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Special Issue
School Success

Guest Editors

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The Implementation and Effectiveness of the KiVa Antibullying Program in Finland

Christina Salmivalli,^{1,2} Elisa Poskiparta,³ Annarilla Ahtola,¹ and Anne Haataja¹

¹Department of Psychology, University of Turku, Finland, ²Edith Cowan University, Joondalup, WA, Australia, ³Centre of Learning Research, University of Turku, Finland

Abstract. Bullying is a widespread problem in schools and communities around the world, and nationwide initiatives to prevent and reduce it have begun to emerge in European countries. In Finland, the effects of the national antibullying program, KiVa, have been evaluated first in a randomized controlled trial (2007–2009) and then during nationwide rollout across schools (since 2009). The KiVa program has been found to reduce bullying and victimization, while it increases empathy toward victimized peers and self-efficacy to defend them. Moreover, the program has produced reductions in reinforcement of the bullies' behavior. Finally, KiVa has been found to increase school liking and school motivation, whereas it has led to significant reductions in anxiety, depression, and negative peer perceptions among children and youth. The uptake of the program by Finnish schools has been remarkable, as 90% of the comprehensive schools are at present implementing KiVa. The paper describes the development of the KiVa program, evaluation of its effects, and its implementation across Finnish schools. Challenges in sustainability and high-level implementation of the program are discussed.

Keywords: bullying, victimization, intervention program, national initiative

Bullying, defined as repeated aggressive behavior against a victim who cannot readily defend him- or herself (Olweus, 1991), is a common problem in schools in Europe and across the world. The prevalence of bullied children and their perpetrators varies considerably across countries, both being on average 11% across the 35 countries involved in the WHO's Health Behavior in School-aged Children survey (Craig & Harel, 2004).

The need for effective interventions to tackle bullying is motivated first of all by the psychosocial problems documented among victimized children and youth. They experience depression and anxiety, and tend to be rejected by their classmates (Card & Hodges, 2008; Hawker & Boulton, 2000). For a number of victims, their experiences continue to affect their lives later on in adulthood (Isaacs, Hodges, & Salmivalli, 2008). Besides victims, bullying constitutes a risk for the healthy development of the perpetrators (Sourander et al., 2007) as well as for bystanders merely witnessing victimization (Nishina & Juvonen, 2005; Rivers, Potteat, Noret, & Ashurst, 2009).

In the present article we provide an overview of a recently developed antibullying program, KiVa, which is widely implemented in Finnish schools. We focus on the background and development of KiVa, its evaluation studies conducted so far, and the challenges related to the national rollout of the program. Throughout the KiVa project, we have made concerted efforts to develop evidence-based program contents, to conduct evaluation studies meeting the highest methodological standards, and to support schools with high-quality implementation of the program.

School-Based Interventions Against Bullying: Promises and Challenges

Several meta-analyses (e.g., Ferguson, San Miguel, Kilburn, & Sanchez, 2007; Merrell, Gueldner, Ross, & Isava, 2008; Smith, Schneider, Smith, & Ananiadou,

2004; Vreeman & Carroll, 2007) have shown that the effects of school-based antibullying programs are overall modest in size and show great variability, some indicating undesirable outcomes in terms of increases in bullying problems. Despite previous, somewhat pessimistic conclusions, the most recent meta-analysis (Farrington and Ttofi, 2009; Ttofi and Farrington, 2010) ended with the conclusion that *school-based antibullying programs are effective*. The authors reported average reductions of 17–23% and 17–20% for bullying others and being bullied, respectively. They pointed out that even effects of this size (usually considered “small”) correspond to a substantial amount of bullying and victimization prevented, and thus to huge amounts of suffering among children and youth avoided.

