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CONCEPTUALIZING
AND COUNTERACTING
THE BULLYING DYNAMIC:
CLASSROOM AND SCHOOL
CONTEXTS MATTER

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*To the elementary schoolers
of tomorrow and today:
Katariina, Laura, and Roni*

Conceptualizing and counteracting the bullying dynamic:
Classroom and school contexts matter

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ABSTRACT

Guided by the social-ecological conceptualization of bullying, this thesis examines the implications of classroom and school contexts—that is, students' shared microsystems—for peer-to-peer bullying and antibullying practices. Included are four original publications, three of which are empirical studies utilizing data from a large Finnish sample of students in the upper grade levels of elementary school. Both self- and peer reports of bullying and victimization are utilized, and the hierarchical nature of the data collected from students nested within school ecologies is accounted for by multilevel modeling techniques. The first objective of the thesis is to simultaneously examine risk factors for victimization at individual, classroom, and school levels (Study I). The second objective is to uncover the individual- and classroom-level working mechanisms of the KiVa antibullying program which has been shown to be effective in reducing bullying problems in Finnish schools (Study II). Thirdly, an overview of the extant literature on classroom- and school-level contributions to bullying and victimization is provided (Study III). Finally, attention is paid to the assessment of victimization and, more specifically, to how the classroom context influences the concordance between self- and peer reports of victimization (Study IV). Findings demonstrate the multiple ways in which contextual factors, and importantly students' perceptions thereof, contribute to the bullying dynamic and efforts to counteract it. Whereas certain popular beliefs regarding the implications of classroom and school contexts do not receive support, the role of peer contextual factors and the significance of students' perceptions of teachers' attitudes toward bullying are highlighted. Directions for future research and school-based antibullying practices are suggested.

Kiusaaminen ja siihen puuttuminen:
Luokka- ja koulukonteksteilla on väliä

Silja Saarento
Psykologian oppiaine
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TIIVISTELMÄ

Kiusaamisen sosioekologisen käsitteellistämisen ohjaamana tämä väitöskirja tarkastelee luokka- ja koulukontekstien – oppilaiden yhteisten mikrosysteemien – merkityksiä vertaisten välillä tapahtuvalle kiusaamiselle ja kiusaamisenvastaisille toimenpiteille. Väitöskirja käsittää neljä alkuperäistä julkaisua. Näistä kolme ovat empiirisiä tutkimuksia, jotka perustuvat alakoulun ylempien luokka-asteiden oppilaista koostuvaan laajaan suomalaiseen aineistoon. Tutkimuksissa käytetään sekä oppilaiden itsearvioita että toveriarvioita kiusaamisesta ja kiusatuksi joutumisesta, ja koulumaailmaan sijoittuvan oppilasaineiston hierarkkinen luonne huomioidaan monitasomallinnuksen keinoin. Väitöskirjan ensimmäinen tavoite on samanaikaisesti tutkia yksilö-, luokka- ja koulutason riskitekijöiden yhteyksiä kiusatuksi joutumiseen (julkaisu I). Toisena tavoitteena on selvittää yksilö- ja luokkatason mekanismit, jotka selittävät kiusaamisenvastaisen KiVa Koulu -ohjelman vaikuttavuutta suomalaisissa kouluissa (julkaisu II). Kolmanneksi luodaan katsaus tähänastiseen tutkimukseen luokka- ja koulukontekstien merkityksistä kiusaamiselle ja kiusatuksi joutumiselle (julkaisu III). Lopuksi huomio kiinnitetään kiusaamisen mittaamiseen ja tarkemmin sanottuna siihen, miten luokkakonteksi vaikuttaa kiusatuksi joutumisen itsearvioiden ja toveriarvioiden yhteneväisyyteen (julkaisu IV). Tutkimustulokset ilmentävät niitä moninaisia merkityksiä, joita konteksteilla – ja erityisesti oppilaiden omilla käsityksillä konteksteistaan – on kiusaamisen dynamiikalle ja siihen puuttumiselle. Siinä missä jotkin yleiset uskomukset luokka- ja koulukontekstien vaikutuksista eivät saa tukea, tuloksissa korostuvat vertaisryhmän sosiaalisten tekijöiden vaikutukset sekä sen tärkeys, miten oppilaat uskovat opettajiensa suhtautuvan kiusaamiseen. Tulevaisuuden suuntaviivoja esitetään kiusaamisen tutkimukselle ja kiusaamisenvastaisille toimenpiteille kouluissa.

CONTENTS

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LIST OF ORIGINAL PUBLICATIONS

I.   **Saarento, S.**, Kärnä, A., Hodges, E. V. E, & Salmivalli, C. (2013). Student-, classroom-, and school-level risk factors for victimization. *Journal of School Psychology, 51*, 421-434. doi: 10.1016/j.jsp.2013.02.002

II.   **Saarento, S.**, Boulton, A. J., & Salmivalli, C. (2015). Reducing bullying and victimization: Student- and classroom-level mechanisms of change. *Journal of Abnormal Child Psychology, 43*, 61-76. doi: 10.1007/s10802-013-9841-x

III.   **Saarento, S.**, Garandeau, C. F., & Salmivalli, C. (2015). Classroom- and school-level contributions to bullying and victimization: A review. *Journal of Community & Applied Social Psychology, 25*, 204-218. doi: 10.1002/casp.2207

IV.   **Saarento, S.**, & Salmivalli, C. (2015). *Self- and peer reports of school bullying: Classroom context moderates self-declared victims' likelihood of being recognized by peers*. Manuscript submitted for publication.

The four original studies are presented in this thesis in the order in which they were submitted for publication. The publications have been reproduced in the Appendix of this thesis with the permission of the copyright holders. All rights reserved. Publication I © 2013 by Elsevier; Publication II © 2014 by Springer Science+Business Media; Publication III © 2014 by John Wiley & Sons.

1. INTRODUCTION

In recent decades, the social-ecological systems theory (Bronfenbrenner, 1979) has notably influenced the field of developmental psychology by advocating the view that children's intra- and interpersonal development is shaped by the interaction between the individual and a multitude of environments, or contexts, he or she belongs to. These contexts can be differentiated in terms of their proximity to the child, microsystems being the most immediate and including direct contact between the individual and the context. As children grow older, their microsystems tend to increase in number and social complexity. Whereas in early childhood the family unit is usually the primary context for development, classrooms and schools come into play as children enter the formal schooling system. The influences of different classroom and school contexts on developmental outcomes have attracted increasing research attention (Eccles & Roeser, 2011).

