

**This item is the archived peer-reviewed author-version of:**

An investigation of the effectiveness and determinants of seeking support among adolescent victims of cyberbullying

**Reference:**

Pabian Sara.- An investigation of the effectiveness and determinants of seeking support among adolescent victims of cyberbullying  
The social science journal / Western social science association - ISSN 0362-3319 - (2018), p. 1-12  
Full text (Publisher's DOI): <https://doi.org/10.1016/J.SOSCIJ.2018.09.011>  
To cite this reference: <https://hdl.handle.net/10067/1601810151162165141>

Please cite as:

Pabian, S. (2018). An investigation of the effectiveness and determinants of seeking support among adolescent victims of cyberbullying. *The Social Science Journal*.  
<https://doi.org/10.1016/j.soscij.2018.09.011>

## **An Investigation of the Effectiveness and Determinants of Seeking Support Among Adolescent Victims of Cyberbullying**

Sara Pabian<sup>a</sup>

<sup>a</sup>Research Foundation Flanders (FWO-Vlaanderen) associated with University of Antwerp, Department of Communication studies, Research Group MIOS (Media, ICT, and Interpersonal Relations in Organisations and Society), Sint-Jacobstraat 2, 2000 Antwerp, Belgium

E-mail: [Sara.pabian@uantwerpen.be](mailto:Sara.pabian@uantwerpen.be)

Funding information: This research was funded by the Research Foundation Flanders (FWO-Vlaanderen), grant number 12J8216N. The funding source has no involvement in the study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication.

Declaration of interest: None

Acknowledgement: The author wants to thank Prof. Dr. Heidi Vandebosch for her thoughtful insights with regard to the design of this study.

### Abstract

The purpose of this study is to investigate longitudinal associations between seeking social support and cyberbullying victimization and between seeking social support and internalizing problems. A two-wave panel study was conducted among 2,128 adolescents aged 10 to 17. A cross-lagged panel analysis among those adolescents who indicated being a victim at Time 1 ( $N = 234$ ) demonstrates that seeking support is associated with lower cyberbullying victimization six months later. However, this seems only true for seeking support from friends and not from parents or teachers. Furthermore, the model shows that adolescents who fear being negatively evaluated by peers are less inclined to seek support from friends, whereas adolescents with high self-esteem are less likely to seek support from parents and teachers. Implications and limitations are discussed.

*Keywords:* cyberbullying; victimization; coping; seeking support; effectiveness; determinants

An Investigation of the Effectiveness and Determinants of Seeking Support Among Adolescent  
Victims of Cyberbullying

### 1. Introduction

Cyberbullying, or bullying through computers or mobile phones, is a common phenomenon amongst adolescents (for an overview, see Kowalski, Giumetti, Schroeder, & Lattanner, 2014). Estimates of cyberbullying victimization among adolescents range between 10 and 40% (Kowalski et al., 2014). There is growing evidence that being a victim of cyberbullying can have a significant effect on one's mental health and well-being (Raskauskas & Huynh, 2015; Graham & Wood, 2018). Impacts seem to vary according to the form of cyberbullying (Sticca & Perren, 2013), individual characteristics of the victim (Dredge, Gleeson, & de la Piedad Garcia, 2014), and the coping strategies used (Völlink, Bolman, Eppingbroek, & Dehue, 2013). Coping refers to the cognitive and behavioral efforts that are employed to reduce, master, or tolerate internal and external demands that are consequences of stressful events (Lazarus & Folkman, 1984). Examples of coping strategies used by victims of cyberbullying include applying technical solutions (e.g., blocking contact or deleting harmful materials), confronting the bully (e.g., constructive contact or retaliation), ignoring the situation (e.g., doing nothing or avoidant behavior), mental coping (e.g., self-blaming), and seeking social support (e.g., telling a friend or teacher; Jacobs, Völlink, Dehue, & Lechner, 2015; Machmutow, Perren, Sticca, & Alsaker, 2012).

The effectiveness of victims' responses to cyberbullying have been evaluated in only a small number of studies. Based on cross-sectional and retrospective data resulting from asking former victims to reflect on their past involvement with cyberbullying and how they have coped with it, research has shown that some coping strategies are perceived as effective in terms of stopping or decreasing cyberbullying victimization (Hensler-McGinnis, 2008; Macháčková, Černá, Ševčíková, Dědková, & Daneback, 2013). For instance, limiting one's Internet use (Hensler-McGinnis, 2008), blocking the contact (deleting social networking profiles, changing profiles or phone numbers), and seeking support (Macháčková et al., 2013) have all been associated with decreased frequencies of victimization, whereas confronting the perpetrator (Hensler-McGinnis, 2008; Macháčková et al., 2013), retaliation, searching for advice online (Macháčková et al., 2013), avoidant behavior, and

being scared (Lodge & Frydenberg, 2007) have been found to be ineffective. Other studies have evaluated effectiveness in terms of buffering internalized problems and negative emotions (Lodge & Frydenberg, 2007; Machmutow et al., 2012; Vandoninck, d' Haenens, & Segers, 2012; Völlink et al., 2013). For instance, seeking support from peers and parents has been found to be effective in buffering depressive symptoms (Machmutow et al., 2012). On the other hand, victims of cyberbullying who use emotion-focused strategies, such as worrying excessively, blaming oneself, and keeping the bullying from others experience poorer well-being (Lodge & Frydenberg, 2007), more health complaints (Völlink et al., 2013), more depressive feelings (Machmutow et al., 2012; Völlink et al., 2013), lower self-efficacy, and more peer and conduct problems (Vandoninck et al., 2012).

Although these studies give first indications of the effectiveness of coping strategies, scholars note that longitudinal research is necessary, as this kind of examination can help depict true, unbiased effects of the use of specific coping strategies (Macháčkov et al., 2013; Machmutow et al., 2012; Nixon, 2014; Völlink et al., 2013). Specifically, a longitudinal design can help researchers understand whether lower levels of cyberbullying victimization or buffering mental health problems are really an outcome of using a certain strategy or a determinant of using the strategy.

Therefore, the present study investigates the effectiveness of coping strategies by making use of a short-term longitudinal model to examine bidirectional relationships between coping with cyberbullying and possible outcomes or determinants, namely frequencies of cyberbullying victimization and internalizing problems. The present paper focuses on one type of coping: seeking social support. This strategy is often recommended to victims of cyberbullying; however, longitudinal empirical evidence of its effectiveness is absent in the literature. In the present study, differentiations are made between seeking support from friends, parents, and teachers. Two internalizing aspects of mental health, self-esteem and social anxiety, are investigated in this study. Self-esteem refers to the overall evaluation of oneself as a person (Harter, 1990). Research shows that victims of cyberbullying have lower self-esteem (Cénat et al., 2014; Patchin & Hinduja, 2010). Social anxiety is characterized by the fear that one will make a mistake and be criticized (Miller, Barrett, Hampe, & Noble, 1972). Victims of cyberbullying have been found to have higher scores on social anxiety measures (Pabian &

Vandebosch, 2015). As will be shown in the literature review, both variables have already been connected to ineffective coping and support seeking.

### **1.1. Seeking Social Support as a Means to Cope With Cyberbullying**

Studies with different samples and different measures for cyberbullying victimization and/or seeking social support show that between 19% and 89.8% of adolescent cyberbullying victims seek help (Cross et al., 2015; Dooley et al., 2010; Frisé, Berne, & Marin, 2014; Macháčková et al., 2013; O'Moore, 2012; Price & Dalgleish, 2010; Slonje & Smith, 2008; Spears, Taddeo, Daly, Stretton, & Karklins, 2015). The three most often used sources of asking for help after being cyberbullied are friends, a parent/guardian, and a teacher (Dooley et al., 2010; O'Moore, 2012; Price & Dalgleish, 2010; Spears et al., 2015). Additional sources of help that are used by a minority of victims of cyberbullying include health professionals at school, helplines, websites, and other family members, such as siblings (Dooley et al., 2010; Spears et al., 2015). Giving support to victims of cyberbullying can include talking and listening to the victim, encouraging the victim, reassuring the victim, advising the victim on how to stop the cyberbullying, helping the victim confront the bully, teaching the victim how to respond, trivializing and making fun of the bullying, and just spending time with the targeted adolescent (Davis & Nixon, 2013; O'Moore, 2012; Parris, Varjas, Meyers, & Cutts, 2011; Šléglová & Černá, 2011).