There has been great variation in the sample sizes (1–78 schools), designs, and time periods between pre- and post-test assessments in studies evaluating the effects of antibullying programs, which makes the comparison of effects difficult. Study features, such as research designs used, seem to have an impact on the results obtained. The meta-analysis of Farrington and Ttofi (2009) included randomized controlled designs, before-after nonrandomized intervention-control designs, other intervention-control comparisons (such as post-test only evaluations), and age-cohort designs. The effect sizes varied significantly across designs, randomized controlled trials (considered the most rigorous design) producing the lowest effect sizes (see also Weisburd, Lum, & Petrosino, 2001). It might be that some factors unrelated to the intervention are partly driving the effects in other, less stringent evaluations. For instance, self-selection to intervention and control conditions may create two very different groups of schools to begin with; age-cohort designs may confound intervention effects with history effects (changes that happened during a certain period of time regardless of the intervention taking place), and so forth.

Besides the difficulty in comparing different programs on the basis of the effect sizes found in the wide variety of studies, it is difficult to draw conclusions about the moderators of program effects. For instance, Ttofi and Farrington (2010) concluded that antibullying programs work better among older (> 11 years of age) rather than younger students. This conclusion was based on between-program comparison, meaning that programs that were tested in younger samples were different from those evaluated among older students, and the study designs varied as well. Within-program comparisons have led to an opposite conclusion that antibullying programs have better effects among younger rather than older students (Menesini, Codecasa, Benelli, & Cowie, 2003; Salmivalli, Kaukiainen, & Voeten, 2005), and in primary schools as compared with secondary schools (Hanewinkel, 2004; Smith & Sharp, 1994; Stevens, van Oost, & de Bourdeaudhuij, 2000; Olweus, 2005, p. 4). Systematic large-scale evaluations with stringent designs are needed to resolve such controversies and to add to our knowledge on effective interventions and the conditions under which they might work even better.

Few evaluations of antibullying programs have investigated theoretically meaningful mediators of program effects, in other words, the mechanisms through which the program effects unfold. Some studies have provided evidence of

effects that go beyond the initially intended results, that is, reductions in bullying and victimization. For instance, Olweus Bullying Prevention Program has been found to reduce antisocial behavior (e.g., vandalism, theft, and truancy) and to increase school satisfaction (Olweus, 1991, p. 438), and Fekkes, Pijpers, and Verloove-Vanhorick (2006) found a trend for a decrease in depression in schools implementing an antibullying program. Even studies reporting such “positive side-effects” of the programs have typically not considered whether they preceded changes in rates of bullying or victimization (serving as mediators of program effects) or followed such changes (for instance, school liking increasing as a consequence of reduced victimization).

Finally, implementation fidelity, the extent to which an intervention program was delivered as meant by program developers (Dusenbury, Brannigan, Falco, & Hansen, 2003), has been rarely assessed in antibullying program evaluations (for exceptions, see Fekkes et al., 2006; Kallestad & Olweus, 2003; Salmivalli et al., 2005). A possible explanation for the relatively small effects of school-based programs might be that they were not delivered as intended. Studies that have examined the association between implementation and outcome have reported positive dosage-response relationships (Olweus, 2005; Salmivalli et al., 2005), indicating that more reductions in bully-victim problems were achieved in schools that were doing more, for instance implementing the key elements of the program more systematically, or dedicating overall more time for program delivery. Such a dosage-response association provides further support for the positive effects being caused by the intervention.

The assessment of implementation fidelity is important for other reasons as well. It provides information of whether schools are doing well in program delivery, which program components are most challenging, and whether schools need extra support in order for their antibullying work to be successful. Moreover, monitoring implementation fidelity enables to study the effects of specific “active ingredients” of the program. Assessing the natural variation across schools and individual teachers in delivering the different program components (for instance, how many student lessons were given, whether or not class rules against bullying were established) and how that relates to the effects obtained, we can estimate the contributions of different components to the effects.

Bullying Problems and Attempted Solutions: The Finnish Context

Although the first Finnish studies on school bullying were published already in the 1980s (Björkqvist, Ekman, & Lagerspetz, 1982; Lagerspetz, Björkqvist, Berts, & King, 1982), wider public attention devoted to the topic started to increase in the beginning of the 1990s. Consequently, changes in legislation concerning school safety and the development of antibullying policies have taken place. The Finnish Basic Education Act states, since 1999, that

every student has the right to a safe school environment. Education providers have the responsibility of making sure that students do not experience acts of violence or bullying while at school. In 2003, it was further stated that “The education provider shall draw up a plan, in connection with curriculum design, for safeguarding pupils against violence, bullying and harassment, execute the plan, and supervise adherence to it and its implementation”. It was thus implied that the school antibullying plans, or programs, would be developed at the municipal level, and this was believed to ascertain high commitment to, and consequently, proper implementation of them at schools.

