


The effects of bullying on psychopathology and the moderating role of coping

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Abstract

In this study, bullying victimization in university students is studied. The characteristics of bullying and the bullied students are investigated, as well as the relationship between bullying victimization, cognitive coping and internalizing and externalizing problems. In the relationship between bullying victimization and internalizing and externalizing problems, the moderation effect of gender and cognitive coping is studied as well. The study is conducted with 192 students from Dutch universities. The participants had to complete an online test battery consisting of several questionnaires. To study the data, (moderated) regression analyses were performed. From the total sample, 5.7% reported being bullied. Most bullied participants were living on their own. The most frequent type of bullying victimization was social exclusion and ignoring. Bullying victimization was found to be related to more internalizing and externalizing problems. Rumination, self-blame and catastrophizing were related to more internalizing problems and catastrophizing and other-blame were related to more externalizing problems. Gender and rumination were found to moderate the relationship between bullying victimization and externalizing problems and somatic complaints respectively. This study has provided an insight in bullying victimization in university students, but, a practical implication was the low number of bullied students, making the study mostly explorative. More research on this topic is needed with a larger sample size.

Samenvatting

Deze studie heeft onderzoek gedaan naar gepest worden onder universitaire studenten. De karakteristieken van pesten en de gepeste studenten zijn onderzocht, evenals de relaties tussen gepest worden, cognitieve coping, internaliserende en externaliserende klachten. In de relatie tussen gepest worden, internaliserende en externaliserende klachten is het moderatie effect van geslacht en cognitieve coping tevens onderzocht. De studie is uitgevoerd met 192 studenten aan Nederlandse universiteiten. De participanten dienden een online test in te vullen, bestaande uit diverse vragenlijsten. Om de gegevens te bestuderen is er gebruik gemaakt van (gemodereerde) regressieanalyses. Van het totale sample bleek 5,7% gepest. De meeste gepeste studenten woonden op zichzelf, de meest voorkomende vorm van pesten was buitensluiting en negeren. Gepest worden bleek gerelateerd aan meer internaliserende en externaliserende klachten. Rumineren, jezelf de schuld geven en catastroferen waren gerelateerd aan meer internaliserende klachten, catastroferen en anderen de schuld geven waren gerelateerd aan meer externaliserende klachten. Geslacht en rumineren bleken het

verband tussen gepest worden en respectievelijk externaliserende en somatische klachten te modereren. Deze studie heeft inzicht gegeven in gepest worden onder universitaire studenten. Echter lag het aantal gepeste studenten laag, wat ertoe leidde dat de studie voornamelijk exploratief van aard was. Er is meer onderzoek nodig op dit vlak, maar met een grotere steekproef.

1. introduction

You are sitting in the lecture, always alone. Even if you are trying to contact other students, they do not react. If you are going to sit next to them, they stand up and take a seat elsewhere. Why should you even try to make contact, they do not accept you anyway...

Bullying is a widely known problem all over the world, which has a large impact on its victims (Hawker & Bouton, 2000; Hemphill, Tollit, & Herrenkohl, 2014; Looze et al., 2014). Bullying is defined as a systematic kind of aggression, in which someone tries to hurt another in a physical, verbal or psychological way. In bullying ‘the power between the bully and the victim is unequal, in which the victim is not able to defend himself’ (Looze et al., 2014). In the Netherlands, a prevalence of 7-10% has been found for bullying in the age of 5-16 years old (Looze et al., 2014), this is comparable to the prevalence of 10.6% found in the US (Nansel et al., 2001). Several types of bullying exist. The first is overt bullying. In overt bullying, victims are threatened verbally or physically attacked. In relational bullying relationships are being manipulated maliciously, such as the withdrawal of friendships. The last kind of bullying is reputational bullying. In this kind of bullying, the bully tries to damage the relationships the victim has, for example by spreading rumors (Siegel, La Greca, & Harrison, 2009). Another division can be made: between physical/direct bullying, like hitting and pushing, and psychological bullying, like spreading rumors (Wang, Iannotti, & Nansel, 2009). The study of Garnefski and Kraaij (2014) distinguishes between 9 ways of bullying victimization. They found bullying by being called names was the most frequent type of bullying victimization in secondary school students. The second most frequent type of bullying was victimization by telling false lies or rumors (Garnefski, & Kraaij, 2014)

1.1 Consequences of bullying

In contrast to data on bullying in school children or working adults, data on bullying in university students are unknown. No data are available on numbers of students being bullied or the consequences of being bullied during university years. Therefore, this study will focus on university students who are being bullied. This bullying can take place at the university, at a student association or in a group of friends. In other age groups, it is known that bullying has a large impact on the lives of both bully's and victims (Brunstein-Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007). Studies have found that children of secondary school age (13-19 years old), who were bullied, were three to seven times more likely to become depressed compared to non-bullied peers. The increased incidence of depression in bullied

children has been found in primary and secondary school ages (8-19 years old) (Brunstein-Klomek et al., 2007; Hawker & Bouton, 2000). They also found that these same children also were at risk for serious suicidal ideation (SSI) and even suicide attempts (Brunstein-Klomek et al., 2007; Hawker & Bouton, 2000). Frequency of bullying and gender seemed to play a role in the occurrence of depression, SSI and suicide attempts. For boys, only frequent bullying was associated with depression, SSI and suicide attempts. When boys were infrequently bullied, the bullying was solely associated with suicide attempts. In girls, no difference between frequent and infrequent bullying has been found on the probability of depression, SSI or suicide attempt. In both cases, frequent and infrequent bullying, bullying was associated with a larger probability of those problems (Brunstein-Klomek et al., 2007). Not only the consequences of bullying differ across gender, also the type of bullying is different across gender, with boys being more physically bullied and girls more psychologically bullied at the secondary school age (11-18 years old) (Wang et al., 2009; Turner et al., 2013).

Bullying has also been associated with loneliness, self-esteem and anxiety in primary school children (5-12 years old) (Hawker & Bouton, 2000). Bullying is threatening, which can reinforce negative self-evaluations and can lead to avoidance of social interactions and social anxiety (Silverman, La Greca, Wasserstein, 1995). Siegel and colleagues (2009), found a bidirectional association between social anxiety and bullying in older adolescents. Social anxiety was both a predictor and a consequence of being bullied. But the relation between being bullied and becoming more socially anxious could be determined by the type of bullying. It had been found that especially relational victimization is associated with an increase in social anxiety scores (Storch, Masia-Warner, Crisp, & Klein, 2005).