### **1.2. The Effectiveness of Seeking Social Support in Terms of Cyberbullying Victimization and Buffering Internalized Problems**

First, evidence that seeking support is effective in terms of stopping or decreasing the frequency of cyberbullying victimization has been found by previous research. In the study by Macháčková et al. (2013), 56% of victims of cyberbullying who sought social support to cope with cyberbullying rated this strategy as helpful in terms of stopping cyberbullying. Although telling someone helped stop cyberbullying only among half of the victims, the authors note that this strategy is still among the most effective coping strategies in their study. The authors did not include different sources for seeking social support in their study.

The study of Macháčková et al. (2013) also provides an indication of the effectiveness of seeking support in terms of buffering internalizing problems. In their study, 91% of the victims of

cyberbullying who sought social support to cope with cyberbullying rated this strategy as emotionally helpful. Unfortunately, as noted earlier, the study did not examine the effectiveness of seeking support from different sources. A study by Machmutow et al. (2012) also points to the same conclusion: cybervictims who sought close support, such as help from peers, family, and other victims of cyberbullying, had lower levels of depressive symptoms. This relationship was not found for cybervictims who sought distant advice, such as visiting a counseling center. This study does not provide evidence on whether the recommended coping strategies are actually used by the cyberbullying victims who recommend it. Contrary to these two studies, there are a few studies that did not find evidence for the effectiveness of seeking support in terms of buffering internalizing problems. The cross-sectional study of Dooley et al. (2010) showed a significant relationship between cyberbullying victimization and emotional symptoms, such as psychosomatic symptoms, worrying, and depression; however, no indirect relationship was found between cyberbullying victimization, help-seeking, and emotional symptoms. In line with this, Völlink, Bolman, Dehue, and Jacobs (2013) and Völlink, Bolman, Eppingbroek, and Dehue (2013) found no significant relationship between problem-focused coping, such as seeking social support, and depression and health complaints in their cross-sectional studies. The researchers note that this finding is contrary to their expectations and to the literature on traditional bullying, and more research is needed to analyze this unexpected finding.

### **1.3. Cyberbullying Victimization and Internalizing Problems as Determinants of Seeking Social Support**

Some outcomes of cyberbullying might also be determinants of seeking social support. In addition to being an outcome of this coping strategy, it could be that the frequency of cyberbullying victimization and internalizing problems determine a victim's choice to seek social support. The possible influence of the frequency of cyberbullying and internalizing problems on seeking support can be explained by appraisal theory, which is a framework for understanding the selection of response(s) from a victim (Park & Folkman, 1997; Raskauskas & Huynh, 2015). When cyberbullying occurs, victims appraise their situation. This process occurs at two levels: During the primary appraisal, victims assess how significant the event is for them and whether or not it is a threat. If victims determine that there is potential harm, they move on to the secondary appraisal, wherein they

assess resources that are available for changing the situation (Lazarus & Folkman, 1984). These appraisals determine the coping styles that victims select. Personal characteristics and situation variables can influence a victim's appraisals of an event. For instance, research on traditional bullying has indicated that the frequency of victimization influences the appraisal process (Hunter & Boyle, 2004) as well as low self-worth and social anxiety (Graham & Juvonen, 1998).

Very limited empirical research has focused on determinants of seeking social support to deal with cyberbullying. Jacobs et al. (2014) used the Delphi technique to ask experts in the field about their perceptions of possible determinants of effective and ineffective coping. Previous cyberbullying victimization, high levels of anxiety, and low levels of self-esteem were mentioned as possible determinants of ineffective coping, whereas previous victimization, low levels of anxiety, and high levels of self-esteem were suggested as potential determinants of effective coping. The researchers did not examine whether these factors are also determinants of the use of certain specific coping strategies, such as seeking support from friends, parents, and teachers.

With regard to the frequency of cyberbullying victimization as a determinant of seeking support, Macháčková et al. (2013) found that a higher percentage of adolescents who were victimized longer than a week and who felt moderately or very much upset by the incident for a period of several weeks or more sought social support (78%) compared to the percentage of adolescents who were victimized less than a week and who felt less upset (70%). However, this difference was not found to be significant and, as noted earlier, the study did not make a distinction between the type of person (peer or adult) sought for social support. Similarly, Ševčíková, Macháčková, Wright, Dědková, and Černá (2015) found that the intensity of perceived harm had very limited effects on seeking social support. Although the present study focuses on frequencies of cyberbullying victimization, it can be expected that the intensity of the perceived harm is stronger for adolescents who are victimized more frequently. No empirical studies were found that investigate internalizing problems as a predictor of seeking support.

#### **1.4. The Present Study**

An overview of the literature on the associations between seeking support from a friend, parent, or teacher after being cyberbullied and on the frequency of cyberbullying victimization and



internalizing problems has shown that there are indications that lower frequencies of cyberbullying victimization and lower scores on internalizing problems are outcomes of effective coping. However, only a limited number of studies have been conducted on this topic, and not all findings are in agreement. Some researchers shed a different light on these associations and perceive the frequency of cyberbullying victimization and internalizing problems as determinants of seeking social support as a coping mechanism. Therefore, the present study investigates the following research questions: Are lower frequencies of cyberbullying victimization determinants and/or outcomes of seeking support by cyberbullying victims? Are lower scores on internalizing problems determinants and/or outcomes of seeking support by cyberbullying victims?

Another problem in interpreting these associations is the measurement of seeking social support. Some researchers do not differentiate between the different sources for seeking support, whereas others do. Studies that do include multiple sources separately, such as the study of Price and Dalgleish (2010), find significant differences between seeking support from different groups. Therefore, the present study will also investigate whether there is a difference in the longitudinal associations when support is sought from friends, parents, or teachers: Is there a difference between the longitudinal associations between seeking support from friends, parents, or teachers and the frequency of cyberbullying victimization? Is there a difference between the longitudinal associations between seeking support from friends, parents, or teachers and internalizing problems?

To this aim, a cross-lagged path model was calculated based on a short-term longitudinal dataset that includes seeking support from three different sources: friends, parents, and teachers. Effectiveness was evaluated in terms of cyberbullying victimization and buffering low levels of self-esteem and high levels of social anxiety. At the same time, these variables were included in the model as determinants of seeking support from friends, parents, and teachers.

## **2. Methods**

### **2.1. Procedure and Participants**

A two-wave panel study with a six-month time interval between both waves was used to examine short-term longitudinal associations between seeking support, cyberbullying victimization, self-esteem, and social anxiety. The data collection of this panel took place in fall 2011 and spring

2012 and was part of a large scale longitudinal study aimed at examining associations between cyberbullying involvement and adolescents' developmental trajectories. For both waves, an identical paper-and-pencil survey was administered during school time in the presence of a researcher. This study followed APA Ethics Code for research with human subjects. Informed active consent was obtained from the head of school and the respondents, and passive consent was obtained from the parents of the students. Respondents were guaranteed verbally and in writing that their responses were confidential.

