

The combined impact of sibling-victimization and peer-victimization on Dutch adolescents'
depression

Definitive version

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Foreword

In front of you is my master thesis 'The combined impact of sibling-victimization and peer-victimization on adolescents' depression', which is written to meet an important requirement in obtaining a Master's degree 'Clinical Child, Family and Education Studies' from the University of Utrecht.

I experienced writing this thesis and conducting the research as a very educational process, whereby I gained new scientific knowledge and acquired new research skills. In particular, the knowledge regarding the negative effects of sibling-victimization on the mental health of adolescents, I will be able to make good use of in my future profession as an educationalist. Furthermore, I experienced the cooperation with my supervisor, Liesbeth Hallers-Haalboom, as very positive and I felt sufficiently supported. Although I tried to be as independent as possible in the process of writing this thesis, I felt that I could turn to Liesbeth with my questions, which she always answered quickly and adequately. Therefore, I was very happy to have Liesbeth as my supervisor.

Writing my thesis and completing my master successfully was not possible without the support from my teachers, family and friends. First of all, I would like to thank Liesbeth for her guidance, her support, her expertise and the good feedback I received during the past year. Furthermore, my family, friends and boyfriend deserve my everlasting gratitude for their continued support, help and love.

I hope you enjoy reading my thesis.

Eva Buijsen

Abstract

The present study aimed to examine the association between sibling-victimization and peer-victimization in Dutch adolescents and whether Dutch adolescents who were both victimized by siblings and peers experienced more depressive symptoms in comparison with adolescents who were exclusively sibling- or peer-victimized or not victimized. Gender differences were also taken into account. A total of 684 adolescents, who were in their first year of secondary education, completed an online self-report questionnaire to assess the degree to which they experience sibling-victimization, peer-victimization and depressive symptoms. Sibling-victimization and peer-victimization were measured using the PRIMA-bully questionnaire and depressive symptoms were measured using the Revised Child Anxiety and Depression Scale. Findings revealed that sibling-victimization was significantly and positively associated with peer-victimization. Furthermore, Dutch adolescents who were victimized by their sibling and/or peer reported significantly more depressive symptoms compared to those not victimized. However, no distinctions were found in depressive symptoms between those who were exclusively sibling-victimized or peer-victimized and those who were both sibling-victimized and peer-victimized. Lastly, no interaction with sex was found. All in all, the present study provides new information about the contexts in which bullying-victimization occurs and its effect on depression in Dutch adolescents.

Keywords: Sibling-victimization, Peer-victimization, Bullying-victimization, Depression, Depressive symptoms, Gender.

The combined impact of sibling-victimization and peer-victimization on Dutch adolescents' depression

The relationships children and adolescents have with their siblings and peers figure prominently in their development and daily experiences (Tucker, Finkelhor, & Turner, 2014). In general, these relationships with peers and siblings are positive experiences. However, this does not apply to adolescents experiencing bullying-victimization by peers or siblings. Peer-victimization and sibling-victimization are often defined as the experience of unwanted, aggressive behaviour by a bully accustomed to intentionally inflict discomfort or injury upon a victim. This aggressive behaviour is repeated multiple times and is characterized by a power-imbalance between victim and bully (Eslea et al., 2003; Olweus, 1993). Peer-victimization has often been the subject of scientific research and has been recognized worldwide as a youth health concern. Nevertheless, sibling-victimization is more common among children and adolescents and up to 40 percent experience victimization by a sibling every week (Wolke, Tippet, & Dantchev, 2015). Unfortunately, sibling-victimization does not get the same scientific attention as peer-victimization (Caspi, 2012; Finkelhor, Turner, Shattuck, & Hamby, 2015; Hoetger, Hazen, & Brank, 2014; Kettrey & Emery, 2006; Solberg & Olweus, 2003). The reason being that aggressive acts between siblings, such as damage of personal items or physical assault, are often viewed by parents and society as normal sibling rivalry. Severity and frequency of sibling-victimization are often minimized, while the same aggression among peers is viewed more seriously (Finkelhor, Turner, & Ormrod, 2006; Tucker & Kazura, 2013). Similar to peer-victimization, victimization by a sibling affects the mental health of adolescents negatively. Both peer-victimization and sibling-victimization have been associated with mental health problems, such as depression (Bowes, Wolke, Johnson, Lereya, & Lewis, 2014; Fisher et al., 2012; Gini & Pozzoli, 2009; Tucker, Finkelhor, Turner, & Shattuck, 2013; Wolke et al., 2015; Zwierzyńska, Wolke, & Lereya, 2013). It is therefore recommendable to consider victimization by both siblings and peers, when researching bullying-victimization.