Apart from internalizing problems after being bullied, externalizing problems and problems in normal life functioning also exist after being bullied (Ttofi, Farrington, & Lösel, 2012; Wolke, Copeland, Angold, & Costello, 2013). Wolke and colleagues (2013) found strong evidence for job and financial problems later in life when being bullied in the late primary and secondary school years (ages 9-16). Bullied people not only showed financial and work problems, but also health problems were more common in victims. Victims had a lower self-reported health and reported slower recovery from illness. Wolke and colleagues (2013) also studied if people who have been bullied showed more risky or illegal behavior. People who were bullied showed an association between bullying and smoking regularly, an official felony charge and breaking into a home, business or property (Wolke et al., 2013). Even after controlling for childhood psychiatric problems and family hardship, people who

had been bullied seemed to have a worse health, wealth and social relationships in adulthood. A moderating effect was found for severity of bullying. Both in people who were bullied once and people who were chronically bullied there was a significant effect on adult functioning, but the effect is stronger for chronically bullied people (Wolke et al., 2013). Another study investigated the effect of being bullied in primary and secondary school years on violent behavior later in life (secondary school-young adulthood) (Ttofi et al., 2012). This study also found an increase in violent and aggressive behavior after being bullied.

1.2 The moderating role of coping

It is clear that bullying has many consequences. The relationship between bullying and internalizing symptoms like depression and anxiety has been suggested to be moderated by coping (Garnefski et al., 2001). Coping is the process by which a person tries to cognitively and behaviorally manage the situation to be able to deal with the internal and external demands of the person and the environment. Coping consists of two main processes: dealing with the problem and regulation of emotions (Folkman, Lazarus, Gruen, & DeLongis, 1986; Lazarus, & Folkman, 1984). Dealing with the problem is referred to as problem-focused coping. This style involves active strategies that involve confronting the situation, seeking of social support and making concrete plans to cope with the situation (Folkman et al., 1986; Davis, Randall, Ambrose, & Orand, 2015). Emotion regulation is referred to as emotion-focused coping, these are more passive strategies, which include controlling one's feelings, reappraisal of oneself or the environment, avoidance behavior and distancing. In general, problem-focused strategies are thought to be more effective, but the effectivity is dependent of the situation and the specific coping technique used (Folkman et al., 1986; Lazarus, 1999).

Besides the distinction between problem-focused and emotion-focused coping, several other divisions can be made. One of those is the distinction between cognitive coping and behavioral coping. The relationship between coping strategies and internalizing problems has been confirmed for specific cognitive coping strategies. Cognitive coping strategies aim to handle distressing situations by conscious, mental strategies, like reappraisal of the situation, denial, blaming oneself and catastrophizing (Garnefski et al., 2001; Garnefski, & Kraaij, 2014). Garnefski and colleagues (2001) have identified nine different cognitive coping strategies: 1. self-blame (blaming yourself for what you have experienced); 2. Blaming others (blaming others for what you have experienced); 3. Acceptance (accept what happened); 4. Refocus on planning (thinking of how the negative situation can be handled and what steps to take); 5. Positive refocusing (thinking of positive things instead of focusing on the event); 6.

Rumination (focusing on the thoughts and feelings associated with the negative event); 7. Positive reappraisal (trying to attach a positive meaning to the event); 8. Putting into perspective (minimizing the seriousness of an event or emphasize the relativity of the event in comparison to other events); 9. Catastrophizing (maximizing the bad things of an event). The cognitive coping strategies rumination and positive refocusing have been found to be moderate the association between bullying and depression in children aged 13 to 16 years old. Rumination increases the risk of depression after being bullied. In contrast, positive refocusing was found to decrease the risk of depression after being bullied (Garnefski, & Kraaij, 2014). Also, direct effects of cognitive coping strategies on depression have been found. Self-blame, other-blame, rumination and catastrophizing were found to increase the probability of depression. Planning and positive reappraisal were negative effects, decreasing the probability of depression (Garnefski, & Kraaij, 2014).

1.3 This study

The current study will investigate if bullying victimization is prevalent in University students and the relationship between being bullied and internalizing and externalizing problems. The topic of bullying in university students has not much been studied before, even though it may have large consequences for the lives of the students being bullied. It is important that more information is available on bullying in university students because knowing what consequences bullying has in this group and what coping strategies are related to better outcomes can help future students cope better with bullying.

The first research question in this study is ‘What are the characteristics of bullying victimization in University students and what characterizes the group of bullied students?’ The first goal of this question is describing the problem of bullying in University students: is bullying prevalent and what characterizes bullying victimization in University? Students were asked if they are bullied and in what way. It is hypothesized that bullying victimization will occur in University students. This is expected because bullying does happen in the period before University (primary and secondary school) and in the period after University (work floor) (Brunstein-Klomek et al., 2007; Dzurec, & Bromley, 2012; Hawker & Bouton, 2000). It is expected that the percentage of bullied students is a bit lower than in secondary school. This is expected because Craig and colleagues (2009) observed a decrease in bullying behavior and victimization when adolescents became older. They suggested that this might be due to the development of psychological, cognitive and physical capabilities, the development of social skills and experience and changes in social activities and academic demands.

Another variable that is studied for the first research question is the type of bullying, in which way students are being bullied. It is hypothesized that bullying victimization by being called names and victimization by telling false lies or rumors will be the two most frequent types of bullying victimization, just as has been found by Garnefski and Kraaij (2014).

Next, the group of bullied students will be described based on sociodemographic variables: gender, living situation and if they have also been bullied in primary or secondary school. It is expected that a relatively large part of the bullied students were bullied before in primary or secondary school. Scholte, Engels, Haselager and de Kemp (2004), found that, from the children who were bullied at primary school, half were also bullied at secondary school. They explain this stability in being bullied by the fact that being a victim is often associated with child characteristics (Scholte et al., 2004). These child characteristics remain in different situations, increasing the risk of being bullied in other situations as well. Because personal characteristics also remain the same when starting university, it is hypothesized that a relatively large number of bullied students is bullied before. About the other characteristics studied, there are no specific hypothesis, because no information is available about student bullying. This study will explore those characteristics.

The main question is ‘What is the relationship between bullying and internalizing and externalizing symptoms in university students?’. It is hypothesized that bullied students will show higher levels of internalizing symptoms than non-bullied students, as has been found in other studies with younger age groups (Brunstein-Klomek et al., 2007; Hawker & Bouton, 2000; Siegel et al., 2009; Storch, Masia-Warner, Crisp, & Klein, 2005). Not much research has been done regarding externalizing symptoms. As noted before, Wolke and colleagues (2013) found some externalizing problems in adults who were bullied as kids, but no information on students is available. Because of the results of Wolke and colleagues (2013), it is hypothesized that bullied students will show more externalizing problems.

A subquestion we will try to answer is ‘Is the relationship between bullying and internalizing and externalizing symptoms moderated by gender?’. As noted before, in children a different type of bullying and type of consequences has been found for male and female gender (Turner et al., 2013; Brunstein-Klomek et al., 2007). It has been found that females present more suicidal ideation and higher depression scores in response to bullying compared to males (Turner et al., 2013). Also, in females, being bullied always leads to a higher probability on depression, SSI and suicidal attempts, regardless of severity of bullying. In males, infrequent bullying increases the probability of SSI and suicide attempts, but solely in frequent bullying the probability of depression is increased (Brunstein-Klomek et al., 2007).

