (e.g. Verkuyten & Thijs, 2002). Rejection and victimization in the most important peer context, the school, are detrimental to social self-esteem, school adjustment and a child's overall need to belong (Ladd, Kochenderfer, & Coleman, 2006; Olthof & Goossens, 2008).

In Finland, well-being in school has lagged behind academic success. In international comparisons, Finland has enjoyed the highest ranking in several school-related areas (e.g. PISA, see OECD, 2015). However, when happiness is measured, the picture changes. In the newest PISA assessment, only about 67% of Finnish students reported being happy, when the OECD average was about 80% (OECD, 2015). Furthermore, teachers seemed not to prioritize their students' socio-emotional well-being. Anti-bullying programs (e.g. KiVa, see Kärnä et al., 2011) and school health and social services are available in every Finnish school, but the actual resources vary depending on the municipality and school (Jahnukainen, Kontu, Thuneberg, & Vainikainen, 2015). Thus, it is probable that great variability exists in the delivery of well-being services between individual schools.

## Depression

Depressive symptoms are severe health problems that affect social functioning, academic performance, and quality of life (Cicchetti & Toth, 1998; Miller, 2007). Only about 4% of U.S. children under 12 years of age suffer from depressive symptoms (e.g. Angold & Rutter, 1992), but their prevalence rises with the onset of puberty; indeed, 5–15% of adolescents suffer from moderate to severe depressive disorders (Brooks-Gunn & Petersen, 1991).

Factors associated with depression among boys and girls may differ, and adolescent girls are affected more often than boys (Colarossi & Eccles, 2003; Nolen-Hoeksema & Girgus, 1994; Rueger, Malecki, & Demaray, 2010; Slavin & Rainer, 1990; Wichstrom, 1999). An abundance of literature demonstrates that the psychobiological changes of puberty increase the risk of depression among girls (e.g. Angold, Costello, Erkanli, & Worthman, 1999).

Research repeatedly shows that loneliness and a lack of social skills are linked to depression (Nangle et al., 2003; Segrin et al., 2007). Both traditional and cyberbullying

are undoubtedly associated with an increase in depressive symptoms (Aoyama et al., 2011; Hawker & Boulton, 2000; Tokunaga, 2010; Ybarra, 2004) and an elevated risk of suicide (Hinduja & Patchin, 2010). Furthermore, as Ybarra (2004) described, youth with already depressed moods are in greater danger of becoming bullied. For example, such youth may interpret messages negatively because of low expectations and social incompetence. Thus, a mutually underlying factor may be confounding the association between bullying and depression (Ybarra, 2004; Yehuda, 2005).

## Hypotheses

The present study focuses on associations between different bullying experiences as well as both happiness and depression. Happiness and depression, though highly interrelated, are not two sides of the same coin. As Cheng and Furnham (2003; see also Keyes, 2002) have shown, happiness and depression are predicted by partly different factors, factors which need not correlate with each other. However, social relationships serve very basic human needs and form a crucial foundation for well-being. Thus, we hypothesize that all kinds of bullying experiences are connected to a decrease in overall happiness, and especially in school-related happiness, as well as to an increase in depression. We also hypothesize that experiences of traditional bullying, cyberbullying or both predict levels of global happiness, school-related happiness, and depression in distinct ways, and that the accumulation of bullying experiences predicts the lowest level of psychological well-being. Furthermore, we hypothesize that gender differences appear in the frequencies and associations of different bullying experiences.

## Methods

### *Participants and data collection*

The participants were sixth graders in a city of about 83,000 inhabitants in western Finland. Students in the sixth grade are finishing primary school, and the data were collected before the major transition to junior high school. This city was chosen because of its homogeneous population: only about 1% of the population has an immigrant background (about 99% are Caucasians). Moreover, the socio-economic backgrounds of the inhabitants span a large spectrum that presumably represents the whole of Finland satisfactorily well. The educational authorities of the city evaluated the ethics of the study and then delivered questionnaires to every public primary elementary school in the city, with the exception of special education schools and classes. All the other 11 schools in the city participated in the study. Parents were thoroughly informed about the study, and students had the right to withdraw from the study at any time. No family refused to participate, and only one family wanted to obtain more information about the study.