The association between sibling-victimization and peer-victimization

In previous research, sibling-victimization and peer-victimization have mainly been studied separately. However, the relationships adolescents have with siblings and peers do not occur in isolation from one another (Kramer & Kowal, 2005). For this reason, it is important to examine sibling-victimization and peer-victimization simultaneously. Research suggests sibling-

victimization is associated with peer-victimization. Adolescents victimized by their siblings are more likely to encounter peer-victimization as well (Faith, Elledge, Newgent, & Cavell, 2015; Tucker, Finkelhor, Turner, & Shattuck, 2014; Wolke & Samara, 2004; Wolke & Skew, 2012). The association between sibling-victimization and peer-victimization can be explained using the Social Learning Theory (Bandura, 1973), suggesting that through modelling and reinforcement of behaviours and attitudes within the family, children learn to interact with others. According to this theory, sibling relationships are the first 'peer like' relationships children experience (Dunn, 2014), and being victimized by a sibling might undermine their ability to connect and interact with peers competently (Johnson et al., 2015). Adolescents experiencing sibling-victimization are therefore more likely to have similar experiences and relationships with peers (Tucker et al., 2014).

The impact of sibling-victimization and peer-victimization on depression

As mentioned previously, peer-victimization and sibling-victimization have been associated with poorer mental health in adolescents. A longitudinal study found that adolescents who experienced peer-victimization are more likely to develop depressive symptoms (Zwierzynska et al., 2013). Similarly, the longitudinal study of Bowes et al. (2014) found that being victimized by a sibling is a risk factor for depression. However, the aforementioned association between sibling-victimization and peer-victimization has to be taken into account. It is important to examine victimization simultaneously within the context of both sibling and peer relationships. Research on the combined impact of sibling-victimization and peer-victimization on mental health is scarce. Tucker et al. (2014) argued that adolescents bullied by their siblings *and* their peers experienced more psychological distress than adolescents who were exclusively sibling-victimized or exclusively peer-victimized. Similar results were found in adolescents by Wolke and Skew (2011) and Wolke et al. (2015), suggesting that being victimized in multiple contexts might have a greater impact on the mental wellbeing of adolescents in comparison with adolescents victimized in one context. The reason being that adolescents encountering victimization in both contexts have no safe environment without bullying-victimization they can escape to (Wolke et al., 2015). Meanwhile, adolescents who are victimized in one context may be able to compensate for the victimization with positive relationships in another context. Research suggests that receiving social support from peers can act as a protective factor between sibling-victimization and internalizing problems. In addition, social support from siblings can serve as a

buffer between peer-victimization and internalizing problems (Coyle et al., 2017; Davidson & Demaray, 2007).

Gender differences

Research on gender differences in the negative outcomes of sibling-victimization and peer-victimization is limited and inconsistent. Studies suggest that female victims of peer-victimization are more likely to report depression in comparison with male victims (Bouman et al., 2012; Davidson & Demaray, 2007). However, other studies documented conflicting findings and suggested that boys experienced more depressive symptoms in case of peer-victimization (Coyle et al., 2017; Rothon et al., 2011). Similar findings have been documented in literature on sibling-victimization. Bowes et al. (2014) did not find gender differences in the association between sibling-victimization and depression, while Coyle et al. (2017) suggested that male victims appeared to be at greater risk of internalizing problems compared to females. These inconsistencies in findings might be due to the differences in research samples and measurements between studies. In addition, research on gender differences in the combined impact of sibling-victimization and peer-victimization on the mental health of adolescents is unfortunately scarce. Therefore, further research on gender differences on the adverse effects of sibling-victimization and peer-victimization is needed.

The present study

To achieve a greater understanding of the victimization experiences of Dutch adolescents and their influence on their mental health, research on victimization within the context of both sibling and peer relationships is needed in order to develop effective prevention and intervention programmes focusing on bullying victimization in different settings. Eliminating bullying victimization in one context through effective prevention and intervention methods might, for example, have a positive effect on reducing victimization in another context, necessary for reducing the adverse effects of victimization by siblings and peers, such as depression. Therefore, this study sets out to examine: (1) *whether there is an association between sibling-victimization and peer-victimization among Dutch adolescents;* (2) *whether the combination of both sibling-victimization and peer-victimization is related to more depressive symptoms among Dutch adolescents compared to experiences of victimization in only one context or neither form of victimization* and (3) *whether the association between sibling-victimization, peer-victimization and depression does differ for boys and girls.*

Based on the aforementioned literature, the present study expects to find an association between sibling-victimization and peer-victimization. Furthermore, Dutch adolescents experiencing sibling-victimization *and* peer-victimization are expected to be at higher risk for depression than those who are not victimized, or exclusively experience victimization by a sibling or a peer. The present study also examines the gender differences in the association between sibling-victimization and/or peer-victimization and depression. However, the findings of previous studies were inconsistent and limited. For this reason, it is important that more research on how girls and boys differ in response to peer-victimization and sibling-victimization is done. Moreover, to the author's knowledge, gender differences in the combined impact of sibling- and peer-victimization has not been studied previously and therefore no hypothesis was formulated based on scientific literature.

Method

A quantitative methodological research approach was used to answer the aforementioned research questions. To achieve this, data regarding sibling-victimization, peer-victimization and depression was obtained from an internet questionnaire, used in the project '*Brugklasonderzoek 2018: 'Sociale relaties en ontwikkeling in de burgklas'*' to perform a secondary data-analysis. Other data collected within this project was not used in the current study.

