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Decreases in the proportion of bullying victims in the classroom: Effects on the adjustment of remaining victims

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Abstract

Sharing a classroom environment with other victimized peers has been shown to mitigate the adverse effects of peer victimization on children's social and psychological adjustment. By extension, this study hypothesized that classroom reductions in the proportion of victims would be harmful for children who remain victimized. Data were collected at the end of 2 subsequent school years from 4,466 fourth- to sixth-graders (mean age = 11 years), as part of the implementation of the Finnish anti-bullying program KiVa (an acronym for Kiusaamista Vastaan, "against bullying"). Multiple regression analyses were conducted on a subsample of 170 stable victims (children reporting being victimized at least 2–3 times a month at both time points) to test whether a decrease in the proportion of victims in their classrooms had an effect on their adjustment at Time 2. Stable victims felt more depressed, more socially anxious and were less liked at Time 2 in classrooms where the proportion of victims had decreased in 1 year compared to stable victims in classrooms where it had increased or remained the same. These effects were not moderated by the intervention status of the classroom. Paradoxically, an improved social environment can be detrimental for some children. These findings point to the necessity to maintain anti-bullying intervention efforts especially when successful.

Keywords

anxiety, bullying, defending, depression, likeability, peer acceptance, peer status, peer victimization

Exposure to victimization by peers puts children at risk for numerous and sometimes long-lasting adjustment difficulties, including internalizing problems (Kretschmer, Barker, Dijkstra, Oldehinkel, & Veenstra, 2015; Reijntjes, Kamphuis, Prinzie, & Telch, 2010; Rudolph, Troop-Gordon, Hessel, & Schmidt, 2011; Schwartz, Lansford, Dodge, Pettit, & Bates, 2015) and low peer acceptance (Kochel, Ladd, & Rudolph, 2012). Research shows that the negative impact of peer victimization on children's adjustment is sensitive to the social context. Having fewer peers sharing the same plight exacerbates psychological and social adjustment problems: In classrooms where few are targeted, victims are less accepted (Sentse, Scholte, Salmivalli, & Voeten, 2007), more depressed, and lower in self-esteem (Huitsing, Veenstra, Sainio, & Salmivalli, 2010), compared to classrooms where victimization is more widespread. The association between victimization and social anxiety has also been found to be stronger in classrooms with low levels of disruptive behaviors and victimization (Bellmore, Witkow, Graham, & Juvonen, 2004).

The damaging effects of bullying on victims are the primary reason for the development of anti-bullying intervention programs, which aim to reduce the prevalence of victimization in schools. Classroom or school reductions in average rates of victimization are seen as evidence of the programs' effectiveness. Paradoxically, such success could foster social environments that aggravate the difficulties of the children who remain victimized despite the intervention. Similarly, failure to reduce victimization could maintain a social context that may serve as a protective factor for a stable victim (i.e., a child who remains victimized).

While there is evidence that victims of school bullying are worse off when the number of victimized peers is limited (e.g. Sentse et al., 2007), to our knowledge, no study has yet shown whether changes over time in the proportion of victims in the classroom could be associated with victims' well-being. Our study focuses on children who remain victimized across 1 year and examines whether the decrease in the proportion of victims in their classrooms impacts their psychological and social adjustment. We expected that victims in classrooms where the proportion of victims decreased would feel more anxious, more depressed, and be less accepted and less defended by peers than victims in classrooms where the proportion of victims did not decrease.

Impact of shared victimization on victims' adjustment

Why would victims be more maladjusted—psychologically and socially—in classrooms where few peers are victimized? In these classrooms, victims are less likely to witness bullying of others and to have friends being harassed. For highly victimized children, the effects of victimization on depression are lower when close friends are also highly victimized (Brendgen et al., 2013). Seeing others being bullied protects victims against increased humiliation and negative self-views (Nishina & Juvonen, 2005). When many classmates are targeted by bullies, victims have been found to be less apt

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to engage in self-blaming attributions (Schacter & Juvonen, 2015), which can explain why they experience fewer internalizing difficulties (Chen & Graham, 2012; Graham, Bellmore, Nishina, & Juvonen, 2009; Harper, 2012; Perren, Ettekal, & Ladd, 2013; Prinstein, Cheah, & Guyer, 2005; Visconti, Kochenderfer-Ladd, & Clifford, 2013). More opportunities for friendships with similar others in contexts where many are victimized may also account for victims' better mental health, as having friends protects children against increases in internalizing symptoms (Hodges, Boivin, Vitaro, & Bukowski, 1999; Hodges, Malone, & Perry, 1997; Schmidt & Bagwell, 2007).