Of a total of 779 sixth graders in the city, 742 (95.3%) participated in the study. Five questionnaires were rejected because more than 90% of the values were missing on the Subjective Happiness Scale (SHS) and the Children's Depression Inventory (CDI; see below), making the final number of participants 737 ( $M = 12.10$  years old; 50.8% female).

The students were surveyed in classrooms during a 45-minute morning lesson during one week in January 2009. The survey instructions were read to the students and

assistance was offered if there was difficulty in understanding the questionnaire items. Definitions of bullying and cyberbullying were given according to Olweus (1999) and Patchin and Hinduja (2006), respectively. Teachers trained in the task instructed participants in a standardized way.

## Questionnaires

The children anonymously completed several questionnaires concerning traditional bullying, cyberbullying, global happiness, school-related happiness, and depression. The whole battery of questions also included inquiries about relationships with other people and experiences of violence. These data are reported elsewhere (Uusitalo-Malmivaara, 2013).

Traditional bullying was examined with a question developed by Järventie (1999), which simply asked whether other children bullied the respondent, the choices being never, sometimes or almost every day. The scale ranged from 0 to 2. The question concerning traditional bullying followed items probing depression (CDI) in a manner similar to that of other CDI items (see below).

The following five questions, taken from a study by Ellonen, Kääriäinen, Salmi, and Sariola (2008), probed cyberbullying: during the past 12 months, has anyone (1) bullied or mocked you in text messages (short message service or SMS), (2) sent you threatening messages by phone (calls and SMS), (3) harassed you sexually with phone messages (calls and SMS), (4) gossiped or written bad things about you on the Internet, and (4) posted a revealing photo of you against your will on the Internet? The answer options were 'no/yes', and 'if yes, how many times?'

The SHS is a four-item survey that aims to measure overall happiness (Lyubomirsky & Lepper, 1999). The first item asks respondents to characterize their happiness using absolute ratings ('In general, I consider myself: not a very happy person – a very happy person'), and the second seeks ratings relative to their peers. The third item asks respondents to compare their happiness to very happy individuals, and the fourth asks them to compare their happiness to very unhappy individuals. A limitation of SHS is that it only engages with conscious experience and does not analyze unconscious levels of pain, unhappiness or other types of ill-being. The response format is a 7-point Likert scale, and a single composite score is computed by averaging the responses to the four items, the fourth item being reverse coded (ranges 1–7). The average scores for the scale range from 4.5 and 5.5. The Finnish version of the scale has been used in two previous studies (Uusitalo-Malmivaara, 2012; Uusitalo-Malmivaara et al., 2012), and its internal consistency was good, with Cronbach's  $\alpha$  of between .72 and .78. In the current study, Cronbach's  $\alpha$  was .72.

The School Children's Happiness Inventory (SCHH) is a questionnaire developed specifically to assess happiness in 8–15-year-old children and youth concurrently with measures of being bullied (Ivens, 2007). The SCHH offers simple response options, with 15 positive and 15 negative items on subjective well-being (SWB) (e.g. 'I felt relaxed' or 'I wanted to give up'). Participants are asked to rate their thoughts and feelings during the past week at school. Each response to each SCHH item is scored from 1 to 4, with 4 indicating a high level of happiness. Half of the items are reverse coded to yield a total SWB. The composite score is calculated by averaging all the items. In a previous study, we successfully used a shortened 25-item Finnish version of the inventory (Uusitalo-Malmivaara, 2012)



with a Cronbach's  $\alpha$  of .90. We also used this shortened version in the present study. Cronbach's  $\alpha$  was .90, again. The average scores of the measures ranged from 3.12 to 3.30 in previous studies (Uusitalo-Malmivaara, 2012, 2014; Uusitalo-Malmivaara et al., 2012).