Procedure

A non-random sampling procedure was used to gather participants. Master students used their social network to approach high schools wanting to participate in the project '*Brugklasonderzoek 2018: 'Sociale relaties en ontwikkeling in de burgklas'*'. Parents were asked to inform the school if they did not consent to their child's participation. Under the researchers' supervision, the participants had to complete an online questionnaire during a regular lesson in a computer-classroom. The participants themselves had to give their consent at the start of the questionnaire and were allowed to withdraw their participation at any time. Anonymity of the participants was ensured throughout the study. In addition, participants were prohibited from discussing the questions with other participants. However, they were given the opportunity to ask questions to the researchers while completing the questionnaire. This procedure was in accordance with Dutch law and was approved by the Ethical Advisory Committee.

Participants

The project *'Brugklasonderzoek 2018: 'Sociale relaties en ontwikkeling in de brugklas'* involved a final sample of 684 adolescents, who consented to participate. The participants were in their first year of secondary school and their average age was 12.6 years old ($SD = 0.65$, range 11-15). The sample consisted of 45.3% boys and 54.7% girls. Most of the participants were born in The Netherlands (97.1%) and other countries of birth included Surinam (0.1%), the Dutch Antilles (0.3%) and Morocco (0.3%). Participants from different school levels were included in the study: VMBO (12.4%), MAVO/VMBO-TL (2.3%), VMBO/MAVO/HAVO (13.9%), HAVO (12.6%), HAVO/VWO (31%), VWO (13.5%) and Gymnasium (12.9%). Lastly, all of the participants reported to have one or more siblings.

Measuring instruments

Peer-victimization. To determine whether Dutch adolescents experienced peer-victimization, an adapted version of the PRIMA-bully questionnaire (Dafesh, Ruiter, Beek, & Ruiter, 2008) was used, which is the Dutch version of the Olweus Bullying Questionnaire. To measure peer-victimization among Dutch adolescents, participants were asked on seven different statements to indicate on a five-point Likert-scale how often they have been peer-victimized in the last three months. A few items from the questionnaire were: *'In the past three months, how often were you not allowed to join other students at school if you wanted to?'* and *'How often has it happened in the past three months that other students at school told lies or nasty things about you?'*. The response options ranged from 'never' [1] to 'several times a week' [5]. A scale variable of the mean score was generated using the seven items to measure the degree of peer-victimization. Higher scores on this scale variable indicate higher levels of peer-victimization. Validity and reliability of Olweus' questionnaire have been demonstrated in previous research (Dafesh et al., 2008; Solberg & Olweus, 2003). The internal consistency of the scale variable in the current study was acceptable (Cronbach's $\alpha = .73$).

Sibling-victimization. An adapted version of PRIMA-bully questionnaire (Dafesh et al., 2008) was also used to determine whether Dutch adolescents experienced sibling-victimization. The items of this questionnaire are the same as the items used to measure peer-victimization, but applied to interactions with siblings. Similar as to peer-victimization, a scale variable of the mean score was generated using the seven items to measure the degree of sibling-victimization. Higher

scores on this scale variable indicate higher levels of sibling-victimization. The internal consistency of the scale variable in the present study was questionable (Cronbach's alpha = .69).

Depressive symptoms. The Revised Child Anxiety and Depression Scale (RCADS; Muris, Meesters, & Schouten, 2002) was used to measure the presence of depressive symptoms among Dutch adolescents. The participants were asked to indicate on a four-point Likert-scale whether the ten items were 'never' [1], 'sometimes' [2], 'often' [3] or 'always' [4] the case for them. A few items from the questionnaire were: *'I have little energy to do things'* and *'I feel sad and empty inside'*. A scale variable of the mean score was generated by combining these 10 items. Higher scores on this scale variable indicate higher levels of depressive symptoms. Validity and reliability of the RCADS have been demonstrated in previous research (Chorpita, Yim, Moffitt, Umemoto, & Francis, 2000; Muris et al., 2002). The internal consistency of the scale variable in the current study was good (Cronbach's alpha = .83).

Analysis

The data was analysed using the "IMB SPSS 25.0" statistical package. First, a data inspection was performed and the missing values were excluded from the dataset. Before running the analysis, the assumptions for a correlation and a factorial between groups analysis of variance (ANOVA) were tested. Furthermore, all measurements of peer-victimization, sibling-victimization and depressive symptoms were inspected for possible outliers defined as values larger than 3.29 *SD* above the mean (Tabachnick & Fidell, 1996). The data was analysed with and without these outliers to assess whether the outliers led to different results.

The first research question regarding the association between sibling-victimization and peer-victimization was examined using a bivariate correlation. Additionally, a comparison of correlations from independent samples (Fisher's *z*) was used to examine whether the association between sibling-victimization and peer-victimization differed significantly for boys and girls (Eid, Gollwitzer, & Schmidt, 2011).