Last, it was found that the relationship between bullying victimization and internalizing problems is stronger for female than for male in adolescents (Ledwell, & King, 2015). It is hypothesized that these differences are also present in bullied students and thus, it is hypothesized that females will show more internalizing symptoms in response to bullying compared to males. Regarding externalizing symptoms, it is hypothesized that males will show higher levels of externalizing problems than females in response to bullying. This is expected because in general, males are more likely to show externalizing symptoms than female (Zahn-Waxler, 1993). Last, it is expected that internalizing and externalizing problems will increase when severity or frequency of bullying increases. This is expected to account for both females and males.

The next research question will focus on the direct effect of coping on psychological problems: ‘are specific coping strategies related to internalizing and externalizing problems?’. In a previous study, rumination and self-blame showed a positive, direct effect to depression (Garnefski, & Kraaij, 2014). This makes us hypothesize that rumination and self-blame are ineffective strategies, which will lead to more internalizing and externalizing symptoms in this group. In contrast, as noted before positive reappraisal and refocus on planning have been found to decrease the risk on depression (Garnefski, & Kraaij, 2014). We hypothesize that positive refocusing and planning are effective strategies and will be associated with less internalizing and externalizing symptoms.

The last question we will try to answer is ‘Is the relationship between bullying and internalizing and externalizing problems moderated by coping strategy?’. It is expected that higher rumination will increase the strength of the effect between bullying and problems. This is expected because this coping strategy has been shown to moderate the relationship between bullying and depression (Garnefski, & Kraaij, 2014). Also, positive refocusing is expected to be a moderator. It is expected that higher positive refocusing will reduce the strength of the effect between bullying and depression, as has been found in a previous study (Garnefski, & Kraaij, 2014).

2. Method

2.1 Participants

For this study, university students were recruited. Inclusion criteria were students who were currently in their bachelor, premaster or master phase, they had to be between the age of 18-

25 years old and participants had to speak or read Dutch properly. Students from all studies or Dutch universities were allowed to participate.

2.2 Materials

The participants filled in an online test battery, which consisted of items of the Revised Olweus Bully/Victim Questionnaire (OBVQ), the Symptom Checklist-90 (SCL-90) and the Cognitive Emotion Regulation Questionnaire (CERQ). The questionnaire for this study was part of a larger questionnaire concerning bullying research. The complete questionnaire took at about 30 minutes to complete.

From the OBVQ, only ten items measuring bully victimization were used. These were used to assess if and how often the participant was bullied in the past academic year. The other items about bullying perpetration and the way the surroundings respond to bullying were not used. The total OBVQ consists of 40 items (Kyriakides, Kaloyirou, & Lindsay, 2006). All items are answered on a five-point scale (1-5) in which: 1= it hasn't happened to me in the last 2 months; 2= it happened to me only once or twice in the last 2 months; 3= it happened to me 2 or 3 times a month; 4=it happened to me once a week; 5= it happened to me several times a week. A total score is found by adding the answers on the questions (range 40-200). Higher scores indicate more often victimization (Kyriakides et al., 2006). For this study, no total score was used, but a dichotomous variable was, because the total score was too skewed. This variable contained two categories: bullied (-1) and non-bullied (1). To classify someone as bullied, the person had to answer at least one question with 'this happened to me two or three times a month/once a week/several times a week' (Solberg, & Olweus, 2003). The questions of the OBVQ asked if the participant experienced several types of bullying, like "I have been hit, pushed, kicked or locked", followed by the answer categories noted before (Solberg, & Olweus, 2003). The alpha coefficients of the OBVQ are good, ranging from 0.82 to 0.93 (Kyriakides et al., 2006). A cronbach's alpha of .91 was found in our study. For our study, the questions were modified to fit the study population. For example, the word 'school' was replaced by 'university'. After the OBVQ, two additional questions were added, asking if they were bullied during primary school and secondary school. These questions could be answered by 'yes' or 'no'.

The SCL-90 was used as a measure of internalizing and externalizing problems. The SCL-90 is a self-report questionnaire consisting of 90 questions (Arrindell, & Ettema, 1986). The questions describe physical or psychological complaints. The respondent should rate how much he/she suffered from the complaint the past week, including today, on a five-point

scale, in which 1= not at all, 2= a little, 3= quite, 4= pretty much, 5= a lot. The SCL-90 is divided in eight subscales: agoraphobia, anxiety, depression, somatic complaints, insufficiency in thinking and acting, distrust and interpersonal sensitivity, hostility and sleep problems. A ninth category, 'other', consists of items which cannot be placed in one of the subscales. The scores on subscales are received by adding the answers. The total score, 'psychoneuroticism', is received by adding the scores on the subscales and the 'other' category. This score can vary from 90 to 450 (Arrindell, & Ettema, 1986). In this study only four subscales were used. As a measure of internalizing symptoms, the subscales anxiety (10 items, scores ranging from 10-50), somatic complaints (12 items, scores ranging from 12-60) and depression (16 items, scores ranging from 16-80) were used, and as a measure of externalizing symptoms, the hostility subscale (6 items, scores ranging from 6-30) was used. The alpha coefficients of these subscales vary from .85 to .88, which are good (Arrindell, & Ettema, 1986). In our study, a cronbach's alpha ranged from .81 - .94. The cutoff scores used to say someone is scoring above average are as follows: depression, 21 (male)/23 (female); anxiety, 12 (male)/14 (female); somatic complaints, 16 (male)/19 (female); hostility, 7 (male/female). The norm group 'normal population' was used (Arrindell, & Ettema, 1968).

The CERQ is a measure of cognitive coping strategies. The questionnaire consists of 36 items, divided over nine scales, with four questions for each scale (Garnefski, Kraaij, & Spinhoven, 2001). These nine scales represent nine cognitive strategies, namely: self-blame, blaming others, acceptance, refocus on planning, positive refocusing, rumination or focus on thought, positive reappraisal, putting into perspective and catastrophizing. The questions are statements and ask for thoughts after a stressful or threatening life event and not about how you actually behave, for example "I think about how to change the situation" (Garnefski et al., 2001). Answer categories are ranging from 1-5, in which 1= (almost) never, 2= sometimes, 3= regularly, 4= often and 5= (almost) always. No total score is available, only scores for subscales. Scores on each of the nine subscales can range from 4-20. Alpha coefficients for the subscales are ranging from .66-.83 (Garnefski et al., 2001). In our sample, cronbach's alpha ranged from .67 to .89. In this study, the norm group of the normal population was used.

2.3 Procedure

After permission of the Ethical Commission was obtained, the recruiting of participants started. Participants were recruited by posting a flyer on 84 Facebook pages of 44 different studies from 14 different Dutch Universities. This was done by searching Facebook pages of

all studies and universities that were in a Dutch university guide. In this online guide, the list of studies per university was used. From all studies, Facebook pages were searched by the name of the study combined with the name of the university. Membership requests were sent to those pages, which were in total 198 requests. This request was accepted by 84 pages. The poster was also posted on the personal Facebook pages of the investigators.