The CDI is a widely used, reliable, and well-validated self-reported measure of depressive symptoms in children aged 7 to 17 (Almqvist, Tuompo-Johansson, Panelius, Aronen, & Kairemo, 1991; Kovacs, 1981, 1992). Each of the 27 items of the CDI is scored according to one of the following alternatives: 0 = absence of the symptom, 1 = moderate symptom, and 2 = severe symptom. For example, *I am sad once in a while* (0), *I am sad many times* (1), *I am sad all the time* (2). Cronbach's  $\alpha$  for the scale in the present study was .89.

### Statistical procedure

The question concerning traditional bullying had six missing values, and the questions concerning cyberbullying had 14 missing values. These data were omitted from the study. Of the 737 study participants, only 20 failed to answer every question of the SHS. Of these, 10 were rejected because of two or more missing values, but 10 (with only one missing value) were included in the study without imputation, yielding a final number of 727 respondents. In the SCHI, there were missing values for 195 of the respondents, five of whom were removed due to their returning nearly blank questionnaires, while 190 were imputed, yielding a final number of 732 respondents. Imputation was carried out by dividing the mean values of the entire inventory into quartiles and imputing every missing value by the mean of its own quartile (Tabachnick & Fidell, 2007). In the CDI, there were missing values for 51 respondents. Five of them were rejected because of their returning completely blank questionnaires, while 46 were imputed in the manner described above. Both the participants and the items with missing values were random.

Statistical analyses were performed using PASW 18 (Predictive Analytics SoftWare, previously SPSS). First, bullying frequencies were calculated and gender differences in bullying experiences were analyzed using cross-tabulation. Associations between bullying experiences and depression and the two happiness measures were determined using a one-way ANOVA with Dunnett's T3 *post hoc* analysis. Finally, Pearson correlations were calculated for depression and happiness measures in different victim groups.

## Results

### Frequencies of bullying and cyberbullying victimization

The frequencies of being traditionally bullied sometimes and almost daily were 26.4% (91 girls and 103 boys) and 4.3% (15 girls and 17 boys), respectively. Thus, the total frequency of being traditionally bullied was 30.7% (106 girls and 120 boys).

Cyber-victimization was less common than traditional bullying. 18.9% of all participants had been bullied or mocked with text messages (8.2% two or more times), 13.5% had been the target of gossip or disparaging comments on the Internet (3.7% two or more times), and 7.7% (56 students) had experienced both forms of cyberbullying (1.6% two or more times). Together, 24.7% of all participants had been insulted in text messages or on the Internet, and 10.3% had experienced such insults more than once. Other forms of cyberbullying were far less frequent, and more than 99.9% of the victims of these forms of

**Table 1.** Frequencies of being cyberbullied and gender differences.

	Never		Once		Two or more times		Rate not reported		Significance test	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	$\chi^2(3)$	$p$
Has anyone:										
Bullied you in a text message	287	304	19	11	38	21	32	17	11.40	<.05
Threatened you by phone	364	336	2	3	5	4	3	6	1.57	>.05
Sent sexually harassing messages to you by phone	365	339	3	2	4	5	2	5	1.83	>.05
Insulted you on the Internet	309	318	24	12	21	6	21	14	13.02	<.01
Posted a revealing photo of you on the Internet	373	349	–	1	–	–	1	–	–	–

Note:  $N = 723-729$ .

cyberbullying were also the victims of text message and Internet bullying or had experienced these other forms of insult only once (Table 1).