A representative sample of adolescents aged 10 to 17 years old was recruited via schools in Flanders (the Dutch-speaking part of Belgium). To maximize inclusiveness of our sample group, criteria for school selection were grade and type of schooling (general, technical, or vocational secondary education). All students of the selected grades in the selected schools (24 in total) were asked to participate. A total of 2,333 students completed the questionnaire at Time 1. The attrition from wave 1 to wave 2 was 8.79%. The analytic sample consisted of 2,128 adolescents with a mean age of 13.03 years old ( $SD = 1.65$ ), and 53.4% of them were girls. Most participants were Belgian nationals (95.6%). With regard to the main variables of the present study—gender, age, and nationality—a set of *t*-tests and Pearson's chi-squared tests were conducted to control for differences between respondents who participated during both waves and those who dropped out after wave 1. The results of these tests showed one significant difference between both groups: In the first wave, slightly fewer subjects identified as Belgian nationals (91.5%) compared to subjects in the analytic sample (95.6%),  $\chi^2(1) = 7.11, p < .01$ . This indicates that the dropout of adolescents with a nationality other than Belgian was relatively larger, compared to the dropout of adolescents of Belgian nationality.

## **2.2. Instruments**

The questionnaire consisted of validated scales and newly developed measures. The existing scales were translated from English into Dutch by the author. An independent professional translator retranslated the scales back into English. These English versions were compared with the original versions and, where necessary, small adjustments were made to the Dutch versions. Preceding the data collection, a pilot study was conducted ( $N = 47$ ). This resulted in minor revisions to improve the readability of the survey, especially for the younger respondents. The scales that were used to measure

the concepts of the present study are shown below in the same sequence as their appearance in the questionnaire. All the concepts were measured in the same way at Time 1 and 2. Appendix A displays the Dutch questions that were used in the present study.

**2.2.1. Self-reported cyberbullying victimization.** To measure victimization of cyberbullying, Olweus's (1993) widely cited definition of bullying was presented to the respondents. Olweus perceives bullying as an aggressive, intentional act or behavior that is carried out by a group or an individual repeatedly and over time against a victim who cannot easily defend him or herself. Following this definition, examples of cyberbullying were presented to students, such as texting mean messages via mobile phone or chat and spreading hurtful or embarrassing pictures. Next, adolescents were asked to indicate how often they were bullied via the Internet or mobile phone in the past six months. The answer options ranged from 1 (*never*) to 6 (*weekly*). Adolescents were considered as victims if they indicated being cyberbullied at least once and not twice. This may not seem to be in accordance with the definition of cyberbullying that was used in the present study in which cyberbullying is described as a repeated behavior. However, in the present study, the definition of cyberbullying was provided to the respondents before asking about their involvement. The element of repetition was highlighted in the presentation of the definition as well as in the examples that were provided to the respondents. In this way, it was made clear that the element of repetition is a necessary component of cyberbullying. Therefore, in this study it was assumed that when a respondent indicated being a victim of cyberbullying once in the past six months, he or she had received multiple hurtful messages from a perpetrator over a relatively short time span. The element of repetition has been discussed frequently in past literature within this field, and some researchers do not consider it a necessary element of cyberbullying (Langos, 2012; Thomas, Connor, & Scott, 2015). For instance, Langos (2012) describes that, for direct cyberbullying (directed from the perpetrator to the victim only), the victim would need to be subjected to a course of behavior (multiple contacts) to establish the element of repetition. Accordingly, for indirect cyberbullying, which is publically accessible, a course of conduct is no longer necessary to satisfy the element of repetition, as repetition occurs every time others view the message. Future researchers who use another definition and/or

measurement of cyberbullying might categorize more or fewer research subjects as victims of cyberbullying.

**2.2.2. Seeking social support.** The items measuring social support were part of a list of 20 strategies to cope with cyberbullying, which was included in the questionnaire. As there was no validated coping-with-cyberbullying scale available at the start of the present study, this list was derived from an extensive review of available research on the use of coping strategies amongst adolescent victims of cyberbullying (Dehue, Bolman, & Völlink, 2008; Price & Dalgleish, 2010; Šléglová & Černá, 2011). As the current longitudinal study was aimed at investigating and comparing the effectiveness of as many coping strategies as possible, all of the strategies were measured with only a limited number of items. Three coping strategies that are related to seeking support were included in the questionnaire. The three items differentiated from whom support is sought: a friend, a parent, or a teacher/another adult from school. These three sources were selected from previous research, which indicates they are most commonly used by cyberbullying victims (Price & Dalgleish, 2010). Additionally, item syntax was based on items included in the study by Price and Dalgleish (2010). The three items are: “I talked about it with a friend”; “I talked about it with a parent/my parents”; “I talked about it with a teacher or another adult from school.” The three items were presented simultaneously with all of the other strategies to the respondents who indicated they had been a victim of cyberbullying in the past six months, and they were asked which strategies they had used when they were cyberbullied in the past six months (“yes”/“no”).

**2.2.3. Self-esteem.** Respondents completed Rosenberg’s self-esteem scale, which consists of ten items (Rosenberg, 1965), such as, “I feel that I have a number of good qualities.” All of the items were assessed using four-point Likert-scales with item response ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Five items were recoded in such a way that higher values indicate higher self-esteem. The internal consistency at Time 1 and 2 (Cronbach’s alpha) was respectively .86 and .88. Factor loadings ranged from .49 to .72 for wave 1 and from .53 to .74 for wave 2. A mean score for self-esteem was calculated for each respondent at each wave.

**2.2.4. Social anxiety.** To measure social anxiety, the Social Anxiety Scale for Adolescents (SAS-A; La Greca & Lopez, 1998) was used. This scale consists of three subscales that measure

different constructs of social anxiety towards peers. The answer options for the items of all the subscales ranged from 1 (*strongly disagree*) to 4 (*strongly agree*). The first subscale measures the “fear of negative evaluation from peers” (FNE) with 8 items. An example of an item is, “I worry that others don’t like me.” In the present study, Cronbach's alpha for the scale was .90 for both waves 1 and 2. Factor loadings ranged from .61 to .83 for wave 1 and from .62 to .85 for wave 2. The second subscale is the “social avoidance and distress in general” (SAD-G) subscale, which is formed by four items, for example, “I feel shy even with peers I know very well.” An analysis of the internal consistency shows that the SAD-G was reliable at both measurement points (Time 1:  $\alpha = .74$ ; Time 2:  $\alpha = .76$ ). The loadings of the items ranged from .61 to .65 for wave 1 and from .63 to .67 for wave 2. Finally, the third subscale measures “social avoidance and distress specific to new situations or unfamiliar peers” (SAD-NEW). This subscale consists of six items. An example of an item is, “I get nervous when I talk to peers I don’t know very well.” One item of the SAD-NEW—“I only talk to peers I know really well”—had a low factor loading for both waves (.31 and .34) and was not included in further analyses. After deleting this item, Cronbach's alpha for this subscale was .76 for wave 1 and .80 for wave 2. Factor loadings of the remaining items ranged from .56 to .69 for wave 1 and from .60 to .78 for wave 2. A mean score on each subscale was calculated for each respondent for waves 1 and 2.

### **2.3. Data Analysis**

Spearman’s correlations, t-tests, and chi-square tests were calculated to preliminarily measure associations between the variables of the present study. To test the associations more rigorously, the data were analyzed using cross-lagged path modeling in Mplus 7. This statistical method allows for investigation of structural relations between repeatedly measured constructs (Selig & Little, 2012). The reciprocal associations that are part of this model allowed us to examine causal relationships between the three forms of seeking support and cyberbullying victimization, self-esteem, and social anxiety. Due to non-normal distributed variables and the use of categorical data, mean- and variance-adjusted weighted least square (WLSMV) was used as an estimator. To investigate the possible effects and determinants of each form of seeking support separately, the three coping strategies were entered into the model as separate observed items and not clustered into a single factor (Macháčková

et al., 2013). For self-esteem and each of the three subscales of social anxiety, composite scores for each respondent for each wave were used in the cross-lagged path model. It is important to note that only adolescents who indicated being a victim of cyberbullying at least once in the past six months at Time 1 ( $N = 234$ ) were included in all of the analyses to test the associations, and non-victims at Time 1 were excluded. The cross-lagged path model had an acceptable fit: CFI = 0.97; TLI = 0.90; RMSEA = .045 (C.I. 90%: 0.007–0.071);  $\chi^2(39) = 55.153, p < .05$ .