In order to answer the second and third research question, a factorial ANOVA was performed to examine whether the combination of both sibling- and peer-victimization was related to more depressive symptoms compared to experiences of victimization in only one context or neither form of victimization, and whether this differed for boys and girls. First, a new grouping variable 'bullying-victimization' was created consisting of four groups: 'not victimized'

[0], 'sibling-victimized' [1], 'peer-victimized' [2] and 'sibling- and peer-victimized' [3]. Several cut-off points were evaluated, but a cut-off point of 1.5 seemed best fitting. In this way, participants who experienced victimization only once or twice were not immediately categorized as being victimized. A participant was considered 'not-victimized' when he/she had a mean score lower or equal to 1.5. In order for a participant to be categorized as 'sibling-victimized' or 'peer-victimized', he/she had to have a mean score higher than 1.5 on either one of the predictors, but not on the other predictor. Lastly, a participant was considered 'sibling- and peer-victimized' when he/she had a mean score higher than 1.5 on both sibling-victimization and peer-victimization. A Bonferroni post hoc test was selected for the predictor 'bullying-victimization' in order to examine the differences between the four groups in the number of depressive symptoms they reported. Furthermore, a second predictor 'sex' and an interaction 'bullying-victimization*sex' was added to the ANOVA to examine whether there is an interaction-effect between 'sex' and 'bullying-victimization' on depressive symptoms. A simple effects analysis was used to test whether there were sex differences in the means of depression within the four groups of 'bullying-victimization'.

Results

Preliminary results

Prior to computing the analyses, a data-inspection was performed on the research variables. Firstly, the input errors and missing values were excluded from the dataset. In addition, all research variables were inspected for possible outliers. Due to the influence of the outliers on the results of the analyses, the outliers were excluded from the final analyses. The final research sample consisted of 684 participants after 38 outliers and 68 missing values were excluded from the dataset. Thereafter, the normal distributions of the research variables were inspected. It appeared the data of the research variables were positively skewed, indicating that the assumptions of normality were violated. The Shapiro-Wilk statistic showed similar results. It was decided to not perform any transformations on the data, because the variables sibling-victimization and peer-victimization were going to be divided into groups. Moreover, the performed analyses were relatively robust against normality violations. In addition, a scatterplot and Levene's tests confirmed the violation of the assumptions of linearity and homoscedasticity. Due to the occurrence of heteroscedasticity and a non-linear relationship between the dependent

and independent variables, the forecasts, confidence intervals and scientific insights yielded by the analyses might be inefficient, biased or misleading. Therefore, the results of the analyses should be cautiously interpreted.

The means, standard deviations and correlation coefficients between sibling-victimization, peer-victimization and depressive symptoms are presented in Table 1. A Spearman's correlation (r_s) was selected to minimize the effects of the violation of normality. Firstly, there were some noticeable features in the means of the research variables. They appeared to be relatively small, suggesting that the majority of the research sample considered him- or herself as not victimized by siblings and/or peers. It also suggests that most participants did not experience many depressive symptoms. Furthermore, both sibling-victimization and peer-victimization were significantly related to depressive symptoms. The more someone reported to be victimized by a sibling or peer, the more depressive symptoms they reported. However, peer-victimized adolescents did not report significantly more depressive symptoms compared to adolescents who were sibling-victimized, $z = -1.20, p = .116$.

Furthermore, independent samples t -tests have been performed to analyse the sex differences in the means of sibling-victimization, peer-victimization and depressive symptoms (Table 1). No significant sex differences were found in the means of sibling-victimization $t(682) = -.29, p = .772$, and peer-victimization $t(601.25) = 1.16, p = .25$. Boys did not report significantly more sibling-victimization or peer-victimization in comparison with girls. However, girls did report significantly more depressive symptoms than boys, $t(682) = -2.04, p < .05$.

Table 1

The Spearman's correlation coefficients, Means, Standard Deviations and gender differences within the research variables

				Boys ($n=310$)	Girls ($n=374$)	Total ($n=684$)	
	1	2	3	M (SD)	M (SD)	M (SD)	Range
1. Sibling victimization	-			1.27(0.42)	1.28(0.39)	1.27(0.40)	1.00 – 3.00
2. Peer victimization	.39**	-		1.18(0.33)	1.15(0.28)	1.16(0.30)	1.00 – 2.71
3. Depressive symptoms	.24**	.30**	-	1.45(0.39)	1.52(0.41)	1.49(0.40)	1.00 – 2.90

* $p < .05$, ** $p < .01$.

The association between sibling-victimization and peer-victimization

To assess the linear relationship between sibling-victimization and peer-victimization, a Spearman's correlation coefficient (r_s) was calculated. Sibling-victimization was significantly associated to peer-victimization, $r_s = .39, p < .001$ (Table 1). Consistent with the first hypotheses, adolescents victimized by siblings also reported to be victimized by peers. In addition, the Spearman's correlation coefficient between sibling-victimization and peer-victimization was computed separately for boys and girls. A Fisher's z was used to examine sex differences within the association between sibling-victimization and peer-victimization. For boys, sibling-victimization was significantly related to peer-victimization, $r_s = .42, p < .001$, corresponding with the results of girls, $r_s = .36, p < .001$. The correlation between sibling-victimization and peer-victimization did not significantly differ for boys and girls, $z = .96, p = .168$, indicating that the association between sibling-victimization and peer-victimization was not stronger for boys or girls.