A lack of similar peers may also account for findings that victims are less liked in classrooms with lower rates of victimization (Sentse et al., 2007): Individuals are generally found to like others who are similar to them (Folkes, 1982) and dislike those who are dissimilar (Rosenbaum, 1986). Among school children, having a trait or a behavior that is dissonant with their classroom social environment has been found to negatively affect their levels of peer acceptance or likeability (e.g. Chang, 2004; Sentse et al., 2007; Stormshak et al., 1999). Furthermore, social network research has revealed that, when victimized by the same bully, victims liked each other (Huitsing et al., 2012).

Can decreases in classroom victimization affect victims' adjustment?

Regardless of the number of victims in a classroom, we reasoned that a decrease in the proportion of victims should be detrimental to the psychological and social adjustment of the remaining victims. When the proportion of victims becomes lower, stable victims' tendency for self-blaming attributions should be reinforced; remaining victims should be even more likely to make internal attributions (''it must really be something about me since the bullying stopped for others'') and see the reasons for their victimization as stable (''things haven't changed for me'') and unable to be controlled (''anti-bullying interventions or other events have worked for others but not for me, so my victimization must be something that cannot be controlled''). Former victims who were also friends of other victims may become reluctant to maintain these friendships for fear that the bullying directed at themselves would resume. This should adversely affect victims' well-being.

Moreover, remaining victims may stand out even more in a context of decreasing victimization; this stronger incongruity with the rest of the group is likely to hurt their peer acceptance. In addition to peers' liking towards victims, these contextual changes may influence the amount of support victims receive from classmates. This is an important variable to examine as being defended by peers can significantly lessen the negative impact of victimization (Sainio, Veenstra, Huitsing, & Salmivalli, 2011). A context of decreasing victimization may lead to a change in attitude towards remaining victims, who may be more likely to be perceived as deserving of their plight; this more negative perception of the victims should make peers feel less responsible for intervention (Pozzoli & Gini, 2013). Young victims also tend to defend each other when victimized by the same bully (Huitsing & Veenstra, 2012). We therefore expect that stable victims will be less likely to receive support from or be defended by peers when the proportion of victims decreases in their classroom.

The implementation of an anti-bullying intervention might nonetheless prevent these adverse effects of a classroom decrease in victimization from occurring. Approximately half of the classrooms analysed in the present study were implementing the KiVa program, which was shown to be effective at reducing victimization and bullying (Kärnä et al., 2011), as well as internalizing problems (Williford et al., 2012). This program aims to raise empathy for the victims of bullying, promote defending behaviors in bystanders, and increase teachers' awareness of and intervention in bullying incidents. Therefore, we hypothesized that the victim-supportive environment induced by the program would mitigate the negative consequences of a classroom decrease in peer victimization on stable victims' adjustment.

When the proportion of victims decreases in a classroom, there is a possibility that the bullying becomes more frequent or intense for those who remain victimized. A higher frequency of victimization is associated with higher anxiety and depression and lower peer status (Bouman et al., 2012; Van der Ploeg, Steglich, Salmivalli, & Veenstra, 2015). However, an effect of classroom changes in the proportion of victims on the level of victimization of the remaining ones has, to our knowledge, not been demonstrated. Therefore, this will be examined in the present study without a directional hypothesis.

The present study

The purpose of this study is to examine whether a decrease (versus no change or an increase) in the proportion of victims in a classroom matters for the remaining victims' adjustment. We focused on children who remained victimized over 1 year and hypothesized that their psychological adjustment (depression and social anxiety) and social adjustment (peer acceptance and received peer defending) would be worse if they belonged to a classroom with a decreasing proportion of victims across a 1-year interval (the decrease being due either to an intervention program or to other processes) in comparison to stable victims in other classrooms. In addition, we expected that the adverse effects of a decrease in victimization would be buffered in classrooms implementing the anti-bullying program KiVa.

We chose to investigate internalizing problems as they are the most widely documented consequences of childhood peer victimization and can persist into adulthood (Pine, Cohen, Gurley, Brook, & Ma, 1998). In our investigation of social adjustment, we decided to focus on one form of peer status—peer acceptance—as it is the dimension of status that has been shown to be sensitive to contextual features among victims of bullying. We conducted our analyses with a sample of children in their last years of elementary school. Late childhood is a period when bullying tends to increase and peers take on increased importance in promoting children's social development and fulfilling their need for acceptance (Buhrmester & Furman, 1986; LaFontana & Cillessen, 2010). At the same time, victimization rates tend to decline (Smith, Madsen, & Moody, 1999) making it a particularly relevant developmental period for the study of stable victims.

Method

Sample and procedure

Data were collected at the end of 2 subsequent school years as part of the randomized controlled trial designed to evaluate the effectiveness of the Finnish anti-bullying program KiVa. The sampling procedure for this RCT has been described in detail by Kärnä et al.