### 3. Results

#### 3.1. Preliminary Results

Table 1 presents the frequencies of cyberbullying victimization at Times 1 and 2. Of the total sample, 11.1% indicated they were a victim of cyberbullying at least once in the past six months at Time 1 ( $N = 234$ ) and 10.1% ( $N = 215$ ) at Time 2. A chi-square test was used to test differences over time for cyberbullying victimization. No significant difference emerged. Of those respondents who indicated they were a victim of cyberbullying at least once in the past six months at Time 1, 54.3% ( $N = 127$ ) indicated they sought support from a friend, 42.4% ( $N = 100$ ) from a parent, and 13.0% ( $N = 30$ ) from a teacher or another adult from school. At Time 2, 58.6% ( $N = 126$ ) of the victims of cyberbullying sought support from a friend, 37.9% ( $N = 81$ ) from a parent, and 11.8% ( $N = 25$ ) from a teacher or another adult from school. A set of Chi-square tests showed no significant differences over time for seeking support from the different groups.

(TABLE 1 AND 2 ABOUT HERE)

Descriptive statistics for the main variables of the study and Spearman's correlation coefficients are presented in Table 2. These correlations demonstrate small initial evidence for associations between seeking support from different groups, cyberbullying victimization, self-esteem, and social anxiety. The correlations between seeking support at baseline and cyberbullying victimization, self-esteem, and social anxiety at Time 2 provide preliminary evidence for the effectiveness of seeking support. For seeking support from a friend at baseline, a significant negative correlation was found with cyberbullying victimization at Time 2 ( $r = -.14, p < .01$ ). Seeking support from a parent at baseline correlated significantly with self-esteem at Time 2 ( $r = -.17, p < .05$ ). No significant correlations were found between seeking support from a teacher or another adult from

school at baseline and cyberbullying victimization, self-esteem, and social anxiety. Furthermore, the correlations between cyberbullying victimization, self-esteem, and social anxiety at Time 1 and seeking support at Time 2 provide preliminary evidence for determinants of this coping strategy. For seeking support from a friend at Time 2, a significant negative correlation was found with fear of negative evaluations at Time 1 ( $r = -.14, p < .05$ ). No significant correlations were found between seeking support from a parent at Time 2 and cyberbullying victimization, self-esteem, and social anxiety at Time 1. Finally, seeking support from a teacher or another adult from school at Time 2 correlated negatively with cyberbullying victimization at Time 1 ( $r = -.24, p < .001$ ) and self-esteem at Time 1 ( $r = -.25, p < .05$ ).

### 3.2. Cross-lagged path model

Table 3 and Figure 1 display standardized parameter estimates and their two-tailed  $p$ -values of the different paths of the model. The explained variances of the main variables of the present study ranged from .21 to .98 ( $R^2_{\text{seeking support from a friend T2}}: .30$ ;  $R^2_{\text{seeking support from a parent T2}}: .36$ ;  $R^2_{\text{seeking support from a teacher or another adult from school T2}}: .35$ ;  $R^2_{\text{cyberbullying victimization T2}}: .13$ ;  $R^2_{\text{self-esteem T2}}: .45$ ;  $R^2_{\text{FNE T2}}: .28$ ,  $R^2_{\text{SAD-G T2}}: .27$ ;  $R^2_{\text{SAD-NEW T2}}: .25$ ).

First, the model indicates stability for all of the main study variables over time, except for seeking support from a teacher or another adult ( $\beta = .12, p = .629$ ). Second, it displays the estimates for the cross-lagged relations between seeking support and cyberbullying victimization. While controlling for autoregressive and concurrent associations, seeking support from a friend at Time 1 significantly predicted lower frequencies of cyberbullying victimization at Time 2 ( $\beta = -.17, p < .05$ ). The opposite pathway was not significant, and no other significant associations over time emerged between seeking support from a friend, parent, and teacher/other adult from school and cyberbullying victimization. Third, the results of the cross-lagged relations between seeking support and self-esteem showed a negative significant relationship between self-esteem at Time 1 and seeking support from adults at Time 2 ( $\beta_{\text{Seeking support from a parent}} = -.43, p < .01$ ;  $\beta_{\text{Seeking support from a teacher or another adult from school}} = -.53, p < .01$ ). A reciprocal relationship between self-esteem and seeking support from a parent or teacher/other adult from school was not found. Seeking support from a friend was not found to be associated with self-esteem over time. Fourth, Table 3 also represents cross-lagged relations between

seeking support and social anxiety. The results indicate only one significant association over time: fear of negative evaluations at Time 1 negatively predicted seeking support from a friend at Time 2 ( $\beta = -.36, p < .05$ ).

(TABLE 3 ABOUT HERE)

#### 4. Discussion

The cross-lagged panel analysis provided insights on the effectiveness of seeking support. The results showed that seeking support is associated with lower cyberbullying victimization six months later. However, this seems only true for seeking support from friends and not from parents or teachers. These findings corroborate the study of Price and Dalglish (2010) in which seeking support from a friend was perceived as most helpful compared to seeking support from a parent/caregiver and a teacher/principal. The results of their study, as well as the results of the present study, might indicate that only friends give appropriate support and advice, and parents and teachers might not have sufficient knowledge or skills. Previous studies have highlighted these reasons for explaining adolescents' preference for seeking support from peers (Agatston, Kowalski & Limber, 2007; Cross et al., 2009; Dooley et al., 2010). Furthermore, the present study investigated effectiveness in terms of buffering internalized problems. The results showed that seeking support did not lead to a significant change in self-esteem or social anxiety. The absence of a significant relationship between seeking social support and internalizing problems was also found in the cross-sectional studies of Völlink et al. (2013; 2013). On the one hand, this absence indicates that seeking support does not lead to desirable outcomes, such as higher levels of self-esteem and lower levels of social anxiety. On the other hand, the absence of a significant relationship also indicates that seeking social support does not influence adolescents' mental health in a negative way. As undesirable mental health outcomes are absent, this strategy can be categorized as effective rather than ineffective. However, this finding should be interpreted with caution. Social anxiety and self-esteem are relatively stable characteristics (Gren-Landell, 2010; Orth & Robins, 2014), and perhaps the experienced cyberbullying acts in the present sample were not radical enough to induce changes in mental health. Also the way seeking support was measured (performed or not) does limit the understanding of this potential buffering effect.



In addition to examining the effectiveness of seeking support, the present study also investigated determinants of this coping behavior. The results showed that the frequency of cyberbullying victimization does not predict seeking support from a friend, parent, or a teacher/other adult from school. These results support the earlier findings of Macháčková et al. (2013) and Ševčíková et al. (2015) and may indicate that the intensity of online victimization does not play an important role in the selection of seeking support, whereas other factors might determine this choice. The present study also examined self-esteem and social anxiety as potential determinants of seeking support from friends, parents, and teachers/other adults. The model showed that adolescents with higher levels of self-esteem are less likely to seek support from a parent or teacher/other adults from school. This is somewhat counterintuitive, as the literature indicates that individuals with high self-esteem adopt active or problem-solving coping strategies (Dumont & Provost, 1999). It could be that, due to its perceived ineffectiveness in terms of decreasing/stopping cyberbullying victimization, seeking support from adults is, for some adolescents, not a problem-solving strategy. Previous research notes that some adolescent victims expect that nothing will be achieved by reporting cyberbullying to adults due to adults' lack of ability to understand cyberbullying and deal with it effectively (Agatston et al., 2007; Cross et al., 2009; Dooley et al., 2010). Finally, one other determinant of seeking support was found in the present study. More precisely, the results showed that fear of negative evaluations from peers, a subconstruct of social anxiety, seemed to be a barrier to seeking support from friends. This might indicate that adolescents avoid talking with peers about their online victimization because they are scared that their friends will evaluate them negatively, dislike them, make fun of them, tease them, and/or talk behind their backs (La Greca & Lopez, 1998).