Classroom and school effects first became of interest in educational research where one of the popular areas of study has been students' academic achievement (see Raudenbush, 1988). Although academic development is among the primary goals and outcomes of formal schooling, the influence of classrooms and schools is not limited to academic achievement which does not always go hand in hand with children's socio-emotional development and well-being. In Finland, for instance, the results from the Programme for International Student Assessment (PISA) studies in the early 2000's indicated that the nation's students were repeatedly among the top-performers in literacy, mathematics, and science (Kupiainen, Hautamäki, & Karjalainen, 2009)— a finding that has raised worldwide interest. Less attention has been paid to the other side of the picture: The Finnish students scored lower than average on measures of subjective well-being, including school liking (Unicef, 2007).

One of the most prominent issues affecting children's socio-emotional development and subjective well-being within classrooms and schools is peer-to-peer bullying among students. Bullying is nowadays recognized as a worldwide problem and has been in the focus of a rapidly growing body of research. Not only can bullying have detrimental consequences for the targeted children (for a meta-analysis, see Reijntjes, Kamphuis, Prinzie, & Telch, 2010), but it is also linked with later adjustment difficulties of the perpetrators (for a meta-analysis, see Farrington, Lösel, Ttofi, & Theodorakis, 2012) and has even been found to have negative mental health implications for children merely witnessing the bullying incidents (Nishina & Juvonen, 2005; Rivers, Poteat, Noret, & Ashurst, 2009).

Since the late 1990's, bullying has increasingly been conceptualized by researchers as a social process that extends beyond the perpetrator–victim relationship, involving the whole peer group (see Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996). In the early 2000's, the social-ecological systems perspective was applied to bullying (see Espelage & Swearer, 2003; Rodkin & Hodges, 2003; Swearer & Doll, 2001; Swearer & Espelage, 2004), broadening the conceptualization of the phenomenon beyond peer groups. Accordingly, factors at the multiple levels of children's social ecologies are nowadays presumed to matter both for the conceptualization of, and efforts to counteract, the bullying dynamic. Whereas the growing interest in contextual influences, and especially those of classroom and school contexts, has been evident in the theoretical literature on bullying and victimization (being bullied), systematic empirical research on the topic has been slower to emerge.

In this thesis, I aim to address some of the gaps in the school bullying literature, paying special attention to the implications of classroom and school contexts. Specifically, my first objective is to simultaneously investigate risk factors for victimization at three levels of influence: individual, classroom, and school (Study I). My second objective is to examine the individual- and classroom-level working mechanisms of an antibullying program, namely, the KiVa program (Study II). Thirdly, I will summarize the literature on the contributions of classroom and school factors to bullying and victimization (Study III). Finally, I will take a more methodologically oriented perspective and examine whether the classroom context influences the concordance between two different types of approaches to the assessment of victimization, namely, self- and peer reports (Study IV).

1.1.   Conceptualizing Bullying and Victimization

Although the exact definitions of bullying have varied to some extent, most seem to agree that bullying refers to repeated and intentional acts of aggression directed at another individual over a longer period of time. Moreover, one of the crucial defining features of bullying is the power differential between the perpetrator(s) and the victim(s) (Olweus, 1993; Smith & Sharp, 1994). The power differential, which can be based on various physical, psychological, or social characteristics, makes it hard for the victimized individual to defend him- or herself against the abuse. This feature also separates bullying from other types of aggression such as mutual fights between equals.

What motivates children to engage in bullying? Earlier, the picture of the stereotypical bully used to depict a maladjusted aggressor lacking social skills and status. In recent decades, findings from empirical studies have reshaped this picture:

It is now recognized that children who engage in bullying may actually have good social-cognitive skills and be perceived as popular in their peer group (see Garandeau & Cillessen, 2006). Rather than being hot-tempered behavior, it seems that bullying can be classified as proactive, goal-directed aggression (Coie, Dodge, Terry, & Wright, 1991). According to the review by Salmivalli (2010), there is some empirical evidence for the assumption that most bullies are motivated by a quest for power and high status and that, unfortunately, bullying can be a successful strategy for obtaining such goals. It is the peer group that assigns status to its members; accordingly, acts of bullying need an audience. Witnesses are present in by far the most bullying incidents (Hawkins, Pepler, & Craig, 2001), assisting or providing reinforcement to the perpetrators, remaining outsiders, or, more rarely, defending the victimized peers (Salmivalli et al., 1996).

This view of bullying as goal-directed behavior fueled by the social reinforcement from peers has also helped to explain the links between certain individual characteristics and victimization (for a review, see Card & Hodges, 2008). In order to maximize the effectiveness of their strategic bullying behavior, the perpetrators tend to select seemingly easy targets (Card & Hodges, 2008; Salmivalli, 2010): Intrapersonal characteristics such as shy, anxious, and withdrawn behaviors, interpersonal factors such as peer rejection and a lack of friends, and physical characteristics such as being physically weak may signal to others that one is not likely to stand up for him- or herself nor to be defended by peers.

Some scholars have argued that bullying can also serve a function for the whole peer group: Bullying, which is usually selectively targeted at only one or two group members (Schuster, 1999), can provide a common goal and a sense of cohesion in groups that lack genuine friendships and cohesiveness (Garandeau & Cillessen, 2006). This view seems to echo Foucault's (1961) broader notion that societies need stigmatized individuals, or outcasts, to make everyone else feel better about themselves and to support their sense of unity. Perhaps, then, this points us to the roots of why bullies are often awarded the popular status by the peer group: Those who point out the outcasts are awarded for implicitly serving the good of the rest of the group, yet at the expense of the victims' wellbeing. Although this may be the mechanism of bullying in dysfunctional groups, it seems that socially skillful bullies can in some cases even manipulate nondysfunctional groups into enabling the bullying (Garandeau & Cillessen, 2006).