(2011). The schools were selected from all five provinces in mainland Finland, ensuring that the participants are representative of the Finnish population (2% of the children in the our sample were immigrants, which corresponds to the percentage of immigrants in the Finnish population). Our initial sample included 6,654 Finnish children from Grades 3, 4 and 5 at time 1 (T1). They were from 318 classrooms in 70 schools. Classrooms were excluded from the sample when their composition had changed between the time points (i.e., when children changed classrooms or when two or more children left the classroom). Classrooms were kept in the sample when their composition remained strictly identical or only one student left the classroom. This resulted in a reduced sample of 4,466 children (T1 $M_{age} = 10.99$, $SD = 1.10$; 49.6% boys). The mean participation rate was 93.4% and ranged from 27% to 100% across classrooms. These children belonged to 211 classrooms in 61 schools. Among the classrooms, 115 were implementing the KiVa program and 96 were in control schools. All participants received active parental consent and the data collection procedure was consistent with the Finnish Human Subjects Protection regulations.

In this study, the first and third waves of data from a three-wave longitudinal study were analyzed. In Finland, students keep the same teacher across their primary school years. The first wave of data collection took place at the end of one school year (May 2007) before program implementation. The third wave (T2 in this study) was collected in May 2008 after 9 months of program implementation.

Analyses were conducted on a subsample of stable victims. We identified victims with self-reports, using the Olweus criterion of "at least two to three times a month" (see victimization measure in what follows). At T1, 631 children (15%) reported being victimized by their peers. At T2, they were 420 (10.5%). Stable victims were the 170 children (4.3%) who reported being victimized at both time points. Their mean age was 10.6 ($SD = 1.10$), and 53% were boys. At T1, 50% of them were in grade 3, 27.1% in grade 4 and 22.9% in grade 5. They belonged to 109 classrooms (54 intervention and 55 control) from 54 schools. In these classrooms, the mean participation rate was 93.9% and ranged from 70% to 100% across classrooms.

Students filled out internet-based questionnaires in the schools' computer labs during regular school hours and were supervised by teachers who had received detailed instructions about the data collection process. Participants were informed of the strict confidentiality of their answers. Anonymity was ensured by the use of individual passwords to log in to the surveys. Before the start of the survey, participants were given (on their computer screens and out loud) the definition of bullying from the Olweus' bully/victim questionnaire (Olweus, 1996):

> Bullying occurs when students repeatedly perform any of the following behaviors directed towards another: Say "mean and hurtful things" or call him/her names, purposefully "ignore or exclude him or her from their group of friends", "hit, kick, push, shove", or "tell lies or spread false rumors." It is not bullying when two students of about equal strength or power argue or fight.

Students were also told that friendly teasing was not bullying.

Measures

Frequency of victimization. We used the global item from the revised Olweus Bully / Victim Questionnaire (Olweus, 1996): "How often have you been bullied at school in the last couple of months?" Answers were given on a 5-point scale: 0 = not at all, 1 = once or twice, 2 = two or three times a month, 3 = once a week, 4 = several times a week. Children reporting being bullied at least two or three times a month were classified as victims. Stable victims were those who reported being bullied at least two or three times a month at both T1 and T2. The usefulness and validity of this cut-off point has been previously demonstrated (see Solberg & Olweus, 2003).

We used a self-reported measure of victimization as it has the advantage of capturing the frequency or the degree of victimization, which is essential when the focus of interest is in the change or continuity over time in victimization (see Olweus, 2013). A child's victimization score based on peer nominations is the proportion of peers nominating that child as being bullied. It captures a reputation as a victim and may not reflect changes in the frequency of victimization. Furthermore, using peer-reported victimization to identify victims would have required the use of either percentiles of the raw variable of peer-nominated victimization or standard deviations of the standardized variable. Therefore, the classification of one child as a victim would depend on the victimization of the other children in the classroom (e.g. a child who is much less victimized may remain in the upper 20th percentile across the two time points if overall victimization has decreased). Self-reported frequency of victimization is a measure that is not confounded by the classroom context and is therefore the most appropriate to classify victims in the present study.

Psychological adjustment. Depressive symptoms and social anxiety were used as indices of psychological adjustment. Depressive symptoms were assessed with seven items from the Beck Depression Inventory (Beck, Steer, & Brown, 1996). They were selected on the basis of their suitability for children. Items regarding sexual interest, suicidal ideation and intent, as well as somatic complaints, were deleted. Answers were given on a 5-point scale ($\alpha = .84$ at T1, $\alpha = .90$ at T2). We measured social anxiety with the Fear of Negative Evaluation Scale (García-López, Olivares, Hidalgo, Beidel, & Turner, 2001) which includes five items such as "I'm worried about what others think of me." They were assessed on a 5-point scale ranging from "not at all" to "all the time" ($\alpha = .89$ at T1, $\alpha = .93$ at T2).