When students started the questionnaire, they had to sign informed consent online. In the informed consent, the participants were told about the aim of the study, because it was not expected to influence the results. After they signed, they could start the questionnaires, also online. After completion of the questionnaire, students could choose for a reward. First year Psychology students of Leiden University must collect a number of credits by participating in studies to pass the first year. For them, it was possible to obtain one credit for participating. Besides, all participants could choose to participate in a lottery. After completion of the study, five €10 were raffled under students that participated in the lottery. The 5 winners were randomly chosen.

2.4 Statistical methods

To analyze the data, SPSS was used. Before the analyses of the results, the sample was checked for inclusion and exclusion criteria and variables were checked on outliers and skewness. If necessary, the variables were recoded or transformed.

For the first research question, concerning the prevalence of bullied participants and the descriptive information of bullying victimization, descriptives and frequencies were requested in SPSS. For the second and third research question, a moderated regression analyses was performed. The dependent variables were the total scores of depression, anxiety, somatic complaints and hostility, as measured by the SCL-90. The bullying variable was entered in the first block. The results of this block were used to study the second research question: the relationship between bullying victimization and internalizing and externalizing problems. For the third research question, concerning the moderation effect of gender in the relationship between bullying victimization and internalizing and externalizing problems, a second and third block were added. In the second block, the centered gender variable was added. In the third, last block, the interaction effect between bullying and gender was added. This variable was composed of the bullying variable multiplied by the centered gender variable. In every step, the enter method has been used. To interpret a significant interaction effect, first, the sample will be split in male and female. Next, correlation coefficients between bullying and the relevant dependent variable will be calculated.

The fourth research question aimed to study the effect of cognitive coping strategies on internalizing and externalizing problems. The total scores on the subscales of SCL-90 were used as measures of internalizing and externalizing problems. The measures of cognitive coping strategies were the centered total scores on each coping strategy assessed by the CERQ. There has been chosen for centered total scores because these were also used for the last analyses. The last analyses was built on this fourth analyses, so conformity is eligible. First, correlation coefficients between the variables were calculated, thereafter, a multiple regression analyses was performed. The dependent variables were the internalizing and externalizing problems, the independent ones were the nine cognitive coping strategies. Bullying was also entered as an independent variable to correct for bullying victimization. The enter method was used.

The last analyses concerned a moderated regression analyses, to study the moderation effect of cognitive coping strategies in the relationship between bullying victimization and internalizing and externalizing problems. The dependent variables were the total scores of depression, anxiety, somatic complaints and hostility, as measured by the SCL. The independent variables were the centered total scores of the CERQ that had a significant effect in the previous analyses and the bullying variable. Only the coping strategies that had a significant effect before were used, because the sample size was too small to add all. The interaction terms were composed of the bullying variable, multiplied with the centered coping strategies that were added as a direct effect. In the first block, the bully variable was entered. In the second block, the cognitive coping strategies were added and the interaction effects were added in the third block. In all blocks, the enter method was used. To interpret the results of the interaction effects, the coping strategies with a significant interaction were divided in three groups, based on standard deviations from the mean (group 1= lower than 1 SD below the mean; 2= 1 SD below to 1 SD above the mean; 3=more than 1 SD above the mean). For each group, a correlation coefficient was calculated. These correlation coefficients revealed the direction of the effect. When correlations over the groups increased, a positive relationship was found, when correlations decreased, a negative correlation was shown.

3. Results

3.1 Preliminary analyses

Before starting the analyses, the variables were checked. First, all participants who did not finish the questionnaire were removed from the data, this concerned 266 participants. Next, it

was checked if all participants met the inclusion criteria. Based on the inclusion criteria, 4 participants were excluded. This led to a final sample of 192 participants. The next step was checking the variables. First, boxplots of the variables have been created to check for outliers. The variable hostility contained 2 extreme outliers. Thereafter, variables were checked for skewness. All SCL-90 scales were skewed. The SCL-90 scales were Log10 transformed to reduce skewness. After this transformation, the outliers on the hostility scale were no longer outliers. Next, reliability analyses have been performed and descriptive information was obtained. All variables were reliable, with Cronbach's α ranging from .67 (accepting) to .94 (depression), as can be found in table 1.

Table 1:

Descriptives of the variables

	Cronbach's α	Mean	Standard deviation	Range in sample
Depression	.94	33.60	13.50	16-76
Anxiety	.88	18.52	7.43	10-41
Somatic complaints	.87	20.89	8.18	12-52
Hostility	.81	9.55	3.57	6-22
Self-blame	.85	11.28	3.64	4-19
Accepting	.67	12.58	3.05	4-20
Rumination	.83	12.17	3.73	4-20
Positive refocusing	.89	10.68	3.52	4-20
Refocus on planning	.86	13.41	3.21	4-20
Positive reappraisal	.85	11.94	3.68	4-20
Putting into perspective	.83	12.14	3.80	4-20
Catastrophizing	.70	6.92	2.70	4-16
Other blame	.87	7.48	2.91	4-19

Note. N=192.

Subsequently, correlation coefficients between internalizing problems, externalizing problems and the nine cognitive coping strategies were calculated (table 2). Among the cognitive coping strategies, the correlations ranged from -.03 (positive refocusing-other blame) to .55 (positive reappraisal-refocusing on planning). This indicates that there was no multicollinearity among the cognitive coping strategies (Meyers, Gamst, & Guarino, 2013). Correlations among internalizing problems ranged between .71 (somatic complaints-depression) and .79 (somatic complaints-anxiety), showing no multicollinearity. Even though those correlations were high, the variables can and were used as separate outcome measures (Meyers, Gamst, & Guarino, 2013).

Table 2:

Correlations among variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Depression	1													
2. Anxiety	.79***	1												
3. Somatic complaints	.71***	.78***	1											
4. Hostility	.67***	.56***	.62***	1										
5. Bullying	-.26***	-.32***	-.23***	-.27***	1									
6. Self-blame	.34***	.32***	.33***	.21**	-.14	1								
7. Accepting	-.02	.04	.11	-.03	.03	.17*	1							
8. Rumination	.39***	.42***	.38***	.26***	-.16*	.30***	.12	1						
9. Pos. refocus	-.32***	-.26***	-.12	-.24***	.11	-.13	.34***	-.18*	1					
10. Ref. planning	-.17*	-.04	-.03	-.19**	.07	.09	.38***	.11	.35***	1				
11. Pos. reappraisal	-.31***	-.22**	-.11	-.25***	.11	-.17*	.43***	-.09	.48***	.55***	1			
12. Putting into perspective	-.26***	-.19**	-.11	-.25***	-.16*	.04	.45***	-.10	.38***	.42***	.53***	1		
13. Catastrophizing	.49***	.44***	.37***	.49***	-.32***	.24***	-.06	.30***	-.19**	-.15*	-.19**	-.21**	1	
14. Other-blame	.18*	.15*	.18*	.36***	-.19**	-.04	.04	.16*	-.03	.06	-.06	-.13	.36***	1