The problem in such an approach was that it encouraged the use of “self-invented” approaches instead of evidence-based programs or practices. According to a nationally representative trend data regarding bullying from the secondary school level and beyond (higher secondary, vocational), the School Health Promotion Study (<http://info.stakes.fi/kouluterveyskysely/EN/index.htm>) by the National Institute for Health and Welfare, no decrease had taken place in the prevalence of either victimized students or their perpetrators during a decade before the KiVa initiative. The legislative actions did not seem to be enough to combat bullying in our schools.

The Finnish school system has become internationally known during the 2000s due to success in the OECD's Programme for International Student Assessment (PISA) surveys. Finnish 15-year-olds are among the best in reading literacy, mathematical literacy, problem solving, and scientific literacy (OECD, 2001, 2004, 2007, 2010, 2011). In addition, between-school variance was small, reflecting the lack of strict stratification. Finnish society heralds egalitarian values, with the school system offering the same basic 9-year education with free lunch to everyone. Another macro-level feature of the Finnish educational system is the high level of autonomy of local agents. Local municipal authorities have considerable power to guide education policies and contents, as the municipalities and, ultimately, each school unit is allowed to apply and modify the national core curricula. What is more, teacher education in Finland is of high quality, a Master's degree in education being the norm for primary-school teachers.

In spite of the success in PISA studies, the World Health Organization report in 2004 revealed alarming news on the school experiences of Finnish students: compared to 34 other countries, the proportion of Finnish youth reporting that they liked school was among the smallest (Samdal, Dür, & Freeman, 2004). Public debate arose, and in 2005 the Finnish Ministry of Education appointed a school welfare committee. One suggestion in the committee's report was to consider a national antibullying program (Finnish Ministry of Education, 2005).

In 2006, the Finnish Ministry of Education made a 3-year contract with our group at the University of Turku concerning the development and initial evaluation of an antibullying program for schools giving comprehensive education (the basic 9-year education from grades 1–9). The program was entitled KiVa, which is an acronym for *Kiusaamista Vastaan*, against bullying; the Finnish word “kiva” also means nice. From the very beginning, the

vision was to develop a program that would be suitable for nationwide implementation. After the first evaluation period and initial evidence of effectiveness, the contract with the ministry was extended to include systematic implementation of the KiVa program in Finnish schools (program rollout, pre-implementation training, and support for schools implementing the program).

KiVa Antibullying Program

The KiVa antibullying program is based on the *participant role approach* to bullying (Salmivalli, Lagerspetz, Björkqvist, Kaukiainen, & Österman, 1996). According to this view, peer bystanders have a crucial role in maintaining (or potentially, stopping) bullying. The bullies, often driven by goals of boosting their status and power among peers (see Salmivalli, 2010), are frequently socially rewarded for their mean acts by peer witnesses who join in the attacks, laugh, or just passively observe the situation without doing anything on behalf of the victim (Salmivalli et al., 1996). Classrooms vary in their levels of bullying behavior, and typical bystander reactions to bullying (e.g., reinforcing the bully vs. taking sides with the victimized child) explain a significant part of this variation (Salmivalli, Voeten, & Poskiparta, 2011). Moreover, well-known individual risk factors for victimization, such as social anxiety and peer rejection, are more likely to be associated with victimization in classrooms where bullying tends to be reinforced, rather than challenged (Kärnä, Voeten, Poskiparta, & Salmivalli, 2010).

Other studies (Pöyhönen, Juvonen, & Salmivalli, 2010, 2012) have shown that supporting and defending a victimized peer is associated with affective empathy, self-efficacy for defending, and positive outcome expectations related to defending behaviors. In addition, defending is more common in classrooms where bullying behavior is negatively, rather than positively related to perceived popularity.