Social adjustment. Victims' social adjustment was assessed with a peer-reported measure of peer acceptance and a self-reported measure of received defending from peers. Levels of peer acceptance were determined through a peer nomination procedure, in which participants were presented with a roster of their classmates and requested to check the names of the three classmates they liked the most. Proportion scores were computed by dividing the number of received nominations by the number of respondents.

Levels of received defending were estimated via self-reports. Self-reported victims were asked if they had defenders ("Do you have a classmate who supports, comforts or defends you when someone tries to bully you?") and rated how often their defenders support, comfort or defend them, on a 5-point scale from "very rarely" to "very often." For purposes of analysis, this 5-point frequency of defending scale was expanded to 6 points to include victims having no defenders (i.e., those who were never supported), coded as "0" to indicate a zero frequency of being defended.

Classroom decrease in the proportion of victims. We computed the proportion of victims in each classroom at both time points (by dividing the number of victims by the number of children in the class), then subtracted the T1 proportion from the T2 proportion

Table 1. Means and standard deviations of study variables at T1 for stable victims, non-stable victims, and non-victims

	Stable victims		T1-only victims		T2-only victims		Non-victims			
	n	*M* (*SD*) 95% CI	*n*	*M* (*SD*) 95% CI	*n*	*M* (*SD*) 95% CI	*n*	*M* (*SD*) 95% CI	*F*	η^2
Depressive symptoms	163	1.03_a (0.77) [0.91–1.15]	443	0.92_a (0.76) [0.85–0.99]	224	0.66 (0.66) [0.58–0.75]	3223	0.50 (0.51) [0.48–0.51]	112.32***	.08
Social anxiety	162	2.33_a (1.04) [2.16–2.49]	443	2.22_a (1.01) [2.12–2.31]	222	1.82 (1.00) [1.69 –1.95]	3212	1.40 (0.98) [1.37 –1.43]	133.29***	.09
Peer acceptance	169	0.11_a (0.11) [0.10–0.13]	461	0.14_b (0.13) [0.13–0.15]	235	0.14_{abc} (0.11) [0.13–0.16]	3317	0.16_c (0.11) [.16–.16]	13.33***	.01
Received defending	170	2.62_a (1.89) [2.33–2.90]	461	2.79_a (1.81) [2.63–2.96]	235	0.59 (1.39) [0.41–0.77]	3317	0.27 (1.03) [0.24–0.31]	747.09***	.35
Victimization	170	2.98 (0.81) [2.86–3.11]	461	2.77 (0.81) [2.70–2.85]	235	0.66 (0.48) [0.60–0.72]	3317	0.29 (0.46) [0.28–0.21]	4123.84***	.75

Note. The range and item anchors are as follows: Depressive symptoms: 0–4, social anxiety: 0–4, peer acceptance: 0–1, received defending: 0–5, victimization: 0–1 for T2-only and non-victims, 2–4 for stable and T1-only victims. All *F*s significant at .001. Based on Tukey's HSD post-hoc paired comparisons, all between-group differences are significant except for means with the same subscript within rows.

to obtain a difference score. The difference score ranged from −.38 to .25 ($M = -.05$, $SD = .10$) and differed between intervention classrooms ($M = -.06$, $SD = .09$) and control classrooms ($M = -.03$, $SD = .11$; $t = 8.306$, $p < .001$). Classrooms with a negative difference score (reflecting a decreasing proportion of victims) were coded as 1; this group consisted of 96 stable victims in 68 classes. Classrooms with a zero or positive difference score (with the same or increasing proportion of victims) were coded as 0; this group included 74 stable victims in 41 classes.

Although variability is lost by dichotomizing the variable, using a continuous difference score would complicate the interpretation of the findings. For instance, if a positive score on the continuous variable indicates an increase, and analyses show a positive effect on depression, it cannot be determined whether victims are more depressed when the proportion of victims in the class has increased vs. decreased, or increased more vs. increased less, or decreased less vs. decreased more. It is only by dichotomizing the variable that the hypotheses of the study can be tested.

Demographic variables. In the analyses, we controlled for gender, grade and classroom size, as these variables have been found to be associated with victimization and/or the outcomes of the present study. Intervention status was also added as a covariate as half of the classrooms in the sample were implementing the KiVa program. Gender was coded as 1 for boys and 0 for girls. Grade level was rescaled as −1, 0 and 1 for Grades 3, 4 and 5, respectively. Classroom size was the number of students in each class and ranged from 8 to 32 ($M = 21.4$, $SD = 4.98$) among the 109 classrooms that included stable victims. Intervention status was included as a binary predictor (1 = KiVa, 0 = Control).