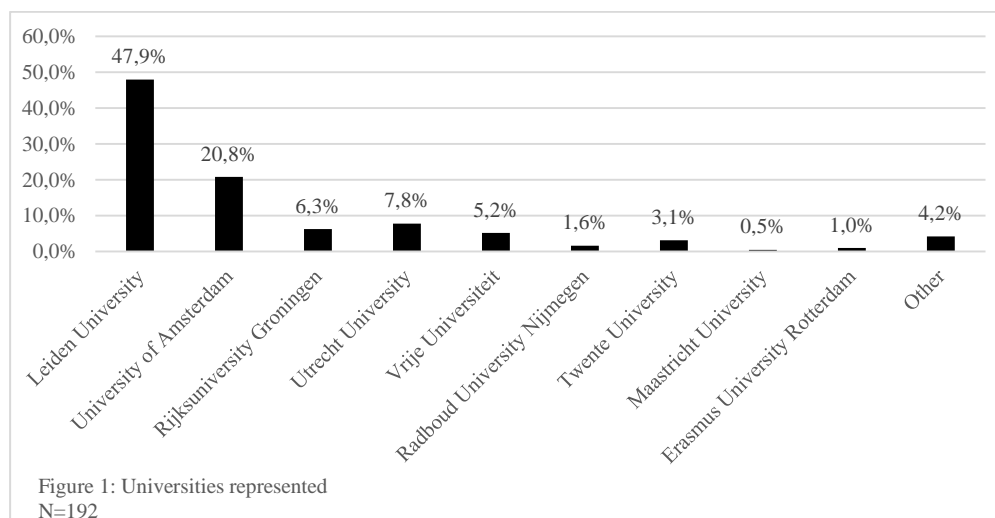
Note. $N=192$; * $p<.05$, ** $p<.01$, *** $p<.001$.

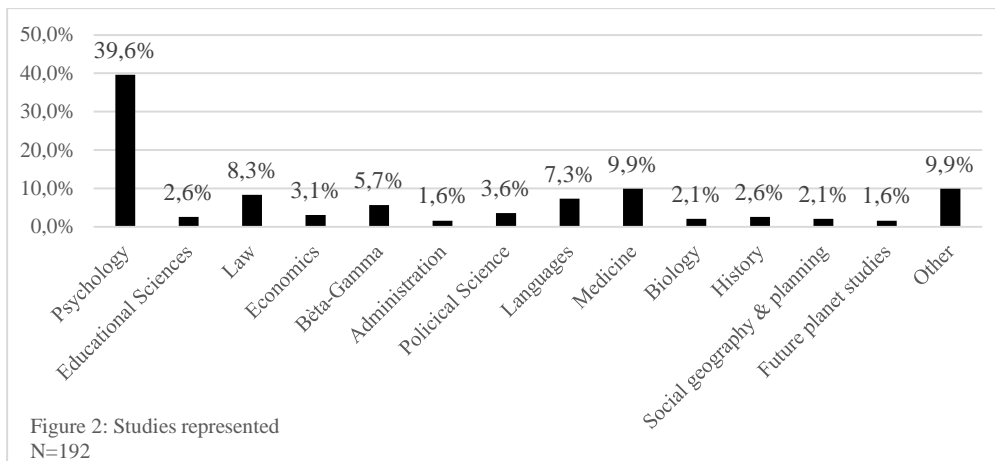
3.2 Descriptives of the sample

The sample consisted of 159 females (82.8%) and 33 (17.2%) male. The mean age of the participants was 22 years old ($SD=2.06$, range=18-25). Most participants had the Dutch nationality (95%), the others had a Dutch nationality combined with another nationality (2.5%), a German nationality (1%), or an Iran nationality (0.5%). Most participants had Dutch parents (mothers 88.1%, fathers 86.7%), some parents had another European nationality (mothers 3.6%, fathers 3.6%) and some parents had a nationality outside Europe (mothers 8.2%, fathers 8.8%). From the participants, 96.4% counted themselves Dutch, 4.6% as part of a population inside Europe and 7.1% counted themselves as member of a population outside Europe.

From the participants, 69.1% was living on their own, 30.6% was living with their parents. Most participants grew up with both natural parents (80.1%), some with divorced parents (13.3%) and most had brothers and/or sisters (55.1%). A small percentage came out a different kind of family. The participants were of a variety of Universities and studies. Most students were studying at the Leiden University (47.9%) or the University of Amsterdam (20.8%) (figure 1). The most prevalent study in our sample was Psychology (39.6%) (figure 2). 64.6% of participants were in the Bachelor phase of their study, 30.2% were in their Master phase, the others (5.2%) were doing a premaster.

The sample scored high on all measures of internalizing and externalizing problems compared to the normal population. When comparing the scores of the sample with the psychiatric population, they scored low. The sample also scored high on the use of cognitive coping strategies. Especially self-blame is used much more compared to the normal population. When comparing the sample with the psychiatric population, they scored low.





3.3 Characteristics of bullying victimization and bullied students

The first research question aimed at investigating if bullying occurred in University students and if it did, what the characteristics of bullying are. Besides, the bullied group would be described. It was hypothesized that bullying would take place, but at a lower level compared to primary and secondary school. In this study, a bullying victimization prevalence of 5,7% has been found, according to the criteria of Solberg and Olweus (2003). These were 11 participants from the sample. This bullying took place in the past academic year. This is, as expected, a lower victimization rate than in primary and secondary schools. Table 3 shows that social exclusion and ignoring was the most frequent type of bullying in university students in the past educational year. Thereafter, spreading rumors, lies and make others dislike the person and scolding, turning crazy and teasing in an offensive way were the most frequent types of bullying victimization.

Most bullied students were living on their own (90.9%). From the 11 bullied participants, 3 were male (27.3% of bully victims) and 8 were female (72.7% of bully victims). Even though in our sample more females than males are bullied, relatively, more male are bullied compared to female. Namely, 9.1% of male in our sample are bullied, in contrast to only 5% of female in our sample.

From the 11 bullied students in the past year, 7 were also bullied at secondary school (63,64%) and 9 were also bullied at primary school (81,82%). But, in the whole sample, there does not seem to be a significant relation between being bullied in primary school and university ($r=.13$, n.s.), nor a relation between being bullied in secondary school and university ($r=.04$, n.s.).

Table 3:

Bullying victimization

	Number(percentage) that was bullied this way at least 2 or 3 times a month in the past year
Scolding, turning crazy, teasing in an offensive way	5(2.6%)
Social exclusion, ignoring	8(4.0%)
Hitting, pushing, kicking, locking	2(1.0%)
Spreading rumors, lies, make others dislike me	6(3.1%)
Steal or damage possessions	2(1.0%)
Threatening, forcing	2(1.0%)
Abusive language, comments about origin/skin-color	2(1.0%)
Abusive language, comments or gestures of sexual meaning	3(1.5%)
Mean or hurtful messages, phone calls, pictures or movies	2(1.0%)
Bullied in another way	3(1.5%)

Note. $N=192$.