Together, this evidence suggests that trying to change potential targets of bullying by reducing individual-level risk factors such as social anxiety is neither necessary nor sufficient. Attempting to influence individual bullies, on the other hand, is not likely to be efficient if the peers reward their mean behaviors. Influencing the peer context is therefore an essential part of effective antibullying work. Students need to become aware of their own role in maintaining bullying, as well as their potential in putting an end to it. Efforts should be made to influence the group norms and to build capacity in all children to behave in constructive ways, to take responsibility for supporting the victims rather than encouraging bullying behaviors. These aims can best be met in classrooms where all students can be targeted as a group.

Toward the above aims, the KiVa program includes *universal interventions* targeted at all students. Student lessons (primary school) and theme days (secondary school), involving discussion, video films, and exercises done in dyads or small groups, constitute the core of universal interventions. The topics cover a variety of issues related to group interaction in general, the dynamics and consequences of bullying,

and especially, the actions students can take in order to counter bullying and support their victimized peers. Virtual learning environments (antibullying computer games for primary school students, an Internet forum “KiVa Street” for secondary school students) are an integral part of universal interventions. Their contents are closely connected to the topics of the student lessons and themes, enhancing the learning process and motivating students to apply the learnt skills in everyday interactions with peers (Poskiparta, Kaukiainen, Pöyhönen, & Salmivalli, 2012).

The student lessons are delivered by classroom teachers during regular school hours according to a concrete schedule. In addition to student lessons and (in secondary school level) theme days, the universal actions include a parents' guide, posters, as well as highly visible vests for teachers supervising recess time reminding both students and school personnel of KiVa.

Besides working with potential bystanders of bullying in classrooms, we believe that any bullying case coming to attention at school should be handled by adults who take the responsibility for putting an end to what is going on between the bully and the victim, and provide the necessary support for the victimized student. Thus, the KiVa program involves *indicated interventions* that aim to stop ongoing bullying. They consist of series of discussions with the bullies and victims, effectuated by school-based KiVa teams (each team consists of three adults working in the school). In addition, the classroom teacher meets with selected high-status classmates of the victimized child, challenging them to provide support for him/her (for a more detailed description of program contents, see Salmivalli et al., 2010).

KiVa has several features that, when taken together, differentiate it from other antibullying programs. First, KiVa includes a broad and encompassing array of research-based, yet concrete materials for students, teachers, and parents. Second, KiVa harnesses the powerful learning media provided by the Internet and virtual learning environments. Third, KiVa goes beyond “emphasizing the role of bystanders”, mentioned in the context of several intervention programs, by actually providing ways to enhance empathy toward victimized peers and self-efficacy to support them: Both of these factors have been found to be associated with higher levels of actual (peer-reported) defending behavior (e.g., Pöyhönen et al., 2010).

In the evaluation of KiVa, we have made concerted efforts to meet the highest methodological standards and to avoid the validity threats present in many previous intervention studies. We started by testing the effects of KiVa in a randomized controlled trial in a large (> 30,000 students from 234 schools) and representative sample of Finnish comprehensive schools. We utilized three assessment points, multilevel modeling of hierarchical data (students nested within classrooms nested within schools), multi-method and multi-informant outcome measures (e.g., self-reports and peer-reports, dyadic data), and systematic monitoring of implementation (reports from classroom teachers delivering the student lessons, as well as from KiVa teams handling the cases of bullying coming to attention at school). We followed individual students over time, which also enabled accurate handling of missing data. Besides

bullying and victimization, we collected data on numerous variables that were potential mediators of program effects: Examples include empathy toward victims and self-efficacy to defend them, behaviors indicating various participant roles, such as reinforcer of the bully and defender of the victim, outcome expectations regarding defending behaviors, and bullying-related attitudes. We also assessed additional factors that have been found to be related to bullying or victimization, such as internalizing problems, school well-being, and academic motivation and achievement, as we wanted to test whether the KiVa program may indirectly (via reductions in bullying and/or victimization) or directly affect these factors as well.

