

English summary

The research in this dissertation is about how victims of bullying behavior become cyberbullies. Cyberbullying, also known as online bullying, is bullying via digital media, using a computer or smartphone. For example, when a girl is called names on Twitter or Facebook or when a boy is being beaten up, which is filmed and then put on YouTube (this is called *happy slapping*). Another example is when a girl sends her boyfriend, who she trusts, a nude picture of herself, which he puts online when they break up. According to research, between 10 and 40% of adolescents have ever been a victim of cyberbullying behavior (Kowalski, Giumetti, Schroeder, & Lattanner, 2014) and on average 17% of adolescents have performed an act of cyberbullying themselves (Hinduja & Patchin, 2012; Modecki et al., 2014). Furthermore, one in three adolescents have been witness to another person being cyberbullied (Jones, Mitchell, & Turner, 2015; Van Cleemput, Vandebosch, & Pabian, 2014).

There is a strong relation between offline (or traditional) bullying and online (or cyber-) bullying (see for example Wong, Chan, & Cheng, 2014 and Wright & Li, 2012). For example, studies show that adolescents who are being bullied offline are also victimized online (Kowalski et al., 2014; Modecki et al., 2014; Slonje et al., 2013). Furthermore, some adolescents who are being bullied on the schoolyard or in the classroom become cyberbullies themselves (Ak, Özdemir, & Kuzucu, 2015; Kowalski, Morgan, & Limber, 2012; Wong, Chan, & Cheng, 2014; Wright & Li, 2012, 2013; Yilmaz, 2011). This is remarkable, because one would think that victims know how hurtful bullying can be and would not want others to experience this. The aim of the research in this dissertation is to find out why some bullied adolescents become cyberbullies.

This dissertation adds to the scientific literature by examining which processes underlie the relationship between being bullied and becoming a cyberbully. Many studies on cyberbullying behavior have been descriptive in nature (for example: how often does cyberbullying occur? Do boys cyberbully more than girls? See the introduction of this dissertation, **chapter 1**). However, not many theories on cyberbullying behavior exist. In this dissertation, we started to fill this gap in the literature by developing and testing a theoretical model of the underlying processes in cyberbullying behavior. With this model, we aim to answer the important question of why bullied adolescents become cyberbullies.

Based on the findings of former research, we formulated a theoretical model, named the *Cyclic Process Model*. With the *Cyclic Process Model*, we propose that the relationship between being bullied (also called victimization) and becoming a cyberbully can be partly explained by two factors; behavior triggered by anger and the adolescents' use of media (see Figure 1).