The combined impact of sibling-victimization and peer-victimization

A factorial ANOVA was used to investigate the effects of the four groups of bullying-victimization (i.e., not-victimized, sibling-victimized, peer-victimized and sibling- and peer-victimized) on the number of depressive symptoms and whether this differed for boys and girls. The ANOVA revealed a significant main effect for sex, $F(1, 676) = 5.56, p = .019, \eta_p^2 = .01$, with girls reporting more depressive symptoms than boys. There is also a statistically significant main effect for bullying-victimization, $F(3, 676) = 22.33, p < .001, \eta_p^2 = .09$. Bonferroni *post hoc* tests revealed that adolescents who were not victimized reported significantly fewer depressive symptoms compared to adolescents who were exclusively sibling- or peer-victimized or both sibling- and peer-victimized. However, adolescents who were exclusively sibling-victimized, exclusively peer-victimized or both sibling- and peer-victimized did not significantly differ from each other in the number of depressive symptoms they reported, contrasting with the second hypothesis. Results are presented in table 2.

Table 2

The Means and Standard Deviations of the four groups of bullying-victimization of boys and girls

Groups	Sex			<i>F and post hoc</i>	η_p^2
	Boy	Girl	Total		
	(<i>n</i> =334)	(<i>n</i> =405)			
	<i>M</i> (SD)	<i>M</i> (SD)	<i>M</i> (SD)		
Bullying- victimization				22.33**	.09
1) Not-victimized	1.39(0.35)	1.45(0.39)	1.42(0.37)	< 2**; 3**; 4**	
2) Sibling-victimized	1.56(0.43)	1.65(0.44)	1.61(0.43)	> 1**	
3) Peer-victimized	1.66(0.44)	1.87(0.31)	1.75(0.40)	>1**	
4) Both sibling- and peer-victimized	1.74(0.55)	1.85(0.39)	1.79(0.47)	>1**	

* $p < .05$, ** $p < .01$.

Moreover, the ANOVA revealed a non-significant interaction-effect indicating that the number of depressive symptoms across the four groups of bullying-victimization did not differ for boys and girls, $F(3, 676) = .53$, $p = .660$, $\eta_p^2 = .00$. The interaction-effect is illustrated in Figure 1. Simple effects analyses were used to further examine the interaction between the bullying-victimization and sex. However, there were no significant sex differences in the means of depression within the four groups of bullying-victimization. The fact that the line for boys in Figure 1 is lower than the line for girls reflects the fact that across all four groups of bullying-victimization, boys reported fewer depressive symptoms. This corresponds with the significant main effect for sex.

An additional ANOVA was performed to examine whether bullying-victimization in general, regardless of the context in which the bullying-victimization occurs, led to more depressive symptoms, and whether this differed for boys and girls. The results were similar to the aforementioned results. Adolescents victimized in at least one context reported significantly more depressive symptoms compared to adolescents who were not victimized, $F(1, 680) = 56.73$, $p < .001$, $\eta_p^2 = .08$. There was again no significant interaction effect between bullying-victimization in general and sex, $F(1, 680) = .48$, $p = .490$, $\eta_p^2 = .00$.

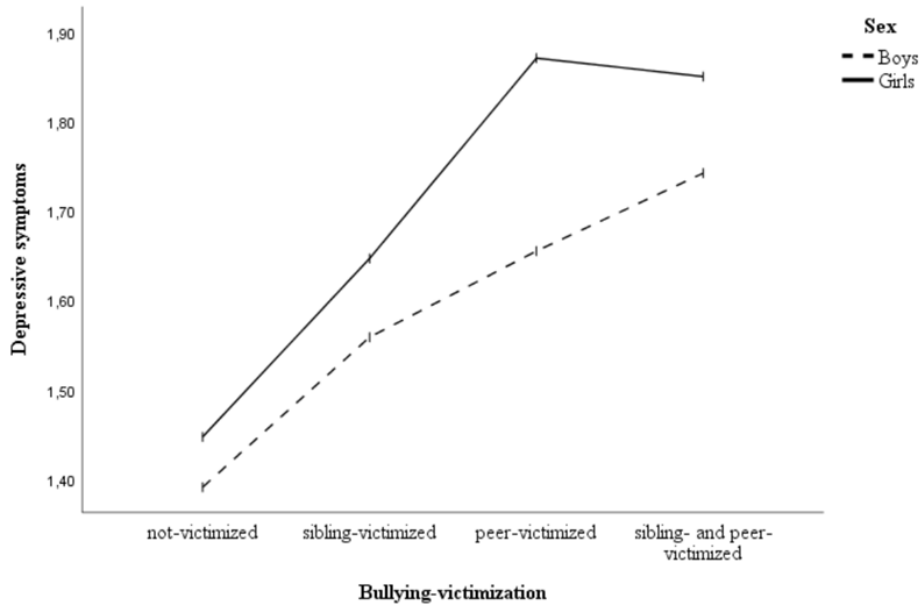


Figure 1: Graph with the main effects of bullying-victimization and sex

Discussion

The present study is relevant because of its simultaneous investigation of sibling-victimization and peer-victimization. Research comparing the combination of both sibling-victimization and peer-victimization to the experiences of victimization in one context or neither form of victimization and its effect on depressive symptoms in Dutch adolescents is limited. Furthermore, gender differences were included in the present study, which is relevant because of inconsistent findings presented in previous literature.