A large proportion of those who indicated having received insulting text messages or having been the target of gossip or disparaging comments on the Internet failed to mention the rate of these incidences. However, it is reasonable to assume that many of these subjects had been victimized via ICT more than once. In distinguishing the group of cyberbullied in the current study, we took into account the definition of cyberbullying as a potentially repetitive phenomenon even after a rare occurrence (Patchin & Hinduja, 2006; Vandebosch & van Cleemput, 2009). Thus, we categorize those who were bullied at least twice with text messages or on the Internet or both and those who failed to mention the rate of being bullied in text messages or on the Internet or both as *victims of cyberbullying*;  $n = 133$ , 18.1% (82 girls, 21.8% and 51 boys, 14.4%). Of these, 37 (30 girls and 7 boys) were victims of both recurrent text message and recurrent Internet bullying. The girls in our study were victims of cyberbullying more often than were the boys,  $\chi^2(1) = 6.70$ ,  $p < .05$  (Table 1).

Of the victims of traditional bullying, 35.8% were also cyberbullied. Thus, there were three kinds of victims: those who were bullied in the traditional way (*only those who were traditionally victimized*, 63 girls and 82 boys), those who were *only cyberbullied* (39 girls and 13 boys), and those who were bullied in both ways (*the poly-victimized*, 43 girls and 38 boys). Of all the cyberbullied, boys were poly-victimized more often than girls,  $\chi^2(1) = 6.43$ ,  $p < .05$ . However, we found no gender differences in the rate of poly-victimization ( $p > .05$ ) for those who were traditionally bullied.

### **Experiences of global happiness, school-related happiness, and depression**

Table 2 shows the descriptive statistics for overall happiness, school-related happiness, and depression divided by the three victim groups. The one-way ANOVA revealed a difference in global happiness,  $F(3, 713) = 13.54$ ,  $p < .001$ , in school-related happiness,  $F(3, 731) = 38.83$ ,  $p < .001$ , and in depression  $F(3, 731) = 60.02$ ,  $p < .001$ . *Post hoc* tests (Dunnett's T3) indicated that non-victims differed from all other groups in overall happiness, school-related happiness, and depression. Moreover, poly-victims differed from those who were only traditionally bullied in school-related happiness and depression. Separate examination by gender revealed some differences. In the girls, the results of the analyses of variance resembled those obtained from the whole sample. The boys, however, showed no

**Table 2.** Descriptives of global happiness (SHS), school-related happiness (SCHI), and depression (CDI) in different victim groups and non-victims.

	M (SD)			
	Traditional victims ( <i>n</i> = 141–145)	Cyber-victims ( <i>n</i> = 51–52)	Poly-victims ( <i>n</i> = 78–81)	Non-victims ( <i>n</i> = 444–455)
SHS	5.05 (.93)	5.07 (.88)	4.97 (.93)	5.45 (.81)
SCHI	3.20 (.44)	3.12 (.49)	2.93 (.59)	3.41 (.36)
CDI	10.24 (7.15)	12.17 (7.82)	14.68 (9.00)	6.07 (4.88)

difference in overall happiness between non-victims ( $M_{\text{boys}} = 5.44$ ,  $SD_{\text{boys}} = .80$ ) and those who were only cyberbullied ( $M_{\text{boys}} = 5.40$ ,  $SD_{\text{boys}} = .78$ ). In the group of those who were only cyberbullied, the girls scored lower than the boys in global happiness ( $M_{\text{girls}} = 4.96$ ,  $SD_{\text{girls}} = .90$ ;  $M_{\text{boys}} = 5.40$ ,  $SD_{\text{boys}} = .78$ ). The difference, however, was below the level of statistical significance,  $p > .05$ .

### Correlations between overall happiness, school-related happiness, and depression

Among the participants ( $n = 711$ – $729$ ), the Pearson correlation coefficient between overall happiness (SHS) and school-related happiness (SCHI) was  $.53$ ,  $p < .001$ , between overall happiness and depression (CDI)  $-.60$ ,  $p < .001$  and between school-related happiness and depression  $-.71$ ,  $p < .001$ . Table 3 shows the correlations between the SHS, SCHI, and CDI among non-victims and poly-victims. Table 4 shows the correlations between the SHS, SCHI, and CDI among those who were only traditionally bullied and those who were cyberbullied.