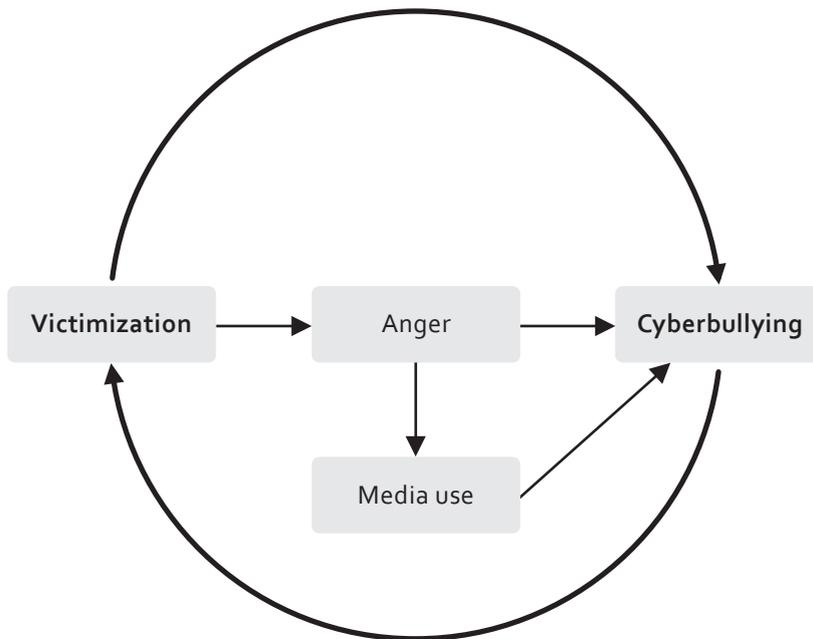


Figure 1. The Cyclic Process Model

Being bullied causes anger and frustration (Hay et al., 2010; Lonigro et al., 2014; Ortega, Elipe, Mora-Merchán, Calmaestra, & Vega, 2009). These negative emotions stimulate an adolescent to showcase cyberbullying behavior (Gradinger, Strohmeier, Schiller, Stefanek, & Spiel, 2012; Lonigro et al., 2014; Patchin & Hinduja, 2010). We therefore propose that victimized adolescents experience heightened levels of anger and frustration, which subsequently leads to increased cyberbullying scores. In addition, we propose that adolescents' media use plays an important role in this process. Angry adolescents experience an increased interest in media in which antisocial, risky and norm-crossing behaviors are portrayed, which causes the adolescent to

lower his or her moral judgment of antisocial behaviors (for example Plaisier & Konijn, 2013). We argue that bullied adolescents, triggered by anger, will show increased use of media in which antisocial behavior is shown (such as fighting, swearing, or substance abuse). Also, we hypothesize that using this type of media content will stimulate the adolescents to perform antisocial or norm-crossing behavior themselves, such as cyberbullying behavior. This hypothesis is based on the *Social Cognitive Theory* (Bandura, 2001) and the *Downward Spiral Model* (Slater et al., 2003), which both propose that individuals copy behavior they see in the media. The results of this research, as described in this dissertation, confirmed our assumptions and showed that bullied adolescents cyberbully others because they are angry and this effect is even stronger when these adolescents regularly watch media in which antisocial behavior is portrayed. These adolescents get caught up in a cyclic process, because cyberbullies often become victims again. In the following, we will describe the studies we conducted to test the *Cyclic Process Model*.

Before testing the *Cyclic Process Model*, we first developed an instrument that measures how often an adolescent uses media in which antisocial and risk behavior is portrayed. In **chapter 2** of this dissertation, the development and validation of this instrument is evaluated. Most instruments that measure media use can be divided into two categories: instruments that measure the frequency of media use and instruments that measure the content of what people watch in the media. However, it is not sufficient to know how often an adolescent uses the Internet: it is imperative to know the content of this adolescents' Internet use, next to the frequency. We developed the Content-based Media Exposure Scale (C-ME), which measures both the frequency and the content of media use. The C-ME was elaborately tested among more than 2000 adolescents and the instrument showed to be both reliable and valid. By using the C-ME, we were able to measure how often adolescents used media in which antisocial, risky and norm-crossing behaviors are portrayed.

In order to test the *Cyclic Process Model*, we conducted several studies. Firstly, we tested the model in a so-called cross-sectional study among 892 adolescents. The results of this cross-sectional study confirmed our assumptions about the *Cyclic Process Model* (see **chapter 3**). These results lead us to examine the causal relationships of the model. Therefore, we collected longitudinal data: spread over one year in secondary school, we followed 1005 adolescents and measured

on three time points how often they were being bullied, feeling angry, used media in which antisocial behaviors are portrayed, and cyberbullied others. The results of this study showed that victimized adolescents experienced higher levels of anger. This anger led them to use media in which antisocial behaviors are portrayed, which ultimately stimulated the adolescents to perform cyberbullying behavior (see **chapter 4**). Thus, both with the cross-sectional and longitudinal study, we found empirical support for the *Cyclic Process Model*.

Using the longitudinal data, we further examined the relationship between media use and cyberbullying. The results indicated that adolescents who often watch media in which antisocial, risky and norm-crossing behavior is portrayed, showcase more cyberbullying behavior than adolescents who do not often watch this type of media content. In addition, the cyberbullying behavior of adolescents who regularly watch this type of media content increased even more during a longer period of time (in this case, one school year: see **chapter 5**). These results underpin the important role of media use in adolescents' cyberbullying behavior.

After finding empirical evidence for the *Cyclic Process Model*, we examined whether all bullied adolescents experience these processes or that some bullied adolescents are more susceptible for these processes than others. We specifically investigated whether the way an adolescent deals with his/her anger affects the processes of the *Cyclic Process Model* (see **chapter 6**). In order to answer this question, we analyzed the longitudinal data. We found that adolescents who deal with their anger in a negative manner are more inclined to become cyberbullies than adolescents who positively regulate their anger. More specifically: adolescents who blame themselves (or others) or constantly think about the negative experience are more inclined to cyberbully than adolescents who try to accept or learn from the situation. This indicates the importance of teaching adolescents how to constructively cope with their anger.