After the randomized controlled trial, when KiVa became available to all Finnish schools providing comprehensive education, we continued collecting data in schools that started to implement the program; from this point forward, the (annual) assessments have been much less detailed than during the randomized controlled trial.

Effectiveness of KiVa

Randomized Controlled Trial

The KiVa program was first evaluated with a stringent randomized controlled trial involving 117 intervention and 117 control schools from all five provinces in the mainland Finland. The findings from the evaluation studies were promising: The first phase of evaluation involving Grades 4–6 (Kärnä et al., 2011b) showed that KiVa reduced bullying and being bullied significantly. After the first school year (i.e., 9 months of implementation of KiVa), the odds of being a victim were about 1.5–1.8 times higher for a control school student than for a student in an intervention school, and the odds of being a bully were 1.2–1.3 times higher for a control school student than for a student in an intervention school.

The program also resulted in reductions in negative bystander behaviors (reinforcing the bully), as well as increases in empathy toward victimized peers and self-efficacy to support and defend them. The second phase of the evaluation involving also younger (Grades 1–3) and older (Grades 7–9) students indicated, however, that the effectiveness of the program varied considerably across grade levels (Kärnä et al., 2013).

An overall comparison of effects across grades showed that the effects were largest on grade four and smallest in secondary grade levels. On average, the prevalence of children bullying others, as well as those being bullied systematically (2–3 times a week or more often), was reduced by 20% during the randomized controlled trial. In a further study focusing on different forms of victimization in grades 4–6 (Salmivalli, Kärnä, & Poskiparta, 2011), KiVa was shown to reduce each of the examined nine forms, reductions varying from –20% (threatening) to material bullying (–63%). Even cybervictimization, which has raised a lot of discussion and has been found especially challenging, was reduced by –50%.

The study by Williford et al. (2012), also based on the randomized controlled trial data, suggested that the KiVa program was effective for reducing students' internalizing symptoms (anxiety and depression) and improving their positive perceptions of peers, such as perceiving peers as trustworthy and supportive. Moreover, changes in anxiety, depression, and positive peer perceptions were found to be predicted by reductions in victimization.

Furthermore, KiVa has been found to increase school liking, academic motivation, and even academic performance among students in KiVa schools, as compared to students from control schools (Salmivalli, Garandeau, & Veenstra, 2012). Interestingly, the effects of KiVa were not completely mediated by changes in victimization, but the program had a *direct influence* on the school adjustment of the students as well. *Over and above* the effects that were associated with individual- and classroom-level reductions in victimization, children targeted by KiVa reported increases in school well-being, motivation, and achievement during the school year in which the program was implemented. This finding suggests that antibullying interventions are valuable not only because they benefit a relatively small minority of students who are repeatedly tormented by their peers at school, but also because they increase the well-being, school motivation, and possibly even academic performance of a much wider group of students.

Going to Scale: National Rollout of KiVa

The national release of the KiVa antibullying program started in the fall of 2009, when 1,450 schools started to implement it. In 2010 and in 2011 new schools joined in, and at present there are about 2,500 schools implementing the program. They represent 90% of all schools providing comprehensive education in Finland. We continue collecting data in these schools, both from students and school personnel. Whereas most evidence concerning the effects of antibullying programs comes from short-term, relatively small-scale efficacy studies, our aim is to study both implementation and effectiveness of KiVa during national implementation over several years. It is not self-evident, that the program survives in the everyday life of schools without extra support.

The evaluation of program effects during the national rollout is based on students' responses to web-based surveys that are part of the KiVa program and according to the recommendation of program developers, filled in every May. Thus, the first large pre-test survey for schools starting the implementation in fall 2009 took place in May 2009, followed by an annual assessment every May. Already after the first year we were able to estimate program effects utilizing a cohort-longitudinal design with adjacent cohorts (Olweus & Alsaker, 1991). In this design, post-test data from students in each age cohort are compared with baseline data from same-aged students from the same schools (i.e., in the previous cohort), who have not yet been exposed to the intervention. For instance, grade 2 students who had been targeted by KiVa for 1 year (post-test data collected in May 2010) were compared with

grade 2 students from the same schools who had not yet been involved (pre-test data collected in May 2009).