3.4 The relationship between bullying and internalizing and externalizing problems

The second research question concerned the relationship between bullying victimization and internalizing and externalizing problems. It was hypothesized that bullying would be related to more internalizing and externalizing problems. To study this relationship, a regression analyses has been performed (table 4). All effects between bullying victimization and internalizing and externalizing problems are significant and all were negative effects, showing that bullying is related to more internalizing and externalizing problems. The strongest effect has been found between bullying and anxiety. The other relations were less strong, but of significance. The hypothesis can be confirmed, with internalizing and externalizing problems both relating significantly with bully victimization.

Table 4:

Regression analyses

	Depression		Anxiety		Somatic complaints		Hostility	
	β	t	β	t	β	t	β	t
Bullying	-.26	-3.77***	-.32	-4.65***	-.23	-3.20**	-.27	-3.85***
Model	$F(1,190)=14.20***$		$F(1,190)=21.58***$		$F(1,190)=10.27**$		$F(1,190)=14.80***$	
	$R^2=.07$		$R^2=.10$		$R^2=.05$		$R^2=.07$	

Note. * $p<.05$ level, ** $p<.01$, *** $p<.001$

3.5 The moderation effect of gender in the relationship between bullying and internalizing and externalizing problems

In the third research question, the moderation effect of gender in the relationship between bullying and internalizing and externalizing problems was examined. Comparing male and female, a stronger relation between bullying and internalizing problems was expected to be found for female and a stronger relation between bullying and externalizing problems was expected to be found for male. To investigate this research question, a moderated regression analyses was used (table 5).

The first dependent variable studied was depression, this model explained 7% of variance. The model of anxiety explained 10% of variance and the model of somatic complaints explained 7% of variance. None of those models had a significant interaction effect or a direct effect of gender, which indicates that gender does not moderate the relationship between bullying and depression, anxiety or somatic complaints. The last regression analyses was performed with hostility as the dependent variable. The interaction term, added in the third block, was significant, as well as the direct effect of gender. The total model explained 10% of variance. Gender did seem to moderate the relationship between bullying and hostility. To study the direction of this effect, the sample was divided in male and female. Next, correlation coefficients between bullying and hostility were calculated. In the male group, the correlation was $-.57$ ($p < .001$), in the female group the correlation was $-.14$ (n.s.). The relationship between bullying and hostility is stronger for male than female. The hypothesis regarding internalizing problems is rejected, with no significant interaction effects. But, the hypothesis concerning externalizing problems is confirmed.

Table 5:

Moderated regression analyses

	Depression		Anxiety		Somatic complaints		Hostility	
	β	t	β	t	β	t	β	t
Bullying	-.25	-3.53***	-.32	-4.54***	-.23	-3.14**	-.23	-3.27***
Gender	-.06	-.43	.04	.27	.06	.47	-.30	-2.34*
Bullying*Gender	.10	.74	.01	.06	.06	.49	.28	2.18*
Model	$F(3,188)=4.92^{**}$		$F(3,188)=7.26^{***}$		$F(3,188)=4.39^{**}$		$F(3,188)=6.91^{***}$	
	$R^2=.07$		$R^2=.10$		$R^2=.07$		$R^2=.10$	

Note. $N=192$. * $p < .05$, ** $p < .01$, *** $p < .001$

3.6 Relation between cognitive coping strategies and internalizing and externalizing problems

The fourth question of this study examines the relationship between the nine cognitive coping strategies and internalizing and externalizing. It was hypothesized that rumination and self-blame lead to more internalizing and externalizing problems. In contrast, positive reappraisal and refocus on planning were hypothesized decrease the risk on internalizing and externalizing problems. To test this relationship, first, the Pearson correlation coefficients between the variables of cognitive coping and the variables of internalizing and externalizing problems have been calculated (table 2). In general, highest positive correlations have been found between catastrophizing and each of the internalizing and externalizing problems. Self-blame, rumination and other-blame were also positively correlated to all four internalizing and externalizing scales. Positive refocusing, positive reappraisal and putting into perspective all negatively correlated to the internalizing and externalizing scales, except for somatic complaints. Refocus on planning was negatively correlated to depression and hostility. Accepting was not significantly related to any of the internalizing or externalizing problems.

Next, four multiple regression analyses were performed with each time one of the internalizing or externalizing subscales as dependent variable and all the cognitive coping strategies and the bullying variable as independent variables (table 6). The internalizing variables depression, anxiety and somatic complaints all had a significant model with the nine cognitive coping strategies and bullying, with 40%, 36%, 27% of variance explained respectively. This also counted for the externalizing model with hostility and the nine cognitive coping strategies and bullying, which explained 35% of variance. For depression and somatic complaints, direct, positive significant effects were found for self-blame, rumination and catastrophizing. For anxiety direct, direct positive effects were found for rumination and catastrophizing. Also, a direct negative effect was found for bullying. The externalizing variable hostility had direct, positive effects with catastrophizing and other-blame. All significant effects are positive, which means higher use of the significant strategies is related to more symptoms of depression, anxiety, somatic complaints and hostility. No significant effects have been found for positive coping strategies. The hypothesis about rumination is accepted, rumination was significantly related to internalizing and externalizing problems. The hypothesis about self-blame is accepted for depression and somatic complaints, but not for anxiety and hostility. The hypothesis about positive refocusing and refocus on planning is rejected, no significant negative relationships have been found.

Table 6:

Multiple regression analyses

	Depression		Anxiety		Somatic complaints		Hostility	
	β	t	β	t	β	t	β	t
Bullying	-.08	-1.23	-.17	-2.61**	-.08	-1.23	-.08	-1.27
Self-blame	.15	2.32*	.11	1.60	.20	2.73**	.10	1.47
Accepting	.11	1.55	.11	1.49	.11	1.42	.08	1.09
Rumination	.19	3.00**	.23	3.39***	.23	3.16**	.08	1.13
Positive refocusing	-.13	-1.85	-.12	-1.73	-.00	-.05	-.08	-1.10
Refocus on planning	-.06	-.79	.07	.89	-.07	-.89	-.12	-1.50
Positive reappraisal	-.11	-1.31	-.10	-1.21	.03	.28	-.04	-.49
Putting into perspective	-.09	-1.25	-.07	-.87	-.07	-.81	-.08	-1.03
Catastrophizing	.30	4.37***	.26	3.69***	.19	2.47*	.28	3.89***
Other blame	-.01	-.10	-.04	-.57	.06	.85	.22	3.31***
Model	$F(10,181)=12.19$; $p<.001$		$F(10,281)=10.20$; $p<.001$		$F(10,181)=6.65$; $p<.001$		$F(10,181)=9.67$; $p<.001$	
Explained variance (R^2)	$R^2=.40$		$R^2=.36$		$R^2=.27$		$R^2=.35$	

Note. $N=192$. * $p<.05$, ** $p<.01$, *** $p<.001$

3.7 Moderation of the relationship between bullying and internalizing and externalizing problems by coping

The last research question aimed at investigating the moderation effect of cognitive coping strategies in the relationship between bullying and internalizing and externalizing problems. A moderated regression analyses is used (table 7). Only the coping strategies that had a significant effect is the previous multiple regression analyses were used to reduce the number of variables in the analyses. This was needed because of the small sample size. The expectation was that rumination and positive refocusing would be moderators. However, positive refocusing was not added in the analyses, because it did not seem to have a significant direct effect on internalizing or externalizing problems (table 6). Higher rumination was expected to increase the strength of the relationship between bullying on internalizing and externalizing problems.

