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Cyberbullying and subjective health
A large-scale study of students in Stockholm, Sweden

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ABSTRACT

The increase in the use of mobile phones and the Internet has given rise to new opportunities for people to meet and communicate. However, there are also dark sides to these new forms of communication. One of these is cyberbullying, i.e. bullying via mobile phone and the Internet. Given that cyberbullying is a relatively new phenomenon, empirical knowledge is still limited and particularly so in Sweden, which in international comparison has reported low rates of bullying in general. The aim of the study is to investigate: 1) the prevalence of cyberbullying among students in Stockholm, Sweden; 2) the overlap between cyberbullying and traditional forms of school bullying, and 3) the association between the experience of cyberbullying and subjective health. The study uses the Stockholm School Survey of 2008 which is a total population survey of students in grade 9 of compulsory school (i.e. aged 15–16) and in the second year of upper secondary school (i.e. aged 17–18) in Stockholm and eighteen of its surrounding municipalities (N=22,544). About 5% of the students are victims of cyberbullying, 4% are perpetrators, and 2% are both victims and perpetrators. There is some overlap between cyberbullying and traditional bullying: those who are victims of traditional bullying are at increased risk of also being victims of cyberbullying; while being a traditional bully is strongly associated with the likelihood of also being a cyberbully. However, many students who are involved in cyberbullying are not involved in traditional bullying. OLS regression analyses show that being a victim of cyberbullying remains associated with worse subjective health when being the victim of traditional bullying and socioeconomic factors are taken into account. In addition, perpetrators of cyberbullying as well as students who are both victims and bullies, have worse subjective health than those who are not involved in cyberbullying.

1. Introduction

The sharp increase in the use of mobile phones and the Internet in recent decades has given rise to new opportunities for people to meet and communicate. This applies also, and perhaps especially, to children and young people. It is therefore important to gain a better understanding of what communication via computers and mobile phones means for children's and young people's lives. It is perhaps particularly important to study negative phenomena such as the incidence of bullying through the Internet and mobile phones. The purpose of this study is to investigate the occurrence of cyberbullying – i.e. bullying via the Internet and mobile phone – among students in Stockholm and to examine how involvement in cyberbullying is related to traditional forms of bullying as well as to subjective health. Given that cyberbullying is a relatively new phenomenon, empirical knowledge is still limited. This is the case in particular for Sweden, a country which in international comparison has reported low rates

of bullying in general (Craig et al., 2009; Due et al., 2005). At the same time it is a country in which many children and young people have their own mobile phones and computers. Among 13–15-year olds, 100% of girls and 97% of boys have their own mobile phone, while 70% of girls and 75% of boys have their own computer. Among 16–18-year olds, 100% of girls and 99% of boys have their own mobile phone, and 82% of girls and 86% of boys have their own computer (Statistics Sweden, 2012).

1.1. Background and previous research

Bullying in schools is a serious problem in many countries, including Sweden, because it is an exceptionally hard experience for the individuals involved. A commonly used definition of bullying was formulated by Dan Olweus: "A person is bullied when he or she, repeatedly and over time, becomes a victim of negative actions from one or more persons" (Olweus, 1991, p. 4; our translation). A negative action means that one person tries to harm or discomfort another person. This can occur through words (e.g. threatening, taunting), physical contact (e.g. hitting, pushing, holding), or other actions (e.g. grimaces, gestures, turning one's back on the person). Olweus (1991) distinguishes between direct and indirect bullying: the former

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includes physical actions, threats and verbal harassments, and the latter involves ostracism and ignoring. Bullying can take place in "face-to-face" interactions but also via mobile phones and the Internet. In the present paper, "face-to-face" forms of bullying, which may include both direct and indirect bullying, are called traditional bullying, while bullying via mobile phones and the Internet is defined as cyberbullying.

Bullying is linked to reduced well-being among both victims and bullies and has been demonstrated to have short- and long-term effects (see review by Stassen Berger, 2007). Bullying at school also has consequences for other individuals than those directly involved. The incidence of bullying has been shown to be associated with an increased risk of ill-health for all students in the class and not just for the victims and the bullies (Modin & Östberg, 2009). However, while there is an immense international body of literature on bullying, still relatively little is known about cyberbullying.

It is important to learn more about cyberbullying since it differs from traditional forms of bullying in several respects. Slonje and Smith (2008) list a number of issues specific to cyberbullying. First, those who are exposed to cyberbullying are never and nowhere free from the risk of being bullied. A participant in the focus group study on cyberbullying conducted by Mishna, Saini, and Solomon (2009, p. 1224) described this as "non-stop bullying", in other words, bullying that occurs even in one's own bedroom where one expects to feel safe. Second, cyberbullying quickly reaches a larger "audience" than traditional school bullying. Third, unlike traditional bullying the perpetrators can remain anonymous. One effect of this may be that the negative consequences for the victim may be less obvious to the bully (Slonje & Smith, 2008). Anonymity or perceived anonymity also emerged as important in the focus group study by Mishna et al. (2009), where participants claimed that anonymity makes people behave in ways which would not otherwise be accepted. Nevertheless, in many cases the perpetrators seem to be known by the victims, something that is also acknowledged by the focus group participants (ibid.). From their U.S. web-based survey of 12–17-year olds, Juvonen and Gross (2008) conclude that 73% of the cyberbullying victims knew who the perpetrators were. In a U.S. study of nearly 4000 middle school students, about half of the cyberbullying victims knew the identity of the perpetrators (although 48% did not know who had cyberbullied them) (Kowalski & Limber, 2007). Another feature of cyberbullying is that it tends to be invisible to adults (although this is often the case with traditional bullying too). It is common that young people do not tell adults that they are being cyberbullied (Juvonen & Gross, 2008; Li, 2007; Mishna et al., 2009; Slonje & Smith, 2008; Smith et al., 2008). One reason for not telling adults is the fear that one's computer privileges will be restricted (Juvonen & Gross, 2008; Mishna et al., 2009). A participant in the focus group study by Mishna et al. (2009) stated that "parents and other adults don't get how it is nowadays" (p. 1225), and, as argued by Juvonen and Gross (2008), the generation gap in the understanding and use of new communication technologies does indeed make it difficult for young people to ask adults for help and support when cyberbullying occurs.