1.1.1. Bullying in the school ecology

Regardless of whether bullying is viewed as a means to achieve group members' individual goals, as serving a function for the whole group, or both, these views on

the functions of bullying underline the significance of the social contexts in which bullying takes place. They call for a better understanding of the characteristics of the contexts in which bullying is likely to be reinforced and awarded and, thus, to persist. For long, school bullying researchers focused on searching for explanations for why certain children get involved in bullying perpetration, and why certain are chosen as targets, from the intra- and interpersonal characteristics of the individuals. More recent literature, fueled by the social-ecological conceptualization of bullying, has demonstrated that varying classroom and school contexts also entail characteristics that may put children at a heightened risk for bullying perpetration and victimization.

Classrooms and schools vary in rates of bullying and victimization (see, e.g., Bradshaw, Sawyer, & O'Brennan, 2009; Kärnä, Voeten, Little, Poskiparta, Kaljonen et al., 2011; Khoury-Kassabri, Benbenishty, Astor, & Zeira, 2004). The exact estimates of the extent to which each level of the school ecology accounts for the total variance have depended on the measures used and the populations examined. However, it seems that intraclass correlations tend to be bigger at the classroom level than at the school level, meaning that there is more variability between classrooms than between schools. In Finland, for instance, the percentage of between-classroom variance was found to be 4% for self-reported victimization and 12% for peer-reported victimization, as compared to the percentages of between-school variance which were 2% and 4% for self- and peer reports, respectively (Kärnä, Voeten, Little, Poskiparta, Kaljonen et al., 2011). The corresponding percentages for both self- and peer-reported bullying perpetration were 3% at the classroom level and 2% at the school level.

Attention has been paid, first of all, to demographic and school structural factors that may explain variations among classrooms and schools in the rates of bullying and victimization. Whereas the prevalence of victimized students declines rather steadily from one grade level to the next (Smith, Madsen, & Moody, 1999), bullying perpetration starts to increase around the end of middle childhood (see Salmivalli, 2010)—a pattern of findings which seems to partly reflect bullies' tendency to target younger students (Olweus, 1993; Smith et al., 1999). Findings regarding the effects of many other factors such as students' gender distribution, classroom and school size, and socioeconomic factors have been less conclusive.

Prevalent bullying problems in classrooms and schools tend to co-occur with students' negative perceptions of the school climate (see Cook , Williams, Guerra, Kim, & Sadek, 2010; Harel-Fisch et al., 2011), and students involved as either bullies, victims, or bully-victims tend to perceive the climate more negatively than do others (Bacchini, Esposito, & Affuso, 2009; Yoneyama & Rigby, 2006). When looking deeper into the subcomponents of the social contexts shared by students, peer group norms have been found helpful in explaining why students in some classrooms are more likely to be

involved in bullying. Classroom norms regarding bullying have been conceptualized in multiple ways, such as low levels of antibullying attitudes (e.g., Scholte, Sentse, & Granic, 2010), positive expectations regarding the social outcomes of probullying actions (Salmivalli & Voeten, 2004), and high levels of bullying perpetration (e.g., Scholte et al., 2010)—all of which are associated with an individual student's higher risk of bullying perpetration. Norms can also be reflected in bystanders' behaviors in bullying situations. Besides the early observational studies (e.g., O'Connell, Pepler, & Craig, 1999), the influences of children's bystander responses to peer-to-peer bullying have only recently received empirical attention. The risk of bullying has been found to be higher in classrooms where reinforcing the bullies' behavior is common and defending the victimized classmates is rare, implying that bullying is socially rewarded (Salmivalli, Voeten, & Poskiparta, 2011). In conclusion, the classroom normative environment clearly plays an important role in the bullying dynamic, but it has not been obvious what kind of a conceptualization and operationalization of norms would have the greatest predictive validity (Salmivalli, 2010).

Until recently, the multifaceted role of teachers has been largely neglected in school bullying research (for a review, see Troop-Gordon, 2015). For instance, authoritarian teacher practices (Yoneyama & Naito, 2003), the lack of collaboration among teachers (Roland & Galloway, 2004), less positive student–teacher relationships, as well as the lack of clear antiviolence policies (Khoury-Kassabri et al., 2004) tend to accompany prevalent bullying problems in schools. Espelage, Polanin, and Low (2014) looked into the implications of multiple aspects of the school environment as perceived by teachers. They found that especially a school commitment to bullying prevention, including support from the administration, was associated with less student-reported bullying and victimization. Regarding teacher influences at the classroom level, a recent study showed that teachers' active efforts to reduce status inequalities in the classroom predicted lower levels of victimization among students (Serdiouk, Rodkin, Madill, Logis, & Gest, 2015). This in line with the evidence suggesting that status hierarchies tend to promote rather than deter bullying (Garandeau, Lee, & Salmivalli, 2014). Another recent study examining teachers' beliefs and experiences regarding bullying found higher levels of victimization in classrooms to be associated with the teacher attributing bullying to causes outside of his or her control, such as to the victims' behavior, and with the teacher having a history of bullying others when growing up (Oldenburg et al., 2015). Teachers' beliefs about bullying, its causes, and consequences have been shown to have implications for whether and by what strategies they intervene in bullying, which again is related to students' risk of victimization by peers (Kochenderfer-Ladd & Pelletier, 2008; Troop-Gordon & Ladd, 2015).

In conclusion, the literature implies that there are multiple classroom- and school-level factors related to the risk of bullying and victimization among students. However, the inconsistencies in some of the findings, and the varying conceptualizations and operationalizations of focal constructs, have perhaps raised more questions than answers. Evidence has also started to emerge for the importance of the interplay between individual and contextual risk and protective factors. Recent studies have shown that the characteristics of the classroom context can either exacerbate or inhibit the effects of individual risk indices, such that they may only lead to bullying (Vervoort, Scholte, & Overbek, 2010) or victimization (Brendgen, Girard, Vitaro, Dionne, & Boivin, 2015; Isaacs, Voeten, & Salmivalli, 2012; Kärnä, Voeten, Poskiparta, & Salmivalli, 2010; Serdiouk et al., 2015) in certain contexts but not in others. Likewise, the extent of the negative consequences of being bullied has been shown to potentially depend on the classroom context of the victims (Bellmore, Witkow, Graham, & Juvonen, 2004; Huitsing, Veenstra, Sainio, & Salmivalli, 2012).