Data analysis

We conducted multiple regression analyses to predict adjustment outcomes from the decrease in the proportion of victims in the classroom. As these data are structured hierarchically (i.e., student ratings nested within classrooms), clustering at the classroom level was handled via adjustment of standard errors (derived using a sandwich estimator; Muthén & Muthén, 2012). Minimal variability was observed at the school level (ICCs ≤ 0.03), so no further adjustment was necessary. The majority of classrooms (69 of 109) included only one stable victim. For this reason, we accounted for data clustering within single-level regression analyses rather than modeling the student and classroom levels separately in a two-level model. Results were generated using full-information maximum likelihood (FIML) estimation with robust standard errors in Mplus 7.2.

Four models were run to predict T2 depressive symptoms, social anxiety, peer acceptance, and received defending. Each model included the following predictors: The classroom decrease (vs. non-decrease) in the proportion of victims, grade level, T1 classroom proportion of victims, KiVa intervention status, and classroom size. In addition, several individual-level factors were controlled for: Gender, frequency of victimization at T1, frequency of victimization at T2, and the outcome at T1. The proportion of missing values ranged between 0% and 4.7% for all variables at both time points; they were handled using FIML procedures, which generate unbiased parameter estimates and standard errors using all available observations (Enders, 2001).

Results

Descriptives: Adjustment in stable victims, non-stable victims, and non-victims

The means for depressive symptoms, social anxiety, peer acceptance, received defending, and victimization for stable victims, victims at T1 only, victims at T2 only, and non-victims are presented in Table 1 for T1 variables and in Table 2 for T2 variables. At T1, stable victims experienced higher levels of depressive symptoms, social anxiety, and received defending than all other groups, except for T1-only victims, who experienced comparable levels of these three outcomes. Stable victims also reported higher levels of victimization than all other groups. Their level of peer acceptance was lower than T1-only victims' and non-victims' but comparable to the level of T2-only victims. At T2, stable victims experienced higher levels of depressive symptoms than all other groups. They also reported higher social anxiety, victimization and received defending than the other groups, expect for T2-only victims. Their level of peer acceptance was lower than for non-victims, but did not differ from the peer acceptance of T1-only and T2-only victims. Correlations among all variables for stable victims are in Table 3.

Table 2. Means and standard deviations of study variables at T2 for stable victims, non-stable victims, and non-victims

	Stable victims		T1-only victims		T2-only victims		Non-victims			
	n	*M* (*SD*) 95% CI	*n*	*M* (*SD*) 95% CI	*n*	*M* (*SD*) 95% CI	*n*	*M* (*SD*) 95% CI	*F*	η^2
Depressive symptoms	168	1.26 (1.04) [1.10–1.41]	393	0.76 (0.79) [0.68–0.84]	245	1.07 (1.03) [0.94 –1.20]	3132	0.53 (0.61) [0.51–0.55]	107.11***	.08
Social anxiety	162	2.13_a (1.13) [1.96–2.31]	391	1.57 (0.98) [1.47–1.67]	246	1.88_a (1.06) [1.75–2.02]	3122	1.31 (0.93) [1.28–1.34]	66.26***	.05
Peer Acceptance	170	0.10_a (0.12) [0.09–0.12]	402	0.12_a (0.11) [0.11–0.13]	250	0.11_a (0.10) [0.10–0.12]	3176	0.14 (0.11) [.14–.15]	16.15***	.01
Received defending	170	2.55_a (1.82) [2.27–2.82]	402	0.93 (1.70) [0.76–1.09]	250	2.77_a (1.83) [2.54–3.00]	3176	0.58 (1.48) [0.53–0.63]	230.36***	.15
Victimization	170	2.83_a (0.81) [2.71–2.95]	402	0.46 (0.50) [0.41–0.51]	250	2.74_a (0.80) [2.64–2.84]	3176	0.21 (0.40) [0.19–0.22]	3688.30***	.73

Note. The range and item anchors are as follows: Depressive symptoms: 0–4, social anxiety: 0–4, peer acceptance: 0–1, received defending: 0–5, victimization: 0–1 for T1-only and non-victims, 2–4 for stable and T2-only victims. All *F*s significant at .001. Based on Tukey's HSD post-hoc paired comparisons, all between-group differences are significant except for means with the same subscript within rows.