The association between sibling-victimization and peer-victimization

As expected, the present study showed that sibling-victimization was positively associated with peer-victimization. Dutch adolescents who reported to be victimized by a sibling were more likely to be peer-victimized as well, which is consistent with previous findings and the idea that the attitudes and behaviours learned through observation and reinforcement are generalized (Faith et al., 2015; Tucker et al., 2014; Tucker, Finkelhor, & Turner, 2018; Wolke & Samara, 2004; Wolke & Skew, 2012). Furthermore, there were no sex differences found within the association between sibling-victimization and peer-victimization. This suggests that the association was not stronger for boys or girls.

The combined impact of sibling-victimization and peer-victimization

The present study finds that sibling-victimization and peer-victimization either exclusively or in combination were significantly associated with more depressive symptoms compared to adolescents who were not victimized. This is consistent with previous research (Bowes et al., 2014; Tucker et al., 2014; Zwierzyńska et al., 2013). Nevertheless, the second hypothesis has been rejected. The greatest distress was not found in adolescents who reported to be victimized by their siblings and peers. They reported a similar number of depressive symptoms compared to those victimized in one setting. However, those categorized as not-victimized reported the fewest depressive symptoms and differed significantly from the groups considered victimized. This suggests that bullying-victimization in general, regardless of the context in which it occurs, leads to significantly more depressive symptoms among Dutch adolescents. This is contrasting with earlier research suggesting that adolescents victimized by both siblings and peers experienced more psychological distress than adolescents who were exclusively sibling-victimized or peer-victimized. The reason being that adolescents victimized in one context may be able to compensate for victimization with positive relationships in the other context (Coyle et al., 2017; Davidson & Demaray, 2007; Tucker et al., 2014; Wolke et al., 2015; Wolke & Skew, 2011). The contradictory findings of the present study might be explained by the small group of participants considered sibling-victimized and/or peer-victimized. The small sample sizes of these groups may have caused the results to be not statistically significant. Future research should use a bigger sample size to form larger groups.

Gender differences

The present study showed that across all four groups of bullying-victimization (i.e. not-victimized, sibling-victimized, peer-victimized, sibling- and peer-victimized), girls reported more depressive symptoms compared to boys. Although this finding corresponds with research suggesting that girls in general experience more depressive symptoms than boys (Verweij & Houben-van Herten, 2013), the interaction effect between bullying-victimization and sex was not significant. Girls did not report significantly more depressive symptoms within the four groups of bullying-victimization compared to boys, which is consistent with previous research (Bowes et al., 2014; Scheithauer, Hayer, Petermann, & Jugert, 2006).

Nevertheless, many studies suggest that there are gender differences in the negative effects of peer-victimization and sibling-victimization on the wellbeing of adolescents. Some

state that girls are more likely to experience depression after being sibling-victimized or peer-victimized (Bouman et al., 2012; Davidson & Demaray, 2007), while others argue that boys are more likely to experience depression as a consequence of sibling-victimization or peer-victimization (Coyle et al., 2017; Rethon et al., 2011). The definitions of peer-victimization and sibling-victimization used in the present study may provide an explanation for its findings. No distinction has been made between direct and indirect forms of bullying-victimization in both contexts. Research suggests that boys are more likely to experience direct, physical forms of bullying-victimization, while girls experience more indirect, relational forms (Crick, Bigbee, & Howes, 1996; Loukas, Paulos, & Robinson, 2005; Putallaz et al., 2007). Future research should take these different forms of bullying-victimization into account while researching gender differences.

Limitations

Several limitations of the current study are worth mentioning. First, a methodological limitation is the cross-sectional nature of the used data. Therefore, no conclusions about causality can be made regarding the relationship between sibling-victimization, peer-victimization and depression. Furthermore, it is also possible that this association is bidirectional. Some argue that adolescents with internalizing problems are more likely to be peer-victimized compared to adolescents without these problems (Busch, Laninga-Wijnen, van Yperen, Schrijvers, & De Leeuw, 2015). Future research should use a longitudinal research design to investigate the causality and the direction of the association between bullying-victimization and depression.

Secondly, the collection of data using only adolescent self-report is another methodological shortcoming of the present study. Adolescents might not have answered the sensitive questions regarding sibling-victimization, peer-victimization and depressive symptoms truthfully due to social desirability, shame and response and recall bias, which could have affected the results. Future research should use a combination of adolescent self-report, teacher-report and parent-report to achieve more objective results. Nevertheless, the measurements used in this study are also its strength due to the reliability and validity of the PRIMA-bully questionnaire and the RCADS.

Finally, next to being a strength, the large sample of the current study is also a shortcoming. Although it reduced the selection bias and generated good statistical power, the group within this larger sample that is considered sibling-victimization and/or peer-victimized

was small and for the majority of Dutch descent, making it difficult to generalize the results to the research population. Future research should use larger and more diverse groups of adolescents who are sibling-victimized and/or peer-victimized.