Based on the results of the present study, some practical implications for intervention and prevention can be formulated. First, practitioners, such as teachers and school counselors, and also parents and adolescents themselves should learn to advise adolescents to seek support from friends in case of cyberbullying victimization. However, practitioners and teachers should be made aware of the fact that this strategy seems undesirable to adolescents who are more socially anxious; therefore a mix of problem-focused strategies should be learned and advised. Second, the present study provides some indications that adolescents might perceive seeking help from adults not as a viable problem-solving

strategy. Nonetheless, teachers can be a potentially important source of help, as cyberbullying is often related to in-school bullying (Lazuras, Barkoukis, & Tsorbatzoudis, 2017; Waasdorp & Bradshaw, 2015), a form of bullying wherein teachers are often directly involved as support givers (Davidson & Demaray, 2007; Kanetsuna, Smith, & Morita, 2006). Therefore, it is advisable that teachers are made aware of cyberbullying and that useful strategies to help students in need are implemented. This was also highlighted by the studies of Eden, Heiman and Olenik-Shemesh (2013) and DeSmet et al. (2015) on the perceptions, beliefs, concerns, and needs with regard to cyberbullying among diverse samples of teachers. So, it seems that teachers are aware that they need education, and that they understand that students who have been cyberbullied do not always perceive them as effective support-givers.

### **5. Limitations**

The current study has shortcomings, which could open avenues for future research. The first limitation is the operationalization of seeking social support and social anxiety. Concerning social support, the present study did not make use of a validated scale. Three short items were included in the questionnaire to investigate and compare the effectiveness of as many strategies as possible that might be used by victims of cyberbullying. These items were adapted from the study of Price and Dalgleish (2010) and differentiated from each other with regard to the sources of the support, but not with regard to the type of support actually received, such as informative, emotional, and instrumental support. As the reliability and validity of the used items can be questioned, it can be advised to include validated measurements in future research on the effectiveness and determinants of social support among victims of cyberbullying. Furthermore, the present study only provided a usage indicator to the respondents (used or not), which is similar to the study of Price and Dalgleish (2010). Therefore, it is unclear whether or not seeking support from friends only once it is sufficient to stop or decrease cyberbullying victimization. Future research on the effectiveness and determinants of coping should include frequency-response Likert scales instead of “yes”/“no” answer options. With regard to social anxiety, the present study only measured social anxiety toward peers and not social anxiety toward others in general or toward other specific groups, such as teachers or other adults. This might have influenced the results and might explain the nonsignificant associations between social anxiety and seeking support from a parent or a teacher/other adult from school.

Second, the present study did not control for the type of relations that adolescents have with friends, parents, and teachers. For instance, it could be that seeking support from friends was not an option for some victims because they did not have many friends. Ševčíková et al. (2015) showed in their study on coping with adolescent cyberbullying that victims with poor relationships with their parents and peers refrain from seeking social support from these individuals. Perceived relationship quality might be an important mediator or moderator of the associations between seeking support and subsequent cyberbullying victimization/internalizing problems and also between cyberbullying victimization/mental health problems and subsequent support seeking. Future research should take the perceived quality of the relationship with a specific group into account when investigating the effectiveness or determinants of seeking support among this group.

A third and last limitation might be the six-month time span between the two measurement points, which might be too long. It could be that the effectiveness of certain strategies only lasts for a few days or weeks (short-term solution) and not for a period of six months (long-term solution). Future research should consider implementing shorter time periods between measurement points, for instance one month instead of six months.

## **6. Conclusion**

In sum, the present findings provide first evidence that seeking support from friends can be effective over time in terms of decreasing cyberbullying victimization compared to seeking support from parents and teachers/other adults from school. The present study also provides evidence for some determinants of seeking support, such as self-esteem and social anxiety. Future prevention and intervention initiatives should advise adolescents to seek support from friends. Finally, the present study also shows some indications of the need for teacher education in order to respond better to cases of cyberbullying in which students from the school are involved.

## References

- Agatston, P. W., Kowalski, R., & Limber, S. (2007). Students' perspectives on cyber bullying. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, 41(6 Suppl 1), S59-60. <https://doi.org/10.1016/j.jadohealth.2007.09.003>
- Cénat, J. M., Hébert, M., Blais, M., Lavoie, F., Guerrier, M., & Derivois, D. (2014). Cyberbullying, psychological distress and self-esteem among youth in Quebec schools. *Journal of Affective Disorders*, 169, 7–9. <https://doi.org/10.1016/j.jad.2014.07.019>
- Cross, D., Lester, L., & Barnes, A. (2015). A longitudinal study of the social and emotional predictors and consequences of cyber and traditional bullying victimisation. *International Journal of Public Health*, 60(2), 207–217. <https://doi.org/10.1007/s00038-015-0655-1>
- Davidson, L. M., & Demaray, M. K. (2007). Social support as a moderator between victimization and internalizing-externalizing distress from bullying. *School Psychology Review*, 36(3), 383–405.
- Davis, S., & Nixon, C. L. (2013). *Youth Voice Project: Student insights into bullying and peer mistreatment*. Champaign, IL: Research Press.
- Deegan, Jr. (1978). On the occurrence of standardized regression coefficients greater than one. *Educational and Psychological Measurement*, 38(4), 873–888. <https://doi.org/10.1177/001316447803800404>
- Dehue, F., Bolman, C., & Völlink, T. (2008). Cyberbullying: Youngsters' experiences and parental perception. *CyberPsychology & Behavior*, 11(2), 217–223. <https://doi.org/10.1089/cpb.2007.0008>
- DeSmet, A., Aelterman, N., Bastiaensens, S., Van Cleemput, K., Poels, K., Vandebosch, H., ... De Bourdeaudhuij, I. (2015). Secondary school educators' perceptions and practices in handling cyberbullying among adolescents: A cluster analysis. *Computers & Education*, 88, 192–201. <https://doi.org/10.1016/j.compedu.2015.05.006>
- Dooley, J. J., Gradinger, P., Strohmeier, D., Cross, D., & Spiel, C. (2010). Cyber-victimisation: The association between help-seeking behaviours and self-reported emotional symptoms in Australia

and Austria. *Journal of Psychologists and Counsellors in Schools*, 20(2), 194–209.

<https://doi.org/10.1375/ajgc.20.2.194>

Dredge, R., Gleeson, J. F. M., & de la Piedad Garcia, X. (2014). Risk factors associated with impact severity of cyberbullying victimization: A qualitative study of adolescent online social networking. *Cyberpsychology, Behavior, and Social Networking*, 17(5), 287–291.

<https://doi.org/10.1089/cyber.2013.0541>

Dumont, M., & Provost, M. A. (1999). Resilience in adolescents: Protective role of social support, coping strategies, self-esteem, and social activities on experience of stress and depression.

*Journal of Youth and Adolescence*, 28(3), 343–363. <https://doi.org/10.1023/A:1021637011732>

Eden, S., Heiman, T., & Olenik-Shemesh, D. (2013). Teachers' perceptions, beliefs and concerns about cyberbullying. *British Journal of Educational Technology*, 44(6), 1036–1052.

<https://doi.org/10.1111/j.1467-8535.2012.01363.x>

Frisén, A., Berne, S., & Marin, L. (2014). Swedish pupils' suggested coping strategies if cyberbullied: Differences related to age and gender. *Scandinavian Journal of Psychology*, 55(6), 578–584.

<https://doi.org/10.1111/sjop.12143>

Graham, R., & Wood, F. R. (2018). Associations between cyberbullying victimization and deviant health risk behaviors. *The Social Science Journal*. <https://doi.org/10.1016/j.soscij.2018.05.005>

Graham, S., & Juvonen, J. (1998). Self-blame and peer victimization in middle school: an attributional analysis. *Developmental Psychology*, 34(3), 587–599.