Table 3. Bivariate correlations among study variables for stable victims ($N = 170$)

		2	3	4	5	6	7	8	9	10
T1	1. Depressive symptoms	.30*** [.16, .43]	−.02 [−.16, .13]	−.19* [−.34, −.03]	.02 [−.13, .18]	.40*** [.26, .53]	.24** [.10, .38]	−.15 [−.29, .00]	−.13 [−.28, .03]	.10 [−.07, .27]
	2. Social Anxiety	–	−.13 [−.26, .03]	.03 [−.12, .19]	.04 [−.14, .19]	.13 [−.04, .31]	.43*** [.28, .55]	−.17* [−.29,−.02]	−.07 [−.22, .08]	.19* [.04, .34]
	3. Peer Acceptance		–	.05 [−.08, .23]	−.01 [−.19, .14]	.01 [−.15, .23]	−.11 [−.25, .05]	.69*** [.38, .85]	.06 [−.07, .23]	−.02 [−.25, .14]
	4. Received Defending			–	−.03 [−.19, .15]	−.02 [−.19, .14]	−.04 [−.20, .12]	−.04 [−.18, .13]	.29*** [.13, .43]	.05 [−.11, .21]
	5. Victimization				–	.00 [−.16, .17]	−.08 [−.24, .10]	.00 [−.19, .16]	−.01 [−.17, .15]	.16* [−.00, .30]
T2	6. Depressive symptoms					–	.26** [.09, .44]	−.14 [−.26, .04]	−.12 [−.28, .02]	.23** [.06, .38]
	7. Social Anxiety						–	−.23** [−.34, .−11]	.07 [−.09, .22]	.20* [.02, .34]
	8. Peer Acceptance							–	.13 [−.02, .32]	−.05 [−.27, .13]
	9. Received Defending								–	−.03 [−.18, .14]
	10.Victimization									–

Note. Values in parentheses are bootstrapped confidence intervals for each parameter.
*$p < .05$; **$p < .01$; ***$p < .001$.

A one-way ANCOVA was conducted to examine whether the change in victimization frequency differed for stable victims between classrooms where the proportion of victims decreased and classrooms where it did not. Results indicated that, controlling for T1 frequency of victimization, the decrease in victimization frequency between the two time points did not significantly differ between stable victims in classrooms where the proportion of victims decreased, $M = -.26$, $SD = 1.05$, and stable victims in the other classrooms, $M = -.03$, $SD = 1.06$; $F(1, 170) = 2.051$, $p = .154$.

Effect of decreasing classroom victimization on stable victims' adjustment

Psychological adjustment. Decreasing classroom victimization (vs. stable or increasing) was associated with higher levels of depressive symptoms, $B = .416$, $p = .003$, $\beta = .199$, and social anxiety, $B = .437$, $p = .002$, $\beta = .192$ (see Table 4). In addition, T1 depression and social anxiety predicted higher levels of depressive symptoms and anxiety at T2 ($ps < .001$), respectively. Victimization at T2 also positively predicted higher levels of depressive symptoms, $B = .307$, $p = .001$, $\beta = .239$, and social anxiety, $B = .229$, $p = .018$, $\beta = .164$. No significant effects of gender, victimization at T1, grade level, classroom size, or proportion of victims at T1 were observed. While the intervention status of the classroom has no significant effect on depression, $p = .206$, stable victims in classrooms where the anti-bullying intervention was implemented experienced higher levels of social anxiety, $B = .304$, $p = .026$, $\beta = .135$. As tested in subsequent models with interaction terms, these effects of decreasing classroom victimization on psychological adjustment did not vary by classroom intervention status (depressive symptoms: $p = .632$; social anxiety: $p = .492$).

Table 4. Summary of regression analyses predicting stable victims' T2 adjustment ($N = 170$)

	Depressive symptoms			Social anxiety			Peer acceptance			Received defending		
	b	95% CI	*p*	*b*	95% CI	*p*	*b*	95% CI	*p*	*b*	95% CI	*p*
Classroom-level												
Decrease prop. victims	.20	(.09, .31)	.003	.19	(.09, .30)	.002	−.13	(−.22, −.05)	.028	−.14	(−.25, −.02)	.051
Grade level	−.03	(−.15, .10)	.723	.06	(−.06, .18)	.385	−.08	(−.20, .05)	.261	−.09	(−.21, .03)	.210
KiVa (vs Control)	.10	(−.03, .22)	.206	.14	(.04, .23)	.026	−.02	(−.12, .08)	.690	.11	(−.01, .23)	.135
Prop. victims T1	.00	(−.11, .11)	.961	−.07	(−.20, .06)	.356	−.05	(−.17, .08)	.529	.03	(−.08, .16)	.689
Classroom size	.07	(−.04, .18)	.262	−.05	(−.15, .06)	.484	−.10	(−.21, .01)	.147	.04	(−.08, .14)	.586
Individual-level												
Gender	−.07	(−.19, .05)	.322	−.01	(−.12, .11)	.939	.02	(−.07, .12)	.699	−.11	(−.23, .01)	.130
Victimization T1	−.06	(−.18, .06)	.415	−.11	(−.23, .00)	.109	.01	(−.08, .10)	.822	.02	(−.12, .15)	.850
Victimization T2	.24	(.13, .35)	.001	.16	(.05, .28)	.018	−.05	(−.14, .05)	.378	−.07	(−.20, .06)	.401
Outcome T1	.34	(.21, .47)	< .001	.36	(.25, .48)	< .001	.65	(.45, .85)	< .001	.24	(.10, .38)	.004

Note. Standardized coefficients reported.