The effects, based on data from 888 schools and about 150,000 students that responded the survey both in 2009 and 2010, were generally weaker during the broad rollout, as compared with the randomized controlled trial (Kärnä et al., 2011a). They were statistically significant at the primary school level (Grades 1–6) with respect to bullying others, as well as being bullied. At the secondary, or junior high school level (Grades 7–9), the effects for bullying others were in the right direction but not significant, and the effects for being bullied were just at the border of being significant (except in grade eight, where the reduction of victimization was significant). Again, as in the randomized controlled trial, the effect sizes were largest in grade four (ORs 1.34 for bullying and 1.33 for being bullied; in the whole sample both around 1.2). On average, the prevalence of children bullying others, as well as those being bullied systematically (2–3 times a week or more often), was reduced by 15% during the first year of national rollout.

It was estimated that during the first year of broad rollout, the KiVa program reduced the number of students bullying others by about 2,300 and the number of students being repeatedly bullied by others by 3,900 in the 888 schools participating in the survey. Generalized to all Finnish comprehensive schools, the reductions would amount to about 7,500 bullies and 12,500 victims during the first 1-year period. This concretizes the fact that even rather small effect sizes can make a huge difference in the lives of numerous children and youth.

Challenges in the Implementation of KiVa

Implementation fidelity is a critical precondition for success of any prevention/intervention program. However, in studies evaluating antibullying programs, implementation has often been assessed at a very general level (e.g., Kallestad & Olweus, 2003), if at all. In the evaluation of KiVa antibullying program we have assessed various aspects of implementation (such as preparation, dose, coverage, and student responsiveness) of the different program components. During the broad rollout of KiVa (since fall 2009) we have continued gathering data on implementation via annual surveys to the school personnel. There is already evidence of a positive association between the level of implementation and reduction in victimization, both from the randomized controlled trial (Haataja et al., 2013) and broad rollout (Kärnä et al., 2011a): teachers and schools who put more effort in program delivery gained more in terms of reducing victimization.

In the randomized controlled trial of KiVa (2007–2009) we attempted to capture, besides the *level* of implementation, also the *implementation process* by gathering monthly data from teachers delivering the students lessons involved in the program. Furthermore, schools' KiVa teams tackling the acute cases of bullying reported back to us each step gone through when handling a case of bullying.

Our data indicates that although the level of implementing KiVa program was overall high, it tended to decrease already during the first academic year (from fall to spring; Haataja, Voeten, & Salmivalli, 2011). Moreover, implementation fidelity was somewhat lower during the broad rollout than during the randomized controlled trial (Salmivalli, Haataja, & Poskiparta, 2011). For instance, whereas primary school teachers delivered on average 8.7 out of 10 lessons during the randomized controlled trial, the corresponding number was 7.8 lessons during the first and 7.2 lessons during the second year of broad implementation. An important future task will be to identify individual and school-level factors enhancing the likelihood of high-quality implementation.

In order to prevent a decrease in implementation over time, new actions have been taken to support schools in their efforts. Such actions include newsletters sent to schools four times a year, online training about the KiVa program and its implementation, biannual KiVa conference days, quality recommendations provided to schools, and regular online monitoring of implementation. Each school gets annual feedback on their level of implementation, how that changes from 1 year to another, and how it relates to the implementation efforts of the other KiVa schools. On the basis of the information gathered by both staff and student surveys, the KiVa School of the Year is awarded annually.

Discussion

The development and implementation of the KiVa antibullying program in Finland is an example of how commitment and cooperation of multiple partners (the government, the researchers, and the school personnel delivering the program) can lead to significant improvement in the lives of numerous children and youth. The development of the program contents was based on a specific theoretical view, participant role approach to bullying (Salmivalli et al., 1996), and numerous empirical studies on factors related to different bystander behaviors (e.g., Pöyhönen et al., 2010, 2012). The program has been evaluated in a series of rigorous studies during a randomized controlled trial and during broad rollout across schools in Finland (Kärnä et al., 2011a, 2011b, 2013). The willingness of Finnish schools to adopt the KiVa program and the effort they have put in its implementation have been remarkable: at the moment, 90% of comprehensive schools in the country are using the program.