The need to further clarify the roles of classroom and school contexts in the bullying dynamic has been pointed out by several scholars (e.g., Bradshaw et al., 2009; Espelage & Swearer, 2003; Khoury-Kassabri et al., 2004; Salmivalli, 2010; Yoneyama & Naito, 2003). Although much has been written on the potential implications of the different levels of the school ecology, that is, individual, classroom, and school, the school bullying literature has been lacking empirical studies simultaneously examining the effects at all the three levels. Prior to the increase in research in the past few years, classroom-level factors were often excluded from the investigations although different classroom contexts seem to account for more of the variability in bullying and victimization than do school contexts. More empirical research bringing together multiple aspects of the classroom and school contexts, such as peer group and teacher influences, would also be valuable. In addition, cross-level interactions among risk factors at the different levels deserve further attention.

Another noteworthy issue, one regarding not only research on classroom and school contributions but also bullying research in general, is that despite of recommendations most studies have been limited to the inclusion of only one or another source of information on bullying and victimization, such as self- or peer reports (e.g., Ladd & Kochenderfer-Ladd, 2002). The variability in the assessment methods used seems to be among the potential sources of variability in the findings and conclusion arrived at in different studies. Using more than one measure within a single study would make it possible to identify key factors that are associated with bullying and victimization regardless of source of information. Confirmation of associations with different measures would also exclude the possibility that shared method variance is accounting for the observed findings.

The first empirical study included in this thesis (Study I) aims to fill some of these gaps by simultaneously investigating the influences of a range of student-, classroom-, and school-level risk factors on both self- and peer-reported victimization. Distinctive risk factors were expected to operate at each level. At the student level, social anxiety—intrapersonal vulnerability—and peer rejection—interpersonal risk—as well as their interaction were included. One of the central goals of the study was to elaborate prior findings on the role of classroom norms in the bullying dynamic. Whereas most studies have only utilized one or another conceptualization of norms, two different conceptualizations were investigated in this study. The risk of victimization was hypothesized to be higher in classrooms characterized by students' weak antibullying attitudes and negative outcome expectations of defending. Another central goal was to explore whether children's perceptions of their teachers' attitudes toward bullying were also associated with victimization at the different levels of influence. Students' risk of being bullied by peers was hypothesized to be higher in contexts where teachers were perceived to condone bullying. In addition to focusing on the aforementioned risk factors, several demographic and school structural factors were included. To further clarify the contextual contributions to victimization, the effects of the student- and classroom-level risk factors were tested for variability across higher-level units of the data, and an exploratory approach was used to uncover possible cross-level interactions. Closely related to the topic of this first study included in the thesis is Study III, an invited review paper which summarizes the extant empirical research on the contributions of classroom and school contexts to bullying and victimization.

1.2. The "Black Box" of Antibullying Programs

From the logic of the social-ecological conceptualization of bullying, and the empirical findings described in the preceding section, it follows that the classroom and school contexts also need to be taken into account in antibullying practices. In recent decades, several school-based antibullying programs have been developed and evaluated for effectiveness. Among these programs, those utilizing the so-called whole-school approach which targets the different levels of the school ecology—comprising social processes occurring among both students and staff members—have raised increasing interest among scholars, practitioners, and policy makers (Smith, Schneider, Smith, & Ananiadou, 2004). However, "the black box" of these programs is yet to be opened: Their working mechanisms, that is, the processes through which program implementation translates into observed reductions in bullying and victimization, have so far not been tested. The need to examine the

working mechanisms of antibullying programs has recently been pointed out by scholars (e.g., Eisner & Malti, 2012; Kärnä, Voeten, Little, Poskiparta, Kaljonen, et al., 2011; Salmivalli, Voeten, & Poskiparta, 2011).

Program effects are usually thought to be transmitted through changes in mediators, that is, the characteristics of children and their contexts which contribute to the bullying dynamic. Empirical research incorporating the hypothesized mediators and ultimate outcomes of antibullying programs would not only open the black box, but it would also provide insight into needs for improving existing programs and inform the development of effective new practices (Eisner & Malti, 2012; MacKinnon, 1994). Given the variability in the success rates of antibullying programs evaluated to date, including those that employ the whole-school approach, there is clearly room for improvement (Smith et al., 2004; Ttofi & Farrington, 2011; Vreeman & Carroll, 2007). By enabling the empirical and longitudinal testing of the models and theories based on which the programs have been designed, mediation analyses would also elaborate the knowledge of the key psychosocial processes contributing to bullying and victimization.

The second empirical study included in this thesis (Study II) answers the call by empirically examining the working mechanisms of the KiVa antibullying program both at the student and classroom levels. The KiVa program, developed at the University of Turku, is a whole-school antibullying program which has been disseminated nationwide in Finland. The program includes both indicated actions to handle identified cases of bullying and universal actions which are preventive activities implemented in the school community (see Salmivalli, Kärnä, & Poskiparta, 2010). In Finland, KiVa has been shown to be effective in reducing school bullying and victimization during both the randomized controlled trial (Kärnä, Voeten, Little, Poskiparta, Kaljonen, et al., 2011; Kärnä et al., 2013) and the nationwide roll-out of the program (Kärnä, Voeten, Little, Poskiparta, Alanen, et al., 2011). The hypothesized mechanisms tested in Study II included that the program leads to reduced perpetration of bullying at the student level by strengthening students' antibullying attitudes and affective empathy for the victims and by changing the way students perceive their classmates and teachers to view and react to bullying. Furthermore, the decrease in bullying at the classroom level was hypothesized to be explained by changes in students' bystander behaviors, that is, the tendency of classmates to defend the victim or reinforce the bully, and collective perceptions of teacher attitudes toward bullying. The classroom-level reduction in bullying was further hypothesized to account for the simultaneous reduction in victimization. Similar to Study I, both self- and peer reports of bullying and victimization were utilized.

1.3. Methodological Implications of Students Nested Within Classrooms Within Schools

Valid and reliable methodology is, of course, the cornerstone for building an accurate understanding of the bullying dynamic and evaluating intervention efforts. It should therefore be noted that not only do classroom and school contexts play a role in the conceptualization of, and efforts to counteract, bullying and victimization; they also have implications for the statistical analyses and assessment of these phenomena.