Social adjustment. Decreasing classroom victimization predicted lower levels of peer acceptance, $B = -.031$, $p = .028$, $\beta = -.131$, and lower received defending, $B = -.504$, $p = .051$, $\beta = -.137$, though the effects were only marginally significant. No effects of grade level, victimization, proportion of victims at T1, classroom size, and KiVa intervention status were observed. As expected, T1 peer acceptance and received defending positively predicted T2 peer acceptance and received defending, $p < .001$ and $p = .004$, respectively. These effects of decreasing classroom victimization on social adjustment did not vary by classroom intervention status (peer acceptance: $p = .942$; received defending: $p = .939$).

Discussion

The psychological and social adjustment problems that victims of bullying experience can be exacerbated by the social context (Bellmore et al., 2004; Graham et al., 2009; Huitsing et al., 2010; Sentse et al., 2007). The present study focused on the possible influence of contextual changes by investigating whether classroom decreases in the proportion of victimized students could be detrimental to the remaining victims. Classroom decline in victimization is a crucial context to examine as this is the primary objective of anti-bullying interventions. As hypothesized, stable victims experienced higher levels of depressive symptoms and social anxiety in classrooms where the proportion of victims decreased in 1 year, compared to stable victims in classrooms where the proportion of victims increased or did not change. They were also less liked by peers, and tended to feel less defended by them. While the continued presence of many other victims could be thought to facilitate co-rumination and thereby reinforce internalizing problems (Rose, 2002), our results did not support this assumption. These effects were obtained controlling for the frequency of victimization, both anterior and concurrent.

Social comparison theory (Festinger, 1954) and attribution theory (Heider, 1958) are useful in understanding these effects. When victims are surrounded by peers with similar experiences of victimization, they should be less likely to compare themselves to peers who are better off—which can worsen their self-regard (Tesser, Millar, & Moore, 1988)—and more likely to engage in downward comparisons. As victims of bullying already feel depressed, becoming aware of others' negative affect can make them feel better (Gibbons, 1986; Wills, 1981). As individuals tend to prefer comparing themselves to similar others (Taylor, Buunk, & Aspinvall, 1990), peer-victimized children should be more likely to compare themselves to other victims. When the classmates who were previously victimized are no longer victims and are therefore better off, stable victims probably engage more in upward comparisons (i.e, compare themselves to peers they perceive as superior), which exacerbates their internalizing problems.

Moreover, engagement in characterological self-blame (i.e., attributing victimization to causes that are internal, stable and uncontrollable; see Graham & Juvonen, 1998) has been shown to be a key mediator of the association between peer victimization and internalizing problems among children and adolescents (e.g. Perren et al., 2013), and victims are more likely to blame themselves for their plight when fewer classmates are victimized (Schacter & Juvonen, 2015). Classroom declines in the proportion of victimized peers likely increased self-blaming attributions in chronically victimized children and thereby worsened their internalizing problems.

The adverse effects of a classroom decline in victimization on stable victims' psychological health and peer status may also be accounted for by changes in their friendships. Victims tend to have friends who are victimized themselves (Ellis & Zarbatany, 2007; Haselager, Hartup, van Lieshout, & Riksen-Walraven, 1998; Rubin, Wojslawowicz, Rose-Krasnor, Booth-LaForce, & Burgess, 2006; Salmivalli, Huttunen, & Lagerspetz, 1997). Moreover, non-victimized children are reluctant to form friendships with victimized classmates (Boulton, 2013; Sentse, Dijkstra, Salmivalli, & Cillessen, 2013; Sijtsema, Rambaran, & Ojanen, 2013). Consequently, classroom decreases in the proportion of victims probably resulted in fewer friends for stable victims. Friends can prevent increases in internalizing symptoms in victims of bullying (e.g. Hodges et al., 1999) and are likely to nominate each other as peers they like (Ladd, Kochenderfer, & Coleman, 1997). Moreover, victims with victimized close friends feel better than victims with friends who are not victimized (Brendgen et al., 2013). This may explain why decreasing classroom victimization had a negative influence on both the mental health and the peer status of stable victims. Peer acceptance may also have mediated the effects of classroom contextual changes on internalizing problems. Alternately, victims' lower peer acceptance in such classrooms may have been mediated by internalizing problems, as depressive symptoms can lead children to be less liked by peers (Agoston & Rudolph, 2013; Kochel et al., 2012).

Although the effects were only marginally significant, we found some indication that a decline in the proportion of victims makes it less likely that victims receive support from peers. In these classrooms, children may tend to blame victims more—they may perceive them as more deserving of the bullying. This may discourage them from actively standing up for them (see Pozzoli & Gini, 2013).