Gren-Landell, M. (2010). *Social anxiety disorder in Swedish adolescents. Prevalence, victimization & development*. Linköping University - Faculty of Health Sciences, Linköping, Sweden. Retrieved from <https://www.diva-portal.org/smash/get/diva2:329270/FULLTEXT01.pdf>

Harter, S. (1990). Causes, correlates, and the functional role of global self-worth: A life-span perspective. In R. J. Sternberg & J. Kolligan, Jr. (Eds.), *Competence considered* (pp. 67–97). New Haven, CT: Yale University Press.

Hensler-McGinnis, N. F. (2008). *Cyberstalking victimization: Impact and coping responses in a national university sample*. University of Maryland. Retrieved from

<http://drum.lib.umd.edu/handle/1903/8206>

- Hunter, S. C., & Boyle, J. M. E. (2004). Appraisal and coping strategy use in victims of school bullying. *British Journal of Educational Psychology*, *74*(1), 83–107.  
<https://doi.org/10.1348/000709904322848833>
- Jacobs, N., Dehue, F., Völlink, T., & Lechner, L. (2014). Determinants of adolescents' ineffective and improved coping with cyberbullying: A Delphi study. *Journal of Adolescence*, *37*(4), 373–385.  
<https://doi.org/10.1016/j.adolescence.2014.02.011>
- Jacobs, N., Völlink, T., Dehue, F., & Lechner, L. (2015). The development of an online tailored advice for cyberbully victims. *Societies*, *5*(2), 460–491. <https://doi.org/10.3390/soc5020460>
- Jöreskog, K. G. (1999). How large can a standardized coefficient be. Unpublished Technical Report. Retrieved June 8, 2018, from  
<http://www.ssicentral.com/lisrel/techdocs/HowLargeCanaStandardizedCoefficientbe>
- Kanetsuna, T., Smith, P. K., & Morita, Y. (2006). Coping with bullying at school: children's recommended strategies and attitudes to school-based interventions in England and Japan. *Aggressive Behavior*, *32*(6), 570–580. <https://doi.org/10.1002/ab.20156>
- Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth. *Psychological Bulletin*, *140*(4), 1073–1137. <https://doi.org/10.1037/a0035618>
- La Greca, A. M., & Lopez, N. (1998). Social anxiety among adolescents: Linkages with peer relations and friendships. *Journal of Abnormal Child Psychology*, *26*(2), 83–94.  
<https://doi.org/10.1023/a:1022684520514>
- Langos, C. (2012). Cyberbullying: The challenge to define. *Cyberpsychology, Behavior, and Social Networking*, *15*(6), 285–289. <https://doi.org/10.1089/cyber.2011.0588>
- Lazuras, L., Barkoukis, V., & Tsorbatzoudis, H. (2017). Face-to-face bullying and cyberbullying in adolescents: Trans-contextual effects and role overlap. *Technology in Society*, *48*(Supplement C), 97–101. <https://doi.org/10.1016/j.techsoc.2016.12.001>
- Lazuras, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer.

- Lodge, J., & Frydenberg, E. (2007). Cyber-bullying in Australian schools: Profiles of adolescent coping and insights for school practitioners. *The Australian Educational and Developmental Psychologist*, 24(1), 45–58. <https://doi.org/10.1017/S0816512200029096>
- Macháčková, H., Černá, A., Ševčíková, A., Dědková, L., & Daneback, K. (2013). Effectiveness of coping strategies for victims of cyberbullying. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 7(3). <https://doi.org/10.5817/CP2013-3-5>
- Machmutow, K., Perren, S., Sticca, F., & Alsaker, F. D. (2012). Peer victimization and depressive symptoms: Can specific coping strategies buffer the negative impact of cybervictimization? *Emotional and Behavioral Difficulties*, 17(3–4), 403–420. <https://doi.org/10.1080/13632752.2012.704310>
- Miller, L. C., Barrett, C. L., Hampe, E., & Noble, H. (1972). Factor structure of childhood fears. *Journal of Consulting and Clinical Psychology*, 39(2), 264–268. <https://doi.org/10.1037/h0033408>
- Nixon, C. L. (2014). Current perspectives: The impact of cyberbullying on adolescent health. *Adolescent Health, Medicine and Therapeutics*, 5, 143–158. <https://doi.org/10.2147/AHMT.S36456>
- Olweus, D. (1993). *Bullying at School: What we know and what we can do*. Oxford, United Kingdom: Blackwell.
- O'Moore, M. (2012). Cyber-bullying: the situation in Ireland. *Pastoral Care in Education*, 30(3), 209–223. <https://doi.org/10.1080/02643944.2012.688065>
- Orth, U., & Robins, R. W. (2014). The development of self-esteem. *Current Directions in Psychological Science*, 23(5), 381–387. <https://doi.org/10.1177/0963721414547414>
- Pabian, S., & Vandebosch, H. (2015). An investigation of short-term longitudinal associations between social anxiety and victimization and perpetration of traditional bullying and cyberbullying. *Journal of Youth and Adolescence*, 45(2), 328–339. <https://doi.org/10.1007/s10964-015-0259-3>
- Park, C. L., & Folkman, S. (1997). Meaning in the context of stress and coping. *Review of General Psychology*, 1, 115–144. <http://dx.doi.org/10.1037/1089-2680.1.2.115>

- Parris, L., Varjas, K., Meyers, J., & Cutts, H. (2011). High school students' perceptions of coping with cyberbullying. *Youth & Society, 44*(2), 284–306.  
<https://doi.org/10.1177/0044118X11398881>
- Patchin, J. W., & Hinduja, S. (2010). Cyberbullying and self-esteem. *Journal of School Health, 80*(12), 614–621. <https://doi.org/10.1111/j.1746-1561.2010.00548.x>
- Price, M., & Dalgleish, J. (2010). Cyberbullying. Experiences, impacts and coping strategies as described by Australian young people. *Youth Studies Australia, 29*(2), 51–59.
- Raskauskas, J., & Huynh, A. (2015). The process of coping with cyberbullying: A systematic review. *Aggression and Violent Behavior, 23*, 118–125. <https://doi.org/10.1016/j.avb.2015.05.019>
- Rosenberg, M. (1965). *Society and adolescent self-image*. Princeton, NY: Princeton University Press.
- Selig, J.P. & Little, T.D. (2012). Autoregressive and cross-lagged panel analysis for longitudinal data. In B. Laursen, T.D. Little & N.A. Card (Eds.), *Handbook of Developmental Research Methods* (pp. 265–278), New York, NY: The Guilford Press.
- Ševčíková, A., Macháčková, H., Wright, M. F., Dědková, L., & Černá, A. (2015). Social support seeking in relation to parental attachment and peer relationships among victims of cyberbullying. *Journal of Psychologists and Counsellors in Schools, 25*(2), 170–182.  
<https://doi.org/10.1017/jgc.2015.1>
- Šléglová, V., & Černá, A. (2011). Cyberbullying in adolescent victims: Perception and coping. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 5*(2). Retrieved from <http://cyberpsychology.eu/view.php?cisloclanku=2011121901&article=4>
- Slonje, R., & Smith, P. K. (2008). Cyberbullying: Another main type of bullying? *Scandinavian Journal of Psychology, 49*(2), 147–154. <https://doi.org/10.1111/j.1467-9450.2007.00611.x>
- Spears, B., Taddeo, C., Daly, A., Stretton, A., & Karklins, L. (2015). Cyberbullying, help-seeking and mental health in young Australians: implications for public health. *International Journal of Public Health, 60*(2), 219–226. <https://doi.org/10.1007/s00038-014-0642-y>
- Sticca, F., & Perren, S. (2013). Is cyberbullying worse than traditional bullying? Examining the differential roles of medium, publicity, and anonymity for the perceived severity of bullying. *Journal of Youth and Adolescence, 42*(5), 739–750. <https://doi.org/10.1007/s10964-012-9867-3>