Firstly, the clustering of students within classrooms within schools brings along the issue of nonindependence of observations in nested data, which needs to be taken into account in statistical data analyses. Ignoring the nonindependence by using traditional single-level analyses can cause problems, the most notable of which are aggregation bias, misestimated standard errors, and the heterogeneity of regression across clusters (Raudenbush & Bryk, 2002; Snijders & Bosker, 1999). If left unattended, such problems inevitably affect the accuracy of inferences based on the analysis results. Owing to the development of more refined statistical tools, such as hierarchical linear modeling (see Raudenbush & Bryk, 2002; Snijders & Bosker, 1999) and the more recent multilevel structural equation modeling (see Muthén & Asparouhov, 2011), researchers today are better equipped than still a few decades ago to address the challenges posed by nested data. Multilevel analyses have been favored in the tradition of educational research with topics including, but not limited to, students' academic achievement (for a review, see Raudenbush, 1988). They seem to have been adopted more slowly by school bullying researchers. In order to appropriately account for the hierarchical nature of the data and examine the effects at, and between, specific levels of the school ecology, multilevel analyses were employed in all the three empirical studies included in this thesis, that is, Studies I, II, and IV.

The second methodological implication, one that has not yet attracted much research attention, concerns the assessment of bullying and victimization in varying contexts. Self- and peer reports are the most commonly used measures in the school bullying literature and are also employed in the studies included in the current thesis. What is quite notable is that these two types of reports tend to show low to moderate concordance (Ladd & Kochenderfer-Ladd, 2002)—yet, little is known about factors influencing their association. Given the variability in self- and peer-reported bullying and victimization between classrooms and schools (e.g., Kärnä, Voeten, Little, Poskiparta, Kaljonen et al., 2011), it seems plausible that also the concordance between information obtained from the different sources might vary depending on contextual factors within the school ecology. So far, this has not been tested, however. The last empirical study included in this thesis (Study IV) addresses this void in

the literature. Since self- and peer reports are usually collected within classrooms, the study focuses on the between-classroom variability in the association between commonly used indices of self- and peer-reported victimization. Moreover, the study explores the potential moderators of the association—in this case, conceptualized as self-declared victims' likelihood of being recognized by peers—including the age of students, classroom size and gender distribution, and classroom norms as reflected in students' bystander behaviors in bullying situations.

2.   AIMS OF THE THESIS

The overarching purpose of this thesis is to elaborate the knowledge of the contributions of varying classroom and school contexts to peer-to-peer bullying among elementary school students. Specifically, the goals of the four studies included in the thesis are as follows:

1.   Simultaneously investigating the main and interactive effects of a range of student-, classroom-, and school-level risk factors for victimization (Study I).

2.   Examining the working mechanisms of the KiVa antibullying program both at the student and classroom levels (Study II).

3.   Summarizing the extant empirical research on classroom and school contributions to bullying and victimization (Study III).

4.   Exploring the between-classroom variability and classroom-level moderators of the association between self- and peer-reported victimization (Study IV).

3.   METHOD

3.1.   A Closer Look at Classrooms and Schools
Within the Finnish Education System

The three empirical studies included in this thesis are situated in the context of Finnish schools providing basic education (for an overview of the Finnish education system, see Ministry of Education and Culture, Finnish National Board of Education, & CIMO, 2012). Specifically, the data come from students in the upper grade levels of elementary schools across the country. Compulsory basic education in Finland starts the year the child turns seven years old and lasts for nine years. It is preceded by voluntary early-childhood education and care, and one year of preschool which was voluntary until the year 2015. The first six years of basic education comprise elementary school and the last three years comprise middle school. All the schools follow a national core curriculum, which outlines the objectives and core contents of learning, leaving room for local variations within the framework of the national core curriculum. The school year spans from mid-August to late-May or early-June.

In the Finnish schools providing basic education, the classroom is a rather stable unit. The stability is especially high in elementary schools where each classroom is assigned a homeroom teacher who is responsible for the teaching of all or most subjects for that particular classroom. The same homeroom teacher usually works with the classroom for a number of years, even until the end of elementary school. Today, elementary school classrooms in Finland have, on average, 19 students, and the proportion of bigger classrooms has been declining in recent years (Kumpulainen, 2014).

In Finland, teaching is a highly respected profession and teachers are highly educated. In basic education, a Master's degree is required: Elementary school teachers usually have a Master's degree in education, whereas middle school teachers have a Master's degree in the primary subject they teach and have completed pedagogical studies. Approximately 90% of the teachers in the schools providing basic education are professionally qualified for their position (Kumpulainen, 2014).

3.2.   Sample and Data Collection

Each of the three empirical studies included utilizes data from the same sample of Finnish elementary school students. At the time of the beginning of the data collection,

these students were in Grades 3, 4, and 5, and their mean ages were approximately 10, 11, and 12 years, respectively. The students were followed until the end of the following school year when attending Grades 4, 5, and 6. There were a number of reasons why late middle childhood was considered an interesting developmental period for the studies: It is a time towards the end of which the prevalence of bullying starts to rise (see Salmivalli, 2010), while the prevalence of victimization continues to decline (e.g., Smith et al., 1999). In this particular age group, the KiVa antibullying program has shown promising effects on bullying perpetration and victimization (Kärnä, Voeten, Little, Poskiparta, Alanen, et al., 2011; Kärnä, Voeten, Little, Poskiparta, Kaljonen, et al., 2011; Williford, Boulton, Noland, & Little, 2013). Furthermore, there is indication that peer reports of victimization become increasingly reliable and valid and that the concordance between self- and peer reports increases by middle childhood (Ladd & Kochendefer-Ladd, 2002).

The data were collected in 2007-2008 during the large randomized controlled trial (RCT) of the KiVa antibullying program. No large-scale intervention programs specifically targeting bullying were being implemented in Finnish schools prior to the beginning of the data collection; instead, the schools had been responsible for developing and carrying out their own practices to prevent and intervene in bullying. To recruit the schools for the RCT, letters describing the goals, content, and evaluation project of the antibullying program were sent to all the schools providing basic education in mainland Finland. Altogether 275 elementary schools voluntarily enrolled in the first phase of program evaluation involving Grades 3-5 (at the pretest). The schools were stratified by province to include schools from all the provinces of mainland Finland, and by language, given that basic education in Finland is provided in two official languages (i.e., Finnish and Swedish). Based on the stratification, 78 of the schools were chosen to participate in the RCT. Whereas half of these schools were randomly assigned to the intervention condition, those assigned to the control condition were offered an opportunity to initiate the KiVa program after one academic year, that is, after the completion of the RCT data collection (for a more detailed description, see Kärnä, Voeten, Little, Poskiparta, Kaljonen, et al., 2011). Active parental consent forms, which were translated into 15 languages according to the largest immigrant populations in Finland, were then distributed to the parents of all the students in the participating schools.