Conclusion

The present study confirms the association between sibling-victimization and peer-victimization. Furthermore, adolescents who were sibling-victimized and/or peer-victimized reported significantly more depressive symptoms compared to those not victimized. However, no distinctions were found in the number of depressive symptoms between the exclusively sibling-victimized, the exclusively peer-victimized and the both sibling-victimized and peer-victimized. Lastly, no gender differences were found in depressive symptoms across the four groups of bullying-victimization. The practical implication of the present study regards the association between sibling-victimization and peer-victimization, which could suggest that reducing bullying-victimization in one context through effective prevention and intervention methods might have a positive effect on reducing bullying-victimization in another context.

References

- Bandura, A. (1973). *Aggression: A social learning analysis*. Oxford, United Kingdom: Prentice-Hall.
- Bowes, L., Wolke, D., Joinson, C., Lereya, S. T., & Lewis, G. (2014). Sibling bullying and risk of depression, anxiety, and self-harm: A prospective cohort study. *Pediatrics*, *134*, 1032–1039. doi:10.1542/peds.2014-0832
- Busch, V., Laninga-Wijnen, L., van Yperen, T. A., Schrijvers, A. J. P., & De Leeuw, J. R. J. (2015). Bidirectional longitudinal associations of perpetration and victimization of peer bullying with psychosocial problems in adolescents: A cross-lagged panel study. *School Psychology International*, *36*, 532-549. doi:10.1177/0143034315604018
- Caspi, J. (2012). *Sibling aggression: Assessment and treatment*. New York, United States of America: Springer Publishing Company.
- Chorpita, B. F., Yim, L., Moffitt, C., Umemoto, L. A., & Francis, S. E. (2000). Assessment of symptoms of DSM-IV anxiety and depression in children: A revised child anxiety and depression scale. *Behaviour research and therapy*, *38*, 835–855. doi:10.1016/S0005-7967(99)00130-8
- Coyle, S., Demaray, M. K., Malecki, C. K., Tennant, J. E., & Klossing, J. (2017). The associations among sibling and peer-bullying, social support and internalizing behaviors. *Child & youth care forum*, *46*, 895-922. doi:10.1007/s10566-017-9412-3
- Crick, N. R., Bigbee, M. A., & Howes, C. (1996). Gender differences in children's normative beliefs about aggression: How do I hurt thee? Let me count the ways. *Child development*, *67*, 1003–1014. doi: 10.2307/1131876
- Dafesh, Z., Ruiter, S., Beek, J., & Ruiter, M. (2008). *PRIMA-antipestmethode. Handleiding voor basisscholen*. Woerden, Nederland: Nationaal Instituut voor Gezondheidsbevordering en Ziektepreventie.
- Davidson, L. M., & Demaray, M. K. (2007). Social support as a moderator between victimization and internalizing/externalizing behaviors from bullying. *School psychology review*, *36*, 383–405. doi: 10.1080/02796015.2007.12087930
- Duncan, R. D. (1999). Peer and sibling aggression: An investigation of intra-and extra-familial bullying. *Journal of interpersonal violence*, *14*, 871-886. doi:10.1177/088626099014008005

- Dunn, J. (2014). Siblings. In J. E. Grusec & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* (pp. 182-201). New York, United States of America: Guilford Press.
- Eslea, M., Menesini, E., Morita, Y., O'Moore, M., Mora-Merchan, J. A., Pereira, B., & Smith, P. K. (2003). Friendship and loneliness among bullies and victims: Data from seven countries. *Aggressive Behavior, 30*, 71-83. doi:10.1002/ab.20006
- Faith, M. A., Elledge, L. C., Newgent, R. A., & Cavell, T. A. (2015). Conflict and dominance between siblings as predictors of children's peer victimization. *Journal of child and family studies, 24*, 3623–3635. doi:10.1007/s10826-015-0171-1
- Finkelhor, D., Turner, H. A., Shattuck, A., & Hamby, S. L. (2015). Prevalence of childhood exposure to violence, crime, and abuse: Results from the national survey of children's exposure to violence. *JAMA Pediatrics, 169*, 746–754. doi:10.1001/jamapediatrics.2015.0676
- Finkelhor, D., Turner, H., & Ormrod, R. (2006). Kid's stuff: The nature and impact of peer and sibling violence on younger and older children. *Child abuse and neglect, 30*, 1401–1421. doi:10.1016/j.chiabu.2006.06.006
- Fisher, H. L., Moffitt, T. E., Houts, R. M., Belsky, D. W., Arseneault, L., & Caspi, A. (2012). Bullying victimisation and risk of self harm in early adolescence: Longitudinal cohort study. *BMJ, 344*, 2683. doi:10.1136/bmj.e2683
- Gini, G., & Pozzoli, T. (2009). Association between bullying and psychosomatic problems: A meta-analysis. *Pediatrics, 123*, 1059-1065. doi:10.1542/peds.2008-1215
- Hoetger, L. A., Hazen, K. P., & Brank, E. M. (2014). All in the family: A retrospective study comparing sibling bullying and peer bullying. *Journal of family violence, 30*, 103–111. doi:10.1007/s10896-014-9651-0
- Inchley, J., Currie, D., Young, T., Samdal, O., Torsheim, T., Augustson, L., Mathison, F., Aleman-Diaz, A. Y., Molcho, M., Weber, M., & Barnekow, V. (2016). *Growing up unequal: gender and socioeconomic differences in young people's health and well-being: Health Behaviour in School-Aged Children (HBSC) Study: international report from the 2013/2014 survey*. (Health Policy for Children and Adolescents; No. 7). Copenhagen, Denmark: World health Organisation Regional Office for Europe.
- Johnson, R. M., Duncan, D. T., Rothman, E. F., Gilreath, T. D., Hemenway, D., Molnar, B. E., & Azrael, D. (2015). Fighting with siblings and with peers among urban high school students.