The models of depression, anxiety and hostility did not have a significant interaction effect. But, in the model of somatic complaints, the interaction effect between bullying and

rumination was significant at $p < .05$ level. To understand the direction of this effect, the sample was divided in three groups, based on their rumination scores (a low rumination, medium rumination and high rumination group). Pearson correlations were calculated between bullying and somatic complaints, for each rumination group separately. The correlation in the low rumination group was $-.39$ ($p < .01$), in the medium group $-.17$ (n.s.) and in the high scoring group $-.09$ (n.s.). This shows that lower rumination strengthens the relationship between being bullied and somatic complaints.

The hypothesis is rejected. In contrast the hypothesis, higher rumination seemed to decrease the influence of bullying victimization on somatic complaints.

Table 7:

Moderated regression analyses

	Depression		Anxiety		Somatic complaints		Hostility	
	β	t	β	t	β	t	β	t
Bullying	-.08	-.86	-.16	-1.64	-.05	-.51	.06	.61
Self-blame	.28	1.67			.31	1.74		
Rumination	-.07	-.38	.15	1.01	-.14	-.68		
Catastrophizing	.47	3.92***	.40	3.26***	.42	3.32***	.58	4.56***
Other blame							.28	3.00**
Bullying by self-blame	-.10	-.61			-.11	-.62		
Bullying by rumination	.32	1.64	.17	1.19	.41	2.00*		
Bullying by catastrophizing	-.14	-1.20	-.13	-1.09	-.24	-1.90	-.23	-1.85
Bullying by other blame							-.12	-1.32
Model	$F(7,184)=14.47***;$ $R^2=.36$		$F(5,186)=17.30***;$ $R^2=.32$		$F(7,184)=10.29***;$ $R^2=.28$		$F(5,186)=17.07***;$ $R^2=.32$	

Note. $N=192$. * $p < .05$, ** $p < .01$, *** $p < .001$

4. Discussion

4.1 Discussion results

This study examined bullying in University students. Attention has been paid to descriptive information of bullied students and the relationships between being bullied, coping strategies, internalizing and externalizing problems. Also, the moderation effect of gender and coping in the relation between being bullied and internalizing and externalizing problems was investigated.

The first research question concerned the prevalence of bullying victimization in University students, and what characterized this bullying and the bullied students. From the sample, 5.7% (11 students: 3 male, 8 female) was bullied in the past academic year, according to Solberg and Olweus' criteria (2003). This percentage is lower than the percentage of bullied children aged 5-16 (7-10%), which is in line with the hypothesis. Relatively more males were bullied compared to female. It is unclear if this is due to more willingness to participate of bullied male compared to bullied female or that more male are bullied in university. This could be the subject of future research.

Social exclusion and ignoring was the most frequent type of bullying, which was not in line with the hypothesis. Bullying by telling false lies or rumors and by being called names were expected to be the most frequent types of bullying victimization. These were the second and third most frequent types of bullying in our sample. In university, students become more aware of themselves and their identity, but also become more accepting in differences between people (Bergerson, & Huftalin, 2011). Possibly, because accepting others is such an important development in university, social exclusion and ignoring could be experienced as bullying in university students.

There did not seem to be a correlation between being bullied at primary/secondary school and being bullied at university. However, the lack of this correlation could be due to the low number of bullied students in the total sample. From the bullied students, 7 out of 11 (63,64%) were bullied at primary school and 9 out of 11 (81,82%) were bullied at secondary school. These are high percentages. Last, most bullied students were living on their own (90.9%). The percentage of bullied students that were living on their own was a lot higher than the percentage of students living on their own in the total sample (69.1%). Possibly, this is related to the type of bullying that is most prevalent in university students: social exclusion and ignoring. Students living on their own are probably more searching for social contacts and therefore more vulnerable to exclusion and ignoring (Pokorny, Holley, & Kane, 2016). When living with their parents, students are searching less for social contacts at university. These students have their family and network close to them and stay participated in social activities at the home environment (Pokorny et al., 2016). This makes it less likely they feel excluded or ignored. This could be subject of future research, why bullying is most common in students living on their own.

The second research question of this study concerned the relationship between bullying and internalizing and externalizing problems. It was hypothesized that bullying would be related to more internalizing and externalizing problems. This hypothesis was

confirmed. Bullying victimization was significantly related to more symptoms of depression, anxiety, somatic complaints and hostility. This relationship between being bullied and internalizing problems was found before in other age categories (Brunstein-Klomek et al., 2007; Hawker & Bouton, 2000; Siegel et al., 2009; Storch, Masia-Warner, Crisp, & Klein, 2005), but now this relationship has also been shown in university students. For externalizing problems, past research has mainly focused on the long term or on bullies. If people were bullied as kids, they showed more externalizing problems as adults (Wolke et al., 2013). Davidson and Demaray (2007) found that bullying victimization among secondary school students was related to more externalizing problems in secondary school. This is in line with the current findings in which a relationship was found between bully victimization in university students and externalizing problems.

The third question addressed in this study is about the moderation effect of gender in the relationship between being bullied and internalizing and externalizing problems. It was hypothesized that the relationship between bullying victimization and internalizing problems would be stronger for female than for male. This has been found by many studies before (Hawker, & Boulton, 2000; Ledwell, & King, 2013). However, this study did not find this moderation effect. Next, it was hypothesized that the relationship between bullying victimization and externalizing problems would be stronger for male than for female (Zahn-Waxler, 1993). This moderation effect has been found in the study, the relationship between bullying victimization and hostility is stronger for male than for female. Possibly, the moderation effect of gender in the relationship between being bullied and internalizing problems is missing because of the low number of bullied students, especially male (3). Maybe there was found an effect for hostility, because that effect was more evident. Hostility scores increased a lot from non-bullied male to bullied male, but only slightly from non-bullied female to bullied female. In internalizing problems, scores of both male and female increased when being bullied at about the same size, with only minor differences. More research on this topic is needed.