The target sample consisted of 8,248 students nested in 429 classrooms in the 78 elementary schools. As a result of one control school deciding to drop out before the beginning of the data collection, and the exclusion of students who did not receive parental consent, the sample size was reduced to 7,491 students (90.8% of the target sample; 49.5% boys; mean age 11.3 years; 2.0% immigrants) nested in 421 classrooms in 77 schools. Overall, the sample was demographically highly representative of

Finnish elementary schools. The characteristics of the teachers in the participating schools were also comparable to those observed in the population of Finnish teachers providing basic education (see Kumpulainen, 2014). The final samples for all primary analyses that included peer nominations received from classmates were arrived at after the exclusion of students who were from classrooms with less than five students or from classrooms with a low participation rate, that is, less than 60% in Study I (see Cillessen, 2009) and less than 40% in Studies II and IV (see Marks, Babcock, Cillessen, & Crick, 2013). The exclusion criteria were used in order to improve the reliability of the peer nomination scores. In Study I, the final sample consisted of 6,731 students (81.6% of the target sample) nested in 358 classrooms in 74 schools. In the longitudinal Study II, the final sample consisted of 7,269 students (88.1% of the target sample) nested in 387 classrooms in 77 schools; this included classrooms that had been unable to participate at one time point but did provide data at the other time points. Finally, in Study IV, the final sample included 7,185 students (87.1% of the target sample) in 387 classrooms in 76 schools.

The data collection took place at three time points: at the end of the academic year in May 2007 (Time 1, i.e., baseline), in the middle of the first academic year of program implementation in December 2007/January 2008 (Time 2), and again at the end of the academic year in May 2008 (Time 3). Only the baseline data were used in Studies I and IV included in this thesis, whereas longitudinal data (i.e., data from all the three time points) were used in Study II. The participating students completed an Internet-based questionnaire in their schools' computer labs. The process was administered by teachers who were provided with detailed instructions concerning the procedure. The students were assured of the anonymity and confidentiality of their responses. Instructions for the completion were presented to the students both orally by the teachers and written in the questionnaires. Likewise, bullying was defined with an emphasis on the intentional and recurring nature of the behavior as well as the difficulty of the victim in defending him- or herself against the abuse (Olweus, 1996).

3.3. Measures

The Internet-based questionnaire included self-reports, peer reports, and a standard sociometric inventory. Items and scales originally developed for use with other populations had been translated into Finnish by professionals. Apart from sections concerning background information and self-reported bullying and victimization, the order of items and scales in the questionnaire was randomized to avoid any systematic effects caused by the order of presentation. An overview of the focal measures used in the empirical studies included in this thesis is presented in Table 1.

Self-reported bullying and victimization. The Revised Olweus Bully/Victim Questionnaire (Olweus, 1996) was employed to measure self-reported bullying and victimization. In Study II, the two global items were employed: "How often have you bullied others at school in the last couple of months?" and "How often have you been bullied at school in the last couple of months?" In Studies I and IV, a subset of three items measuring different forms of victimization was used in order to acquire content-wise analogous self- and peer-reported measures of victimization (see the description of peer reports in the section that follows): "I was hit, kicked or shoved," "I was called mean names, was made fun of or teased in a hurtful way," and "Other students tried to make others dislike me by spreading lies about me." Students responded to both the global and specific items on a 5-point scale ranging from 0 = *I have not been bullied in this way* to 4 = *several times a week*. For the composite measure of the three specific items, the scores on the items were averaged.

Peer-reported bullying and victimization. Students were also instructed to think about the ways in which their classmates typically behaved in situations where someone was being bullied. Lists with the names of all classmates appeared on the computer screens, and the students were asked to mark an unlimited number of peers who fit the behavioral description given in each item. To avoid response bias, the order of the classmates' names was randomized across participants. Bullying was measured with three items from the Participant Role Questionnaire (Salmivalli & Voeten, 2004): "He/She starts bullying," "He/She makes the others join in the bullying," and "He/She always finds new ways of harassing the victim." Victimization was also measured with three items (Kärnä et al., 2010): "He/She gets shoved and hit," "He/She is called names and made fun of," "Rumors are spread about him/her." For each item, the proportion of classmates from whom the participant had received a nomination was calculated, and the proportion scores were averaged to create a measure of peer-reported bullying and victimization, respectively. The victimization measure was used in Studies I, II, and IV, and the bullying measure was used in Study II.

Social anxiety. A nine-item shortened version of the Social Anxiety Scale for Adolescents (SAS-A; La Greca & Lopez, 1998) was presented to the students. Items included, for instance, "I worry about what others think of me." Responses were given on a five-point scale ranging from 0 = *not at all* to 4 = *all the time*. The scores on the items were averaged, and the variable was used as a student-level covariate in Study I.

Peer rejection. Peer rejection was assessed by a standard sociometric inventory: Lists with the names of classmates were displayed and the participants were asked to choose three classmates they liked the least. Again, the order of the names of classmates was randomized across participants. Proportion scores (.00-1.00) were

computed by tallying the received nominations and dividing by the total possible number of nominators. The variable was used as a student-level covariate in Study I.

Antibullying attitudes. A ten-item modified version of the Provictim Scale (Rigby & Slee, 1991) was used to measure students' antibullying attitudes. Items included, for instance, "I like it when someone stands up for kids who are being bullied." Students responded on a five-point scale ranging from 0 = *completely disagree* to 4 = *completely agree*. The scores on the items were averaged. In Study I, the variable was aggregated at the classroom level to represent classroom norms, whereas in Study II it was used as a student-level mediator.