In all cases, the correlations between the SHS, SCHI, and CDI not only reached a high level of statistical significance but were also stronger in the groups of the bullied than among the non-victims, the highest correlations occurring among the poly-victims.

## Discussion

This study examined the associations between different bullying experiences and general happiness, school-related happiness and depression among more than 700 12-year-old Finnish students. Nearly one in three reported being traditionally bullied sometimes or almost daily, less than one in five reported experiencing recurrent cyberbullying and about one in 10 reported experiencing both forms. These numbers are in line with the results of recent studies on both traditional bullying and cyberbullying experiences among Finnish 12-year-olds (Aarnio & Multisilta, 2012; Ellonen et al., 2008). Consistent with some previous findings is also the more frequent cyber-victimization of girls over

**Table 3.** Correlations between measures of global happiness (SHS), school-related happiness (SCHI), and depression (CDI) among non-victims (below the diagonal) and poly-victims (above the diagonal).

	SHS	SCHI	CDI
SHS	1	.61***	.67***
SCHI	.43***	1	-.73***
CDI	-.54***	-.56***	1

Note: \*\*\* $p < .001$ .

**Table 4.** Correlations between measures of global happiness (SHS), school-related happiness (SCHI), and depression (CDI) among those who were only traditionally victimized (below the diagonal) and cyber-victims (above the diagonal).

	SHS	SCHI	CDI
SHS	1	.63***	-.51***
SCHI	.55***	1	-.77***
CDI	-.63***	-.70***	1

Note: \*\*\* $p < .001$ .

that of boys (DeHue et al., 2008; Li, 2007; Tokunaga, 2010; Ybarra & Mitchell, 2008). Although Tokunaga's meta-analysis (2010) showed no gender differences in total cyber-victimization rates, the bias, if any, leans towards the overrepresentation of girls. In our study, one question examined traditional bullying without distinguishing between physical or psychological forms of bullying and revealed no gender differences. However, those boys who were cyberbullied were also more likely to be victims of traditional bullying compared to cyberbullied girls. Thus, being *only* cyberbullied seems to be more prominent among girls. This finding is interesting and perhaps reflects the indirect and more hidden nature of bullying behavior in girls, discovered already by Lagerspetz et al. (1988). Another interpretation is that girls more often than boys view rough commenting as bullying behavior and perhaps not as 'jokes'. Thus, the social code in what is considered appropriate in the cyberworld may be different among boys and girls.

In the cyberworld, bullying seemed to occur via messages written on mobile phones and on the Internet. Threats and sexual harassment via mobile phone were rare; only two participants reported others uploading revealing photos of them on the Internet against their will. In many cases, the rate of insults via text messages or Internet were not mentioned. We interpret this as a sign of one's inability or even unwillingness to remember all the occurrences over the course of a year. As Aarnio and Multisilta (2012) have shown, nasty commenting is considered a built-in component of participation in social media, and to some extent, this seems broadly accepted. Those who very actively use mobile phone applications and Internet chat rooms probably do not count all the negative comments they receive. This does not, however, mean that these insults do not affect them.

As hypothesized, all bullying experiences were significantly associated with a decrease in happiness (see also Navarro, Ruiz-Oliva, Larrañaga, & Yubero, 2013) and an increase in depression. The differences between the victim groups and the non-victims were greater in school-related happiness and depression than in general happiness. This trend most likely occurs because the scales used to measure school-related happiness and depression focus more on peer relations and social behavior than does the global happiness scale. The correlations between measures of global happiness, school-related happiness, and depression seemed strongest among the poly-victimized. This phenomenon could indicate that as the bullying becomes more intense, all measures are affected, including general happiness. However, the opposite may also be true: those already low in general happiness (and high in depression) may be more susceptible to victimization, which in turn affects their school-related happiness. Evidence suggests that happy individuals make friends easily, and friendships further contribute to their happiness (Holder & Coleman, 2009; Lyubomirsky, King, & Diener, 2005). Accordingly, the behavior of

depressed children may be maladaptive, causing others to reject or even to bully them (Coyne, 1976).