- Journal of interpersonal violence*, 30, 2221–2237. doi:10.1177/0886260514552440
- Kettrey, H. H., & Emery, B. C. (2006). The discourse of sibling violence. *Journal of family violence*, 21, 407–416. doi:10.1007/s10896-006-9036-0
- Kramer, L., & Kowal, A. K. (2005). Sibling relationship quality from birth to adolescence: The enduring contributions of friends. *Journal of family psychology*, 19, 503–511. doi:10.1037/0893-3200.19.4.503
- Loukas, A., Paulos, S. K., & Robinson, S. (2005). Early adolescent social and overt aggression: Examining the roles of social anxiety and maternal psychological control. *Journal of youth and adolescence*, 34, 335–345. doi:10.1007/s10964-005-5757-2
- Muris, P., Meesters, C., & Schouten, E. (2002). A brief questionnaire of DSM-IV-defined anxiety and depression symptoms among children. *Clinical psychology & psychotherapy*, 9, 430–442. doi:10.1002/cpp.347
- Putallaz, M., Grimes, C. L., Foster, K. J., Kupersmidt, J. B., Coie, J. D., & Dearing, K. (2007). Overt and relational aggression and victimization: Multiple perspectives within the school setting. *Journal of school psychology*, 45, 523–547. doi: 10.1016/j.jsp.2007.05.003
- Scheithauer, H., Hayer, T., Petermann, F., & Jugert, G. (2006). Physical, verbal, and relational forms of bullying among German students: age trends, gender differences, and correlates. *Aggressive behavior*, 32, 261–275. doi:10.1002/ab.20128
- Solberg, M. E., & Olweus, D. (2003). Prevalence estimation of school bullying with the Olweus Bully/Victim Questionnaire. *Aggressive behavior*, 29, 239–268. doi:10.1002/ab.10047
- Tucker, C. J., & Kazura, K. (2013). Parental responses to school-aged children's sibling conflict. *Journal of child and family studies*, 22, 737–745. doi:10.1007/s10826-013-9741-2
- Tucker, C. J., Finkelhor, D., Shattuck, A. M., & Turner, H. (2013). Prevalence and correlates of sibling victimization types. *Child Abuse and Neglect*, 37, 213–223. doi.org/10.1016/j.chiabu.2013.01.006
- Tucker, C. J., Finkelhor, D., Turner, H., & Shattuck, A. (2013). Association of sibling aggression with child and adolescent mental health. *Pediatrics*, 132, 79–84. doi:10.1542/peds.2012-3801
- Tucker, C. J., Finkelhor, D., Turner, H., & Shattuck, A. M. (2014). Sibling and peer victimization in childhood and adolescence. *Child abuse and neglect*, 1599–1606. doi:10.1016/j.chiabu.2014.05.007

- Verweij, G., & Houben-van Hertten, M. (2013). *Bevolkingstrends 2013: Depressiviteit en Antidepressiva in Nederland*. Den Haag, Nederland: Centraal Bureau voor de Statistiek.
- Wolke D., & Skew, A. (2011). Bullied at home and at school: Relationship to behaviour problems and unhappiness. In McFall, S. (Eds.), *Understanding society: Early findings from the first wave of the UK's household longitudinal study* (pp. 23–32). London, United Kingdom: Economic Social Research Council.
- Wolke, D., & Skew, A. J. (2012). Bullying among siblings. *International journal of adolescent medicine and health*, 24, 17–25. doi:10.1515/ijamh.2012.004
- Wolke, D., & Samara, M. M. (2004). Bullied by siblings: association with peer victimisation and behaviour problems in Israeli lower secondary school children. *Journal of child psychology and psychiatry*, 45, 1015–1029. doi:10.1111/j.1469-7610.2004.t01-1-00293.x
- Wolke, D., Tippet, N., & Dantchev, S. (2015). Bullying in the family: Sibling bullying. *The Lancet psychiatry*, 2, 917–929. doi:10.1016/S2215-0366(15)00262-X
- Zwierzynska, K., Wolke, D., & Lereya, T. S. (2013). Peer victimization in childhood and internalizing problems in adolescence: A prospective longitudinal study. *Journal of abnormal child psychology*, 2, 309–323. doi:10.1007/s10802-012-9678-8