Furthermore, and contrary to our expectations, these adverse consequences were not moderated by the implementation of the KiVa anti-bullying program. We do speculate that the reasons for this absence of interactive effect may be similar to the reasons for the detrimental effects of classroom decreases in victimization. Although we had hoped that stable victims would benefit from the more helpful environment presumably brought about by the intervention, remaining victimized in a context where visible efforts are being made to prevent bullying may arouse feelings of powerlessness in the victims and foster beliefs—in both the victims themselves and their peers—that the victimization is deserved. These negative feelings may counterbalance any positive effects induced by a supportive context.

Limitations

Our analyses compared the adjustment of stable victims in two different classroom contexts and controlled for their levels of victimization at both time points; it is therefore highly likely that the observed differences in adjustment are related to these contextual differences. Nevertheless, remaining victimized in a changed social environment (with fewer victims) may indicate that these children differ in particular ways from stable victims in classrooms where victimization did not decrease. First, they may have personal characteristics, such as very low self-esteem, which puts them at particularly high risks for victimization, and may in turn account for their lower levels of adjustment (Van der Ploeg et al., 2015). Second, it is possible that the stable victims in these classrooms are not victimized in the same way. Although we did not find any evidence that they would experience changes in the frequency of their victimization that would differ from the stable victims in the other classrooms, they might experience a more severe form of bullying. In contexts of decreasing victimization, a larger number of bullies may target the same peer. The higher maladjustment of these victims may be a response to a bullying that has become more intense and centralized.

Future research could help clarify these interpretations by incorporating tests of possible mediators of the association between classroom changes in victimization and victims' adjustment. Although causal attributions and social comparisons are hypothesized to be the main reasons for victims' differences in adjustment, these variables were not measured in the present study.

In this study, using self-reports of victimization instead of peer reports was necessary because the main focus was in change in victimization over time. Peer reports are problematic for the assessment of change as the proportion of classmates nominating a peer for victimization reflects more a reputation as a victim than an actual level of victimization (see Olweus, 2013). In addition, it was important to obtain a measure of victimization that would not be confounded by the classroom context. However, the use of self-reported victimization raises the possibility that the effects observed based on self-reported outcomes—depressive symptoms, social anxiety and received defending—are partly due to common method variance. Although common method variance may have increased the effects, they do not invalidate the findings (Spector, 2006).

Implications

This study poses a dilemma for anti-bullying professionals: Eradication of bullying is not considered to be realistically attainable, and reductions in victimization may deteriorate the situation of remaining victims. Although our results bring to light potential adverse outcomes of anti-bullying interventions, we caution readers against drawing conclusions that these interventions are ultimately harmful. On the contrary, our findings point to the necessity of maintaining anti-bullying efforts—especially when successful—and improving them by anticipating potential adverse side-effects and adjusting interventions accordingly.

First, former victims should be particularly encouraged to support their classmates still being victimized. Second, students should be made aware of how the context may affect their attitudes and behaviors towards victims. When a peer is still being victimized in a classroom where others are no longer being bullied, students should be taught to feel increased responsibility to help and not to perceive these victims as more deserving of their plight. Third, facilitating meetings among victims from different classrooms may be helpful. Although this might seem to promote maladaptive co-rumination, our findings suggest that victims of repeated bullying may benefit from interacting with peers who share their experiences. Such interactions may modify the social context of reference for victims so that they would be less affected by decreases in victimization in their own classroom. Finally, teachers who have been successful in tackling bullying in their classrooms should pay particular attention to these remaining victims who are easy to overlook in a context of positive change. Teacher recognition of remaining victims could be improved by facilitating victims' disclosure about their ongoing experiences. Anti-bullying programs could implement online reporting systems to allow victims to disclose confidentially their victimization to school personnel, which could further reduce instances of bullying (see Garandeau, Poskiparta, & Salmivalli, 2014). Teachers should also be mindful when addressing the success of their anti-bullying interventions in the company of repeatedly victimized children.

The present findings illustrate the complexity and challenges involved in bullying prevention and intervention. Inferring that anti-bullying programs are counterproductive and therefore should be abandoned would be misguided. The negative consequences of being bullied by peers on mental health can last into adulthood and in some cases be worse than the consequences of childhood maltreatment by adults (Lereya, Copeland, Costello, & Wolke, 2015). For this reason, decreasing the number of victims should remain the ultimate goal of policy-makers and school practitioners. The results of this study demonstrate, however, that we should not be satisfied simply with achieving significant reductions in rates of victimization and the evaluations of the effectiveness of anti-bullying interventions should not be limited to declines in victimization. They show that it is critical to renew and extend effective anti-bullying programs so that they can address the specific difficulties encountered by children who remain victimized despite interventions. We hope that our findings will encourage both school personnel and researchers to be more sensitive to the plight of these children.

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