- Thomas, H. J., Connor, J. P., & Scott, J. G. (2015). Integrating traditional bullying and cyberbullying: Challenges of definition and measurement in adolescents - a review. *Educational Psychology Review, 27*, 135–152. <http://dx.doi.org/10.1007/s10648-014-9261-7>
- Vandoninck, S., d'Haenens, L., & Segers, K. (2012). Coping and resilience: Children's responses to online risks. In S. Livingstone, L. Haddon, & A. Görzig, *Children, risk and safety on the internet* (pp. 205–218). Bristol, United Kingdom: The Policy Press.
- Völlink, T., Bolman, C. A. W., Dehue, F., & Jacobs, N. C. L. (2013). Coping with cyberbullying: Differences between victims, bully-victims and children not involved in bullying. *Journal of Community & Applied Social Psychology, 23*(1), 7–24. <https://doi.org/10.1002/casp.2142>
- Völlink, T., Bolman, C. A. W., Eppingbroek, A., & Dehue, F. (2013). Emotion-focused coping worsens depressive feelings and health complaints in cyberbullied children. *Journal of Criminology, 2013*, 1–10. <https://doi.org/10.1155/2013/416976>
- Waasdorp, T. E., & Bradshaw, C. P. (2015). The overlap between cyberbullying and traditional bullying. *Journal of Adolescent Health, 56*(5), 483–488. <https://doi.org/10.1016/j.jadohealth.2014.12.002>

Table 1

Frequencies of cyberbullying victimization for each wave

Frequency	Cyberbullying victimization	Cyberbullying victimization
	Time 1 % (N)	Time 2 % (N)
Never	88.9 (1867)	89.9 (1906)
Once in the past 6 months	6.8 (142)	6.0 (127)
Several times in the past 6 months	2.5 (53)	2.9 (61)
Once a month	.5 (10)	.5 (10)
Several times per month	.9 (18)	.4 (8)
Several times per week	.5 (11)	.4 (9)

Note. % represent valid percentages

Table 2

Descriptive statistics and Spearman's correlation coefficients

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.CBV T1																
2.SS friend T1	.05															
3.SS parent T1	-.04	.09														
4. SS school adult T1	-.01	.11	.22**													
5. Self-esteem T1	.09	-.07	-.11	-.12												
6. FNE T1	-.03	.02	-.05	-.11	-.49***											
7. SAD-G T1	-.00	.21**	.02	-.06	-.34***	.45***										
8. SAD-NEW T1	-.07	.10	-.05	.02	-.30***	.44***	.62***									
9.CBV T2	.13	-.14*	-.03	-.00	-.08	.06	-.01	.09								
10.SS friend T2	-.16	.33**	.11	.08	-.12	-.26*	-.04	-.08	-.21							
11.SS parent T2	.05	.12	.49***	.24*	-.14	.09	.07	-.06	.00	.05						
12. SS school adult T2	-.24***	.06	.04	.49***	-.25*	-.11	-.17	.12	-.04	.19	.32**					
13. Self-esteem T2	.01	-.07	-.17*	-.10	.59***	-.42***	-.28***	-.32***	-.11	-.04	-.33**	-.23*				
14. FNE T2	-.06	-.03	.05	-.04	-.37***	.55***	.31***	.32***	.13*	-.08	.11	-.01	-.53***			
15. SAD-G T2	-.08	.12	.10	-.04	-.27***	.25***	.53***	.49***	.05	-.02	.14	-.11	-.41***	.46***		
16. SAD-NEW T2	-.14*	-.02	-.01	-.04	-.27***	.32***	.48***	.55***	-.02	-.05	-.04	-.15	-.39***	.51***	.70***	
M	2.73	1.43	1.57	1.87	2.69	2.56	2.13	2.54	1.74	1.35	1.63	1.89	2.75	2.54	2.03	2.46
SD	1.15	.50	.50	.34	.57	.68	.67	.66	1.14	.48	.49	.31	.58	.70	.68	.68
Range	2-6	1-2	1-2	1-2	1-4	1-4	1-4	1-4	2-6	1-2	1-2	1-2	1-4	1-4	1-4	1-4

*Note.* CBV stands for Cyberbullying Victimization; SS stands for Seeking Support; T1 stands for Time 1 and T2 stands for Time 2; FNE stands for Fear of Negative Evaluations from peers; SAD-G stands for Social Avoidance and Distress in General; SAD-NEW stands for Social Avoidance and Distress specific to New situations or unfamiliar peers; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

Table 3

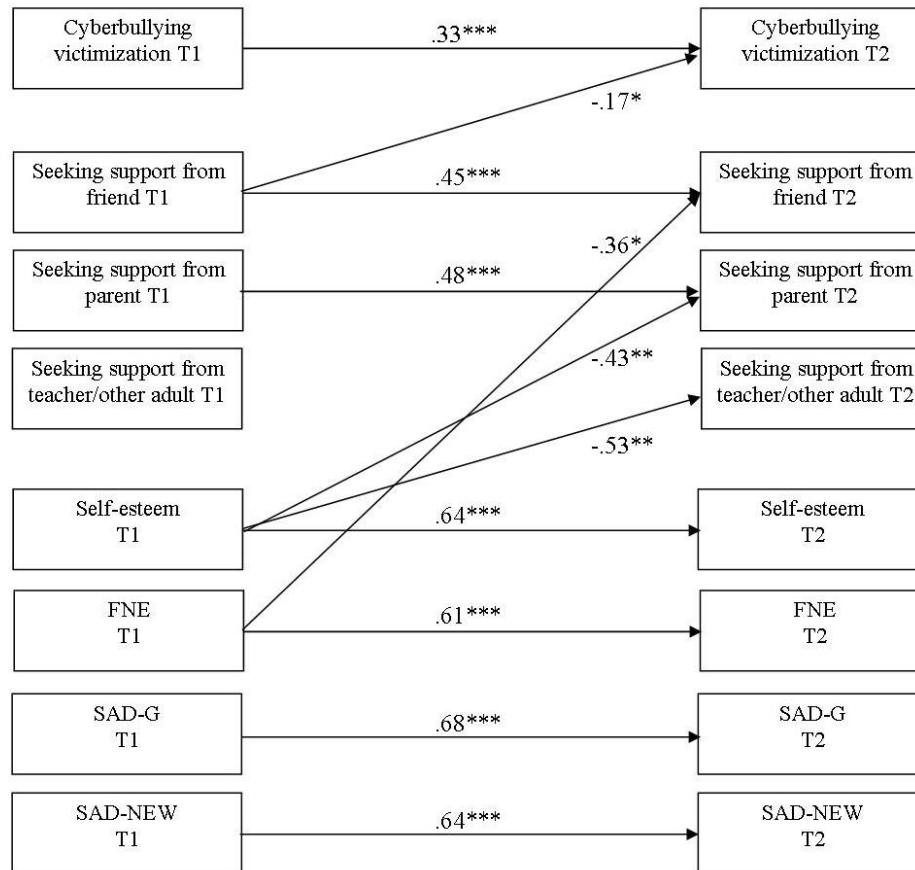
## Standardized parameter estimates of the cross-lagged path model