As reviewed by Mishna et al. (2009), in earlier studies the prevalence rates of involvement in cyberbullying, either as victim or perpetrator, typically range between about 10 and 35%, though some studies report substantially higher rates. One reason for the differing rates is probably the different operationalizations of cyberbullying. Previous results are also inconclusive as to whether the prevalence of cyberbullying differs between the sexes: some studies report few or no gender differences (e.g. Hinduja & Patchin, 2008; Juvonen & Gross, 2008; Slonje & Smith, 2008), whereas others report that girls are more likely to be cybervictims (e.g. Schneider, O'Donnell, Stueve, & Coulter, 2012; Sengupta & Chaudhuri, 2011; Sourander et al., 2010) and cyberbully-victims (Kowalski & Limber, 2007; Mishna, Khoury-Kassabri, Gadalla, & Daciuk, 2012), while it is more likely for boys than girls to be cyberbullies (Li, 2006; Sourander et al., 2010).

Neither do studies reveal any consistent pattern of differences by age, although traditional forms of school bullying have been shown to be more common in younger ages (Due et al., 2005). While exposure to traditional forms of school bullying is also generally found to be more prevalent among children from single-parent (Jablonska & Lindberg, 2007) as well as socioeconomically disadvantaged households (Due et al., 2009), the corresponding variation in relation to cyberbullying remains largely unexamined. Concerning the role of migration background, research is inconclusive in regard to traditional bullying (Fandrem, Strohmeier, & Roland, 2009; Hjern, 2012; Peguero, 2008) and very limited when it comes to cyberbullying, once again suggesting that more studies are needed in this field.

Where the association between cyberbullying and other forms of bullying is concerned, earlier studies suggest that there is at least some overlap (Beran & Li, 2007; Hinduja & Patchin, 2008; Juvonen & Gross, 2008; Mishna et al., 2012; Raskauskas & Stoltz, 2007; Schneider et al., 2012; Smith et al., 2008; Sourander et al., 2010; Ybarra, Diener-West, & Leaf, 2007). The extent of the overlap, however, differs substantially from one study to another. For instance, Raskauskas and Stoltz (2007) find that 85% of cyberbullying victims were also victims of traditional bullying, and that 94% of cyberbullies were also traditional bullies. In contrast, Ybarra et al. (2007) conclude that 64% of the victims of cyberbullying did not report being bullied at school.

So far, only a few studies have described how cyberbullying is related to health outcomes. These studies reveal a clear link between cyberbullying and poor health. A U.S. study of adolescents between 10 and 17 years found that exposure to violations on the Internet is related to depressive symptoms (Ybarra, 2004); a study based on data from the U.S. part of the WHO project Health Behaviour in School-aged Children (HBSC) shows that exposure to cyberbullying is related to a higher rate of depressive symptoms (Wang, Nansel, & Iannotti, 2011). In their study of more than 20,000 high school students in Massachusetts, Schneider et al. (2012) find that being cyberbullied is associated with various forms of psychological distress such as depression, self-injury and suicidality. A Finnish study of adolescents between the ages of 13 and 16 demonstrates that victims of cyberbullying, cyberbullies and those who are both cyberbullies and victims are all at increased risk of psychosomatic and psychiatric problems (Sourander et al., 2010). Given the fact that those who are both perpetrators and victims of traditional bullying run a particularly high risk of reporting psychosocial difficulties (Haynie et al., 2001), further research about children who are both victims and perpetrators of cyberbullying has been called for (Mishna et al., 2012).

1.2. Aim of the study

The aim of the study is threefold. The first aim is to study the prevalence of cyberbullying among students in Stockholm. The study focuses on the ninth (final) grade of compulsory school (ages 15–16), and the second year of upper secondary school (ages 17–18). Three categories are studied in relation to those who are not involved in cyberbullying at all: victims, perpetrators, and those who are both victims and perpetrators (cf. Mishna et al., 2012). Differences in cyberbullying involvement by gender, grade, and socioeconomic background characteristics are analysed. The second aim is to study the overlap and the association between involvement in cyberbullying and in traditional forms of school bullying. The third aim is to assess the association between involvement in cyberbullying and subjective health.

2. Methodology

2.1. Data

The data come from the Stockholm School Survey of 2008. This is a total sample of students in the ninth grade of compulsory school and