Negative social outcome expectations of defending. The students were asked to imagine a situation where one of their classmates is being bullied, and to report the likelihood of different outcomes resulting from defending the victim (Pöyhönen & Salmivalli, 2008). Three items were used that measured the expected likelihood of the respondent facing negative social outcomes if he or she tried to defend a victimized classmate: "If you tried to make others stop bullying —," "If you comforted the victim or told him/her to report the bullying to the teacher —," and "If you asked others to stop bullying or said bullying was stupid—." All items were followed by the ending "it would make you unpopular and you too would be victimized." Response options were on a four-point scale ranging from 0 = *not at all likely* to 3 = *very likely*. The scores on the items were averaged, and the classroom-level aggregate of the resulting variable was used as a covariate in Study I.

Affective empathy for the victim. Four items were used to measure students' affective empathy for victimized peers (Kärnä, Voeten, Little, Poskiparta, Kaljonen, et al., 2011). Items included, for instance, "When a bullied child is sad I feel sad as well." Responses were given on a four-point scale ranging from 0 = *never* to 3 = *always*. The scores on the items were averaged. The variable was used as a student-level mediator in Study II.

Bystander behaviors. Bystander behaviors (i.e., defending the victim and reinforcing the bully) were measured with scales from the Participant Role Questionnaire (Salmivalli & Voeten, 2004). The procedure was identical to the one used to obtain peer nominations for bullying and victimization. Defending the victim was measured with three items: "He/She comforts the victim or encourages him/her to tell the teacher about the bullying," "He/She tells the others to stop bullying," and "He/She tries to make the others stop bullying." Reinforcing the bully was also measured with three items: "He/She comes around to watch the situation," "He/She laughs," "He/She incites the bully by shouting or saying: Show him/her!" The defender and reinforcer nominations were used in Study II in two distinct ways: First, for each item the proportion of classmates to whom the participant had *given* a nomination

was calculated. The proportion scores on the defender and reinforcer items were then averaged separately to create two measures of perceptions of bystander behaviors in the classroom. These measures were used as mediators at the student level. Secondly, for each item the proportion of classmates from whom the participant had *received* a nomination was calculated, and the proportion scores were averaged to create a conventional measure of peer-reported defending and reinforcing, respectively. The latter measures were used as mediators at the classroom level. They were also used as classroom-level covariates in Study IV.

Perception of teacher's attitude toward bullying. The students were also asked what they believed their homeroom teacher thought about bullying. This general question was among new items developed for the purpose of the randomized controlled trial of the KiVa program. Answers were given on a five-point scale ranging from 0 = *teacher thinks bullying is a good thing* to 4 = *teacher thinks bullying is absolutely wrong*. In addition to its use at the student-level in both Studies I and II, the variable was aggregated at the classroom and school levels in Study I and was also used as a classroom-level mediator in Study II.

Table 1. *Self- and peer-reported measures used in the empirical studies*

Measure	Item(s)	Study
Self-reported bullying	"How often have you bullied others at school in the last couple of months?"	II
Self-reported victimization	"How often have you been bullied at school in the last couple of months?"	II
	3 items: e.g., "I was hit, kicked or shoved."	I, IV
Peer-reported bullying	3 items: e.g., "He/She starts bullying."	II
Peer-reported victimization	3 items: e.g., "He/She gets shoved and hit."	I, II, IV
Social anxiety	9 items: e.g., "I worry about what others think of me."	I
Peer rejection	"Choose three of your classmates whom you like the least."	I
Antibullying attitudes	10 items: e.g., "I like it when someone stands up for kids who are being bullied."	I, II
Negative social outcome expectations of defending	3 items: e.g., "If you tried to make others stop bullying it would make you unpopular and you too would be victimized."	I
Affective empathy for the victim	4 items: e.g., "When a bullied child is sad I feel sad as well."	II
Defending the victim	3 items: e.g., "He/She tries to make the others stop bullying."	II, IV
Reinforcing the bully	3 items: e.g., "He/She incites the bully by shouting or saying: Show him/her!"	II, IV
Perception of teacher's attitude toward bullying	"What does your teacher think about bullying?"	I, II

Demographic characteristics. Data concerning the students' demographic characteristics (age in years and gender) were collected from the participating students. Official school records were used as a source of information on classroom and school size. For the analyses, classroom size was divided by 10 and school size by 100 to make the scales more comparable to those of the other variables and to ease the interpretation of the effects.

3.4. Data Analyses

In each of the empirical studies, the basic statistical analyses including descriptive statistics and correlations were performed using the SPSS software package. The primary analyses addressing the focal research questions specific to each study were performed within the framework of either traditional multilevel regression analysis or multilevel structural equation modeling. In Study I, the analyses were performed within the multilevel regression analysis framework, using MLwiN 2.25 (Rasbash, Browne, Healy, Cameron, & Charlton, 2012). Three-level regression models were fitted separately for peer- and self-reported victimization outcomes, which were predicted by a number of covariates at the student, classroom, and school levels. In these analyses, the classroom- and school-level covariates that were based on student-level data (e.g., antibullying classroom norms based on students' individual attitudes) were aggregates of the respective variables measured at the student level. In order to enhance the interpretation of the models, the covariates were centered following the recommendations by Enders and Tofighi (2007). The models also included within-level interactions among the student-level covariates. In addition, the slopes of the focal student- and classroom-level covariates were tested for between-cluster variation, and cross-level interactions between the covariates with a significant random slope and potential contextual moderators were examined.

In Studies II and IV, the more modern framework of multilevel structural equation modeling (MSEM; see Muthén & Asparouhov, 2011) was utilized. The models were estimated in Mplus 7.0 (Muthén & Muthén, 1998-2012). In MSEM, any variable measured at the individual level that has between-cluster variability can be decomposed into uncorrelated latent variable components at each level, which results in latent group-mean centering of covariates. This feature of MSEM is thought to be an improvement as compared to conventional multilevel regression analysis where covariates at the higher level(s) usually are aggregates of observed individual-level variables. Aggregates can lead to biased estimation when not sufficiently reliable. Therefore, the variance decomposition approach available in MSEM has recently been recommended over traditional multilevel regression analysis (Asparouhov & Muthén,

2006; Lüdtke et al., 2008). Compared to conventional multilevel modeling, the MSEM framework also allows for the specification of more complex models (Preacher, Zyphur, and Zhang, 2010).