Path	$\beta$ (C.I.)	Two-tailed <i>p</i> value
<i>Stability between variables over time</i>		
Cyberbullying victimization T1 to Cyberbullying victimization T2	.33 (.23, .43)	.000
Seeking support friend T1 to Seeking support friend T2	.45 (.25, .65)	.000
Seeking support parent T1 to Seeking support parent T2	.48 (-.20, .69)	.000
Seeking support teacher/other adult T1 to Seeking support teacher/other adult T2	.12 (-.36, .59)	.629
Self-esteem T1 to Self-esteem T2	.64 (.56, .73)	.000
FNE T1 to FNE T2	.61 (.45, .76)	.000
SAD-G T1 to SAD-G T2	.68 (.51, .85)	.000
SAD-NEW T1 to SAD-NEW T2	.64 (.49, .78)	.000
<i>Cross-lagged relations between Seeking support and Cyberbullying victimization</i>		
Seeking support friend T1 to Cyberbullying victimization T2	-.17 (-.31, -.03)	.020
Cyberbullying victimization T1 to Seeking support friend T2	-.15 (-.38, .08)	.202
Seeking support parent T1 to Cyberbullying victimization T2	.01 (-.13, .15)	.854
Cyberbullying victimization T1 to Seeking support parent T2	.05 (-.20, .29)	.714
Seeking support teacher/other adult T1 to Cyberbullying victimization T2	.07 (-.11, .24)	.455
Cyberbullying victimization T1 to Seeking support teacher/other adult T2	-.25 (-.70, .20)	.272
<i>Cross-lagged relations between Seeking support and Self-esteem</i>		
Seeking support friend T1 to Self-esteem T2	-.06 (-.20, .08)	.393
Self-esteem T1 to Seeking support friend T2	-.24 (-.51, .03)	.077
Seeking support parent T1 to Self-esteem T2	-.12 (-.27, .02)	.089
Self-esteem T1 to Seeking support parent T2	-.43 (-.75, -.11)	.009
Seeking support teacher/other adult T1 to Self-esteem T2	-.08(-.23, .07)	.283
Self-esteem T1 to Seeking support teacher/other adult T2	-.53 (-.87, -.19)	.003
<i>Cross-lagged relations between Seeking support and Social anxiety</i>		
Seeking support friend T1 to FNE T2	-.06 (-.20, .09)	.440
FNE T1 to Seeking support friend T2	-.36 (-.64, -.07)	.014
Seeking support parent T1 to FNE T2	.08 (-.07, .22)	.286
FNE T1 to Seeking support parent T2	-.13 (-.49, .23)	.468
Seeking support teacher/other adult T1 to FNE T2	-.07 (-.25, .11)	.435
FNE T1 to Seeking support teacher/other adult T2	.04 (-.45, .55)	.871
Seeking support friend T1 to SAD-G T2	.09 (-.05, .24)	.202
SAD-G T1 to Seeking support friend T2	-.00 (-.33, .33)	.993
Seeking support parent T1 to SAD-G T2	.09 (-.06, .24)	.215
SAD-G T1 to Seeking support parent T2	.08 (-.37, .52)	.740
Seeking support teacher/other adult T1 to SAD-G T2	-.02 (-.19, .14)	.782
SAD-G T1 to Seeking support teacher/other adult T2	-.21 (-.79, .36)	.469
Seeking support friend T1 to SAD-NEW T2	-.19 (-.82, .45)	.565
SAD- NEW T1 to Seeking support friend T2	-.01 (-.31, .30)	.969
Seeking support parent T1 to SAD- NEW T2	-.12 (-.86, .63)	.756
SAD- NEW T1 to Seeking support parent T2	-.13 (-.58, .33)	.577
Seeking support teacher/other adult T1 to SAD- NEW T2	-.27 (-1.22, .68)	.578
SAD- NEW T1 to Seeking support teacher/other adult T2	-.17 (-.85, .52)	.635

*Note.* 95% confidence intervals are shown in brackets; FNE stands for Fear of Negative Evaluations from peers; SAD-G stands for Social Avoidance and Distress in General; SAD-NEW stands for Social Avoidance and Distress specific to New situations or unfamiliar peers; \*For more information about standardized regression weights greater than 1, see Deegan (1978) and Jöreskog (1999).

Figure 1

Graphical representation of the significant cross-lagged standardized parameter estimates



*Note.* T1 stands for Time 1; T2 stands for Time 2; FNE stands for Fear of Negative Evaluations from peers; SAD-G stands for Social Avoidance and Distress in General; SAD-NEW stands for Social Avoidance and Distress specific to New situations or unfamiliar peers; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; The cyberbullying victimization and seeking support variables were entered into the model as observed variables, whereas self-esteem and the subscales of social anxiety were entered as composite scores.

## Appendix A

## List of Questions Used in the Present Study

Construct	Questions used (Dutch language)
Self-reported cyberbullying victimization	<p>We spreken van pesten als</p> <ul style="list-style-type: none"> <li>• mensen meer dan één keer gemene of kwetsende dingen doen of zeggen</li> <li>• de pestkop de bedoeling heeft om anderen zich slecht te laten voelen</li> <li>• wie gepest wordt zich moeilijk kan verdedigen</li> </ul> <p>Het is dus NIET pesten als vrienden elkaar plagen of ruzie maken.</p> <p>Pesten kan gebeuren op school, op straat, in de jeugdbeweging of sportclub. Pesten kan ook gebeuren via het internet of de gsm. Iemand die pest kan bijvoorbeeld: gemene berichten versturen via sms of chat, kwetsende foto's verspreiden via internet of gsm, beledigende reacties posten op een forum en roddels verspreiden via een website. De volgende vragen gaan <u>ALLEEN</u> over pesten via internet of gsm.</p> <p>Hoe dikwijls werd jij de afgelopen zes maanden gepest via internet of gsm?</p>
Seeking social support	<ol style="list-style-type: none"> <li>1. Ik praatte erover met een vriend(in).</li> <li>2. Ik praatte erover met mijn ouder(s).</li> <li>3. Ik praatte erover met een leerkracht of een andere volwassene op school.</li> </ol>
Self-esteem	<ol style="list-style-type: none"> <li>1. Over het algemeen ben ik tevreden met mezelf.</li> <li>2. Soms denk ik dat ik helemaal nergens goed in ben.</li> <li>3. Ik vind dat ik een aantal goede eigenschappen heb.</li> <li>4. Ik kan de meeste dingen even goed als de meeste andere mensen.</li> <li>5. Ik heb het gevoel dat ik niet veel heb om trots op te zijn.</li> <li>6. Ik heb soms echt het gevoel dat ik nutteloos ben.</li> <li>7. Ik heb het gevoel dat ik een waardevol iemand ben, minstens even waardevol als anderen.</li> <li>8. Ik wou dat ik meer respect voor mezelf kon hebben.</li> <li>9. Al bij al voel ik me een mislukking.</li> <li>10. Ik neem een positieve houding aan tegenover mezelf.</li> </ol>
Fear of Negative Evaluation (FNE)	<ol style="list-style-type: none"> <li>1. Ik maak me zorgen dat anderen me niet leuk vinden.</li> <li>2. Ik maak me zorgen over wat anderen van me denken.</li> <li>3. Ik heb het gevoel dat leeftijdsgenoten achter mijn rug over mij praten.</li> <li>4. Wanneer ik een discussie heb met iemand, maak ik me zorgen dat de andere persoon me niet leuk zal vinden.</li> <li>5. Ik heb het gevoel dat anderen mij uitlachen.</li> <li>6. Ik maak me zorgen over wat anderen zeggen over mij.</li> <li>7. Ik maak me zorgen om geplaagd te worden.</li> <li>8. Ik ben bang dat anderen me niet leuk zullen vinden.</li> </ol>
Social Avoidance and Distress – General (SAD-G)	<ol style="list-style-type: none"> <li>1. Ik ben verlegen, zelfs als ik bij leeftijdsgenoten ben die ik erg goed ken.</li> <li>2. Het is moeilijk voor mij om aan anderen te vragen om dingen met mij te doen.</li> <li>3. Ik ben bang om anderen uit te nodigen om iets met me te gaan doen omdat ze misschien neen gaan zeggen.</li> <li>4. Ik ben stil wanneer ik bij een groep mensen ben.</li> </ol>
Social Avoidance and Distress – New (SAD-New)	<ol style="list-style-type: none"> <li>1. Ik praat alleen met mensen die ik echt heel goed ken.</li> <li>2. Ik voel me verlegen bij mensen die ik niet ken.</li> <li>3. Ik word zenuwachtig wanneer ik nieuwe mensen ontmoet.</li> <li>4. Ik word zenuwachtig wanneer ik met leeftijdsgenoten praat die ik niet goed ken.</li> <li>5. Ik voel me zenuwachtig wanneer ik bij bepaalde personen ben.</li> <li>6. Ik maak me zorgen om iets te doen wat ik nog niet eerder heb gedaan in het bijzijn van anderen.</li> </ol>