A more detailed description of the conclusions can be found in **chapter 7**, in which the general conclusions are followed by the theoretical implications of this piece of research. A relevant theoretical implication of our findings is the important role emotions, in this case anger and frustration, play in cyberbullying behavior. Our research showed that bullied adolescents experience anger and triggered

by their anger, the adolescents encounter an increased attraction towards media with antisocial and risk behavior content. An important question is why these angry adolescents feel such an attraction towards this media content. Furthermore, the results of our studies demonstrated the impact of the use of media with antisocial and risk behavior content on cyberbullying behavior. Future research is warranted to examine whether the use of *prosocial* media content (such as media in which people help or comfort others, are in love, or work together) could possibly lower cyberbullying behavior. For instance, when an adolescent regularly watches media in which people do something positive for another, could these adolescents be less inclined to perform cyberbullying behavior and possibly even stand up for others who are being (cyber)bullied?

In chapter 7, we also discuss the methodological challenges we encountered during this study. An important limitation of our research is the way we measured perpetration of cyberbullying behavior. We used a self-report measurement instrument, consisting of eight items. These items varied from “How often do you send threatening or insulting messages by e-mail or cell phone?” to “How often do you hang humiliating images of classmates on the Internet?”. Despite the fact that we emphasized to the adolescents that their answers were anonymous and that it was important to answer honestly, we understand that it is difficult for an adolescent to admit that he or she cyberbullied someone. Possibly, social desirability in answering is a problem when measuring cyberbullying behavior. This could lead to an underestimation of the cyberbullying scores. This problem is discussed by many scholars involved in cyberbullying research (Dehue, Bolman, & Völlink, 2008; Gradinger, Strohmeier, Schiller, Stefanek, & Spiel, 2012; Kowalski & Limber, 2007; Schoffstall & Cohen, 2011; Walrave & Heirman, 2011). However, even under the circumstance of possible underestimations of the cyberbullying rates, we found empirical support for the *Cyclic Process Model*. This raises the question whether when measuring the “true scores” of cyberbullying, the effects would be even stronger.

Our research shows that victimized adolescents could get caught up in a cyclic process of being victimized, becoming a cyberbully and turn into a victim again. The main question that arises from these findings is how this cycle can be broken, and how intervention programs could help to achieve this. In chapter 7, several possibilities for intervention programs are discussed. For

instance, our research indicates that regulation of negative emotions such as anger plays a crucial role in cyberbullying behavior (see chapter 6). Adolescents who blame themselves or others, or constantly reminisce the stressful event, perform more cyberbullying behavior than adolescents who try to accept or learn from the situation. Following our findings, discouraging adolescents to apply negative emotion regulation strategies could possibly help to alter their tendency to perform cyberbullying behavior, and therefore help break the cycle. Future research is needed to test this assumption.

In the **Appendix** of the dissertation, the *Cyclic Process Model* is explained in brief and several recommendations for parents and educators are provided. One of these recommendations is to really listen to the adolescent and make sure that he or she feels safe. If your child becomes a victim of bullying, he/she will be more inclined to tell you what has happened if your child feels safe with you and feels he/she can talk with you openly. In addition, for schools, it is imperative to create a positive school climate, in which both staff and students feel positively about their school. A positive school climate showed to be crucial for adolescents well-being and can actually help in reducing cyberbullying rates (Hinduja & Patchin, 2012).

In sum, our research expands the understanding of the mechanisms underlying the relation between being bullied and becoming a cyberbully. The Cyclic Process Model describes how victimized adolescents experience negative emotions (i.e., anger and frustration) and by seeking relief in media with antisocial and risk behavior content, they risk to become cyberbullies themselves. This does not solve anything, since cyberbullies often become victims again. Furthermore, the findings underpin the alarming impact of exposure to media with antisocial and risk behavior content in this process. The Cyclic Process Model is the first to integrate media exposure into a theoretical model of cyberbullying, providing insight into the processes underlying cyberbullying and their evolvement over time. In this way, this research brings us one step further in our understanding of the minds of cyberbullies and victims, which in many cases might be one and the same mind.