So far only findings concerning the effects after the first year of implementation – in the Finnish school system, 9 months – are available. The average reductions in bullying and victimization, calculated across all grade levels (Grades 1–9, with 7- to 15-year-old students), were about –20% during the randomized controlled trial, and about –15% during broad rollout (Kärnä et al., 2011a). These are the average effects estimated across all grade levels in comprehensive education – in some grades (especially in primary school grades 1–6) the effects were considerably stronger.

The effects were also stronger in classrooms and schools where the program was implemented more intensively (for instance, more student lessons delivered, with more fidelity to their designed contents; Haataja et al., 2011; Kärnä et al., 2011a). Even looking at the whole sample of schools included in the randomized controlled trial, the effects of KiVa were stronger than in most other studies included in the meta-analyses by Farrington and Ttofi (2009), and clearly stronger than in most previous randomized experiments. Furthermore, the positive effects were in most cases confirmed by peer-report data (in some cases, the effects based on peer-reports were even larger) which is not common in intervention studies.

The effects obtained during the first year of broad rollout of KiVa (Kärnä et al., 2011a), on the other hand, are hardly comparable to any previous evaluation studies since few, if any programs have been either implemented or systematically evaluated in equally large scale. The weaker effects in this phase, as compared with the randomized controlled trial, could be expected, as during the randomized controlled trial we were able to provide intervention schools much more support in their implementation efforts (e.g., school visits, meetings with KiVa team members, possibility to consult program developers).

KiVa was more effective in primary (1–6) than in secondary (7–9) grades and, importantly, this finding was obtained both in the randomized controlled trial and during broad rollout of KiVa. The result is in contrast with the conclusions by Farrington and Ttofi (2009), but in line with several previous within-program evaluations showing stronger effects among younger, as compared with older students (e.g., Hanewinkel, 2004; Salmivalli et al., 2005; Smith & Sharp, 1994; Stevens et al., 2000). On the basis of available evidence, it seems that middle/secondary school students constitute a challenging age group that is not very responsive to school-based interventions against bullying (however, our follow-up data during the broad rollout of KiVa suggest that the effects in secondary schools are growing over the years). It should be remembered that the association between age and program effects is not necessarily linear; in the KiVa project we found the strongest effect (at least after the first year of implementation) among fourth graders, i.e., children with 10–11 years of age.

Besides reducing bullying and victimization, we found evidence of KiVa increasing empathy toward victimized peers, self-efficacy to support and defend them, and reductions in behaviors that are socially rewarding to the bully (Kärnä et al., 2011a) – all theoretically important constructs that are potential mediators of program effects. It remains to be seen in the forthcoming mediation analyses whether KiVa's effects are actually produced by such changes. KiVa also reduced internalizing problems (Williford et al., 2012) and led to increases in well-being and school liking among a much wider group of children than just previous victims and bullies (Salmivalli et al., 2012). Although not presented in the current article, the indicated actions (discussions between schools' KiVa team members and children involved in bullying) were found to be highly effective (Garandau, Poskiparta, & Salmivalli, 2013), but unfortunately not

always taken, as much of the ongoing bullying remained unidentified at schools.

Although many of our evaluation studies are still in progress (for instance, we do not know much of the mechanisms of driving the changes yet) we hope they will encourage further rigorous intervention research that meets the often mentioned but not so often applied methodological standards, including random assignment of schools (or classrooms) to intervention and control conditions, multi-level modeling of hierarchical data, systematic monitoring of implementation, proper sample size, accurate handling of missing data, and multi-informant outcome measures. Ideally, the measures should include variables that are hypothesized mediators or moderators of program effects, or constructs that are expected to change as a consequence of reduced bullying and victimization (such as internalizing problems or academic outcomes).