The non-victims differed from all the victim groups in all three measures. Furthermore, poly-victimized scored significantly lower in school-related happiness and higher in depression than those who were only traditionally victimized. Those who were only cyber-victimized seemed more depressed than those who were only traditionally victimized, but the difference did not reach statistical significance. Being victimized both in the real world and the cyberworld most clearly predicted higher depression and lower happiness in the school context, but also lower general global happiness. Studies have shown that poly-victimization, or experiencing violence in multiple surroundings, is strongly associated with symptoms of trauma (Finkelhor et al., 2007; Turner et al., 2006). Our results on bullying in different contexts are in line with these and other findings on the possible traumatizing consequences of both traditional and cyberbullying (Gradinger et al., 2009; Hinduja & Patchin, 2010).

Among the boys, we found no differences in global happiness between those who were only cyberbullied and non-victims. Perhaps the insults in the cyberworld were less severe or the boys did not take them seriously enough to affect global happiness. Some researchers have suggested that girls and boys react differently to bullying (e.g. Bond et al., 2001; Salmivalli, Karhunen, & Lagerspetz, 1996). A study by Bond et al. (2001) showed that victimization significantly affected the mental health status of young adolescent girls, but not that of boys. In the current study, however, the differences in the psychological well-being of the girl and boy victims were small.

This study does have certain limitations. First, all participants who reported having experienced traditional bullying sometimes or almost every day were included in a single group. Consequently, the rate and severity of their bullying experiences vary widely. Furthermore, only one question inquired about traditional bullying. Second, definitions of cyberbullying vary, especially in requiring the nature of aggressive acts to be repetitive (Patchin & Hinduja, 2006; Vandebosch & van Cleemput, 2009). We categorized those who were cyberbullied at least twice or who did not mention the rate as the cyberbullied. Thus, this group may also include those who were cyberbullied only once. Third, this study did not examine participants' involvement in bullying processes as bullies. Previous research shows that bully-victims (those who bully and are bullied themselves) are the most vulnerable to psychobiological symptoms associated with bullying (Kaltiala-Heino et al., 2000; Swearer, Song, Cary, Eagle, & Mickelson, 2001; Veenstra et al., 2005). This pattern is further complicated by the possibly different roles the participants play in traditional and cyberbullying (e.g. Ybarra & Mitchell, 2004). Thus, the results obtained here reveal only some of the associations between psychological well-being and bullying processes. Fourth, this study did not explore the students' overall usage of mobile phones and the Internet. Because both heavy and risky usage of ICT predict cyber-victimization (Juvonen & Gross, 2008; Patchin & Hinduja, 2006; Vandebosch & van Cleemput, 2009), exploring such cyber behavior thoroughly would shed light on the dangers inherent in it. Fifth, the current study is cross-sectional and based on self-reports given by 12-year-olds from one homogenous area. Thus, causal relationships between well-being measures and bullying experiences cannot be inferred, and results should be generalized to other populations with caution.

This large-scale study adds to previous research in several ways. It demonstrates that in Finland, both traditional bullying and cyberbullying are not only common, but are clearly associated with lower general happiness and school-related happiness as well as higher depression. Different forms of bullying co-occur and are connected to a heightened risk of mental ill-being. Cyberworld seemed to be the scene where bullying reaches girls who otherwise are not bully-victims. Although anti-bullying programs (e.g. Ferguson, San Miguel, Kilburn, & Sanchez, 2007; Kärnä et al., 2011; Olweus, 1993) have been implemented, great variability probably exists in their provision between individual municipalities and schools (Jahnukainen et al., 2015). More needs to be done to prevent repeated peer violence. This is particularly noteworthy in the cyberworld, where offensive comments, denigrating pictures and other forms of aggressive acts are easily propagated and accessible to an enormous audience.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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