In the fourth research question the relationship between cognitive coping strategies and internalizing and externalizing problems was investigated. It was hypothesized that rumination and self-blame would be associated to more internalizing and externalizing problems, and that positive reappraisal and refocusing on planning would be related to less internalizing and externalizing problems, as has been found by previous research in secondary school students (Garnefski, & Kraaij, 2014). Rumination did indeed seem to be related to more internalizing problems, as well as self-blame (except for anxiety). Besides,

catastrophizing was related to more internalizing problems. The externalizing scale hostility was significantly related to catastrophizing and other blame. The significant relation between rumination, self-blame and internalizing and externalizing problems is in line with the hypothesis. The significant relation between catastrophizing and internalizing and externalizing problems has not been observed in the study by Garnefski and Kraaij (2014). This could be explained by the fact that the study by Garnefski and Kraaij (2014) was conducted with young adolescents. In a different study, it has been found that the correlation between catastrophizing and depressive symptoms increases with age, with a peak in adults (Garnefski, & Kraaij, 2006). Possibly, this could explain why catastrophizing does have a significant relation in our sample, with students.

This study did not find a significant relation between positive reappraisal, refocus on planning and any of the internalizing or externalizing scales. The total sample scored high on all measures of cognitive coping strategies. Martin and Dahlen (2005) studied the relationship between cognitive coping strategies and depression, anxiety, stress and trait anger in university students. Their sample also scored high on all measures of cognitive coping as measured by the CERQ and they also did not find a relationship between refocus on planning and problems. They did find a relationship between positive refocusing and problems, but their sample scored a lot higher on positive refocusing compared to the current sample. Maybe, positive reappraisal is only helpful in university students when highly using this strategy. More research is needed to study the relationship between cognitive coping strategies and internalizing and externalizing problems in university students.

The last research question tried to unravel the moderating role of cognitive coping strategies in the relationship between bullying and internalizing and externalizing problems. It was expected that rumination would increase the effect of bullying on internalizing and externalizing problems and that positive refocusing would decrease the effect of this relationship. However, positive refocusing was not included in the analyses. Because of the small sample size, it was chosen to only add the cognitive coping strategies that seemed to have a significant direct effect, which was not the case in positive refocusing. In contrast to the expectations, no cognitive coping strategy seemed to moderate the relationship between bullying victimization, depression, anxiety, or hostility. Rumination did seem to moderate the relationship between bullying and problems in somatic complaints. It seems like rumination decreases the strength of the relationship between being bullied and somatic complaints. People who score low on rumination seem to have a stronger relation between bullying victimization and somatic complaints than people who score high on rumination. This

contrasts with the hypothesis. Possibly, low rumination is some kind of avoidance of the problems, trying not to think about the problems, which, in the long term, causes more problems, including somatic complaints. In people with PTSD or people who were exposed to a trauma but do not develop PTSD, avoidance is very common (Tull, Gratz, & Roemer, 2004). This avoidance, in particular thought suppression, after being exposed to a trauma is associated with somatic complaints (Tull et al., 2004). Bullying can be understood as a form of trauma. If low rumination is indeed some kind of thought suppression, this could be related to an increase in the relationship between bullying victimization and somatic complaints. However, the results of this research question, just like the others, should be seen as explorative because of the low number of bullied students. In this question, when the sample is split in low-medium-high scoring people on rumination, the number of bullied participants is too low.

The current study was explorative. There were only a few bullied students compared to non-bullied students. This study should be repeated with a larger sample to be able to draw valid conclusions. If future research does find the same results as the current study did, there are clues that the focus of helping bullied students should first be at unlearning ineffective coping strategies and next at learning adaptive coping strategies. Ineffective strategies would have the most effect, be related to more psychological problems. Strategies that were hypothesized to be effective strategies, in contrast, would not have a significant relationship between bullying victimization and internalizing and externalizing problems and would therefore be less important to focus on. Currently, with CBT, clients are learned to change and shift their focus from negative thoughts to positive, helpful thoughts. If the current results are replicated, this therapy would be effective because negative coping (negative thoughts/catastrophizing) is diminished.

4.2 Limitations and future studies

The biggest limitation of this study is the number of bullied participants. With only 11 bully victims, it was hard to do solid analyses. Future research on this topic should include more participants, specifically bullied participants. A possible way to obtain more participants is shortening the questionnaire. In the current study, many participants did not finish the questionnaire, possibly because of the length of the questionnaire. The questionnaire from this study was compiled of several questionnaires for other research questions as well, which made it longer.

Second, only one subscale, hostility, has been used to measure externalizing problems,

in contrast to three subscales to measure internalizing problems. For some internalizing problems effects were found, but for others there were not. This could also be the case in externalizing problems. Maybe, more effects could have been discovered if multiple subscales for externalizing problems would have been used, for example aggression, disobedience or delinquent behavior. Future research should try to include more subscales for externalizing problems to provide a better view of those problems.

The sample in this study was homogeneous. This makes the results less representative to all students on Dutch universities. The descriptive statistics show an overrepresentation of female in the sample. Most participants were of Dutch nationality, living on their own, studying at Leiden University, studying Psychology and were in their bachelor's phase. However, regarding internalizing and externalizing problems, the sample was comparable to symptom levels in university students. The high scores of the students in comparison to the normal population have been found before (Blanco et al., 2008; Hunt, & Eisenberg, 2010; Todd, Deane, & McKenna, 1997). The large amount of mental problems in college-aged young adults could be explained by the fact that this life period is characterized by factors that are potential sources of great stress: building a future life by educational opportunities, employment prospects, the development of close social relationships and for some, becoming parents (Blanco et al., 2008).

The sample also scored high on the use of each coping strategy, with most participants scoring above average or higher when compared to the norm group of adults or older adolescents (Garnefski, Kraaij, & Spinhoven, 2002; Garnefski, & Kraaij, 2006). It is unclear if this is comparable to the student population, because no research with the CERQ has been done before in university students. It is assumed that the high scores are in line with the general student population. Possibly, students use more coping compared to the normal population, trying to cope with the symptoms of internalizing and externalizing problems on which they also score higher than the normal population. Besides, the norm group of adults maybe does not fit the student population well, just like the norms of the SCL-90. This assumption is strengthened when looking at the study of Garnefski and Kraaij (2006), who studied the mean scores of each cognitive coping strategy in different samples. The mean scores of our student sample are more like the mean scores of their adult psychiatric population.

This study was one of the first studies of bullying in university students. This led to new information, but also to many more questions. The study provided an insight in bullying victimization in university students, as well as the bullied students themselves. The study

should be repeated, with a larger sample size. Thereafter, the topic could be studied in more detail. For example, future research could include longitudinal research, to focus on the causal relationships of bullying, cognitive coping and internalizing and externalizing problems. Possibly, bullying victimization causes people to cope in a dysfunctional way, which places them at risk to internalizing and externalizing problems. Or possibly, bullied students have a certain coping style that makes them more vulnerable to bullying victimization and internalizing and externalizing problems. Also, the predictive characteristics of bullying victimization can be studied, as well as a different kind of coping. This study has focused on cognitive coping, but future research could be focusing on behavioral coping.

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