Collecting self-reported pre- and post-test prevalence data on bullying and victimization is valuable and it enables the comparison of effects to previous studies using similar assessment strategy (e.g., the often used Olweus Bully-Victim Questionnaire; Olweus, 1996). However, validation against reports from other informants (such as peers) is important. Moreover, the 'true' longitudinal design in which individual students are followed over time is a significant improvement to many previous evaluation studies. It allows finding out, for instance, whether *decreases in bullying others* are due to some students stopping bullying, or rather, some of the potential new bullies (children with risk factors for bullying) not starting to bully others in the first place. Similarly, we do not usually know whether *decreases in victimization* are caused by some victims escaping their victim role, or some children with risk factors for victimization not ending up as victims at all. Following particular individuals from pre- to post-test will allow differentiating between such preventive versus interceptive processes. It also enables to examine whether the situation of "remaining victims" has changed to the better or to the worse, for instance whether they feel more supported and less lonely (although still victimized) or, alternatively, whether they feel even worse than before. There is evidence that being one of the few victimized students in a group can be more detrimental than being victimized and sharing this plight with other peers (Huising, Sainio, Veenstra, & Salmivalli, 2012).

Several limitations of our evaluation studies should be pointed out. For instance, it was unfortunate that our randomized controlled trial only lasted for one school year: After that, it was not possible to compare changes occurring in KiVa schools with those taking place in control schools (as practically all schools became KiVa schools after that point). The best we can do is to study the long-term effects of KiVa analyzing the data from the broad rollout with a cohort-longitudinal design.

All our data were collected by (mostly online) questionnaires. It would have been desirable to collect additional observational data or perhaps interview students in a small subsample. Whereas observational data are free from response bias, interviews might have provided insight into how the students perceived the process leading to changes in their cognitions and behaviors. Moreover, assessing

implementation by observation, in addition to reports from school personnel, might have been valuable to capture the quality (instead of mere quantity) of program delivery.

Further developments are needed in the program contents as well. We have already added new elements, such as the possibility to report bullying to the school's KiVa team via the online game. This seemed important as we realized that many cases of bullying were neither reported to adults by the students nor identified by the KiVa teams. As we get more feedback from the schools implementing the program, we can make further adjustments to program contents. Hopefully our forthcoming studies will also shed light on which components of the program are more effective than others.

A question that remains to be answered is whether the KiVa program produces comparable outcomes in school contexts outside of Finland. The program is currently being translated into several languages and evaluation studies have just begun in the Netherlands and in Delaware, US. We have no reason to believe that the program will not be effective in these contexts; the dynamics of bullying are likely to be similar across (especially Western) countries. The motivation and resources to implement the program constitute a challenge, however. Lack of resources, or few possibilities to fit the program in the curriculum, might decrease school personnel's willingness to implement a program, even when they believe it has positive outcomes. These factors may vary across countries and school systems.

In Finland, future studies using data collected annually since the beginning of the broad rollout of KiVa will tell us whether the effects obtained during the first year of implementation sustain over years to come - or get even larger. Ryan and Smith (2009) have recommended the use of a 3-year follow-up period to properly investigate the effects of intervention programs. KiVa is not meant to be a short-lived project; It will be exciting to examine how many schools will succeed in implanting the program as a permanent tool utilized in their antibullying work and what the long-term effects will be like.

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About the authors



Christina Salmivalli, PhD, is Professor of Psychology at the University of Turku, Finland, and the director of the KiVa antibullying program. Her main research interests are bullying and its prevention among schoolchildren.



Elisa Poskiparta, PhD, is the head of the Centre for Learning Research at the University of Turku, Finland, and the co-director of the KiVa antibullying program. Her research interests include beginning reading, risk factors and remediation of reading disabilities, and bullying and victimization.



Annarilla Ahtola, PhD, is a special researcher and teacher at the University of Turku, Finland. Her research interests include promotion and prevention activities in basic education.



Anna Haataja is a PhD student at the University of Turku, Finland. The topic of her PhD research is the implementation of the KiVa antibullying program and its association with the effects obtained.

Christina Salmivalli

University of Turku
Psykologian laitos, 20014 Turun Yliopisto
Turku
Finland
Tel. +358 2 3335426
Fax +358 2 3335060
E-mail tiina.salmivalli@utu.fi