In Study II, the student- and classroom-level indirect effects of the KiVa program on self- and peer-reported bullying and victimization were examined longitudinally using autoregressive cross-lagged panel models. The student- and classroom-level effects were tested in separate models, because the focal predictor (i.e., treatment assignment) only varied at the classroom level (a 2-1-1 mediation design, cf. Preacher et al., 2010) and, therefore, could not be included at more than one level at a time. The classroom-level indirect effects were tested in models in which the variances of the mediator and outcome variables were decomposed into within- and between-classroom components and indirect effects were specified for the between-classroom components only. Instead of using latent group-mean centered components, the student-level models were specified such that the treatment variable was a predictor of the absolute scales of the mediator variables, and the mediator variables were predictors of the absolute scales of the outcome variables (a cross-level mediation model; see Pituch & Stapleton, 2012). The clustering at the classroom (student-level models) and school levels (classroom-level models) was also taken into account in the calculation of standard errors using the MLR estimator. The Monte Carlo method for assessing mediation (MCMAM; Selig & Preacher, 2008), which is particularly useful for testing mediation in multilevel structural equation models, was used to test for the significance of the indirect effects of KiVa on bullying via the hypothesized mediators.

Finally, in Study IV, the significance of the between-classroom variation in the slope of peer-reported victimization regressed on self-reported victimization was tested in order to determine whether the student-level association between self- and peer reports varied across classrooms. Secondly, a model in which the slope was predicted by classroom-level covariates was estimated to uncover the potential cross-level moderators of this association (see Figure 1).

The percentages of missing data in the study variables were rather low with the exception of bullying and victimization measured at Time 3. Common missing data patterns in the dataset, as well as their causes, have been described in detail in an evaluation study of the KiVa program (see Kärnä, Voeten, Little, Poskiparta, Kaljonen, et al., 2011; Appendix A). In Study I, missing data were handled using the MLwiN macros for multilevel multiple imputation (Carpenter, Bartlett, & Kenward, 2011), which yielded nearly identical results compared to listwise deletion. In Studies II and IV, maximum likelihood estimation with raw data (i.e., full-information) was utilized, which is currently considered a state-of-the-art technique for handling missing data (see Enders, 2010).

4.   OVERVIEW OF THE STUDIES

STUDY I

Saarento, S., Kärnä, A., Hodges, E. V. E, & Salmivalli, C. (2013). Student-, classroom-, and school-level risk factors for victimization. *Journal of School Psychology, 51*, 421-434. doi: 10.1016/j. jsp.2013.02.002

The purpose of this study was to simultaneously investigate student-, classroom-, and school-level risk factors for victimization among elementary school students. Both self- and peer reports of victimization were utilized. The sample consisted of 6,731 students nested in 358 classrooms in 74 schools across Finland. The participants were in Grades 3, 4, and 5. The results from three-level hierarchical linear models indicated that there was considerable variability in, and distinctive risk factors associated with, self- and peer-reported victimization at all the three levels investigated.

For the most part, the results concerning the associations between victimization and the focal risk factors specified in this study were similar for the self- and peer-reported victimization outcomes. At the student level, social anxiety and peer rejection synergistically predicted victimization. Additionally, the effects of these student-level predictors were found to vary across classrooms, and classroom size emerged as a significant moderator: The risk of socially anxious students of being bullied was exacerbated in smaller classrooms, whereas the opposite moderating effect was found for peer rejection, meaning that their risk was exacerbated in larger classrooms. At the classroom level, negative social outcome expectations of defending the victim were associated with an increased risk of a student being bullied. The risk of victimization was also higher in classrooms and schools where students perceived their teachers to have condoning attitudes toward bullying. The contextual effect appeared to be more prominent at the school level, suggesting that over and above the perceived attitudes of the homeroom teacher, the way that adults in the school community tend to view and react to bullying matters for the students.

There were also findings dependent on the source of information on victimization. Whereas students' collective outcome expectations of defending the victim predicted both self- and peer-reported victimization, the effect of collective antibullying attitudes only emerged on peer-reported victimization. The effect of the former dimension of norms on peer-reported victimization appeared to be more pronounced, however. This pattern of findings seems to support the idea that

norms conceptualized in a way that reflects students' beliefs of what is normative or nonnormative behavior within the classroom—that is, what is likely to be rewarded and what to be sanctioned—are more strongly associated with students' risk of victimization than norms conceptualized as collective attitudes toward bullying. In addition, whereas no association was found between perceived teacher attitudes and peer-reported victimization at the student level, students who reported having been bullied were more likely than others to perceive their homeroom teacher as condoning bullying. Besides the finding that the risk of both self- and peer-reported victimization was higher in classrooms of younger students, also the results concerning the effects of other demographic and classroom and school structural factors (e.g., age as compared to classmates and classroom size) were largely dependent on the source of information on victimization.

STUDY II

Saarento, S., Boulton, A. J., & Salmivalli, C. (2015). Reducing bullying and victimization: Student- and classroom-level mechanisms of change. *Journal of Abnormal Child Psychology, 43*, 61-76. doi: 10.1007/ s10802-013-9841-x

This longitudinal study examined the working mechanisms by which the KiVa antibullying program, based on the Participant Role approach, reduced self- and peer-reported bullying and victimization among students during the randomized controlled trial of the program in Finnish elementary schools. Both student-level mechanisms leading to reduced perpetration of bullying and classroom-level mechanisms leading to reductions in bullying and victimization were considered. Analyses were based on a sample of 7,491 students nested within 421 classrooms within 77 schools. At the beginning of program implementation, the children were in Grades 4, 5, and 6. Multilevel structural equation modeling was used to analyze whether and how changes in the hypothesized mediators by the middle of the school year accounted for reductions in bullying and, thereby, victimization by the end of the school year.

At the student level, antibullying attitudes and perceptions regarding peers' defending behaviors and teacher's attitudes toward bullying were found to mediate the effects of KiVa on self-reported bullying perpetration. That is, KiVa school students developed stronger antibullying attitudes, perceived an increased number of classmates as defending the victim, and evaluated their teacher as being increasingly disapproving of bullying, and these changes led to reductions in students' self-reported bullying. At the student level, the program effects on peer-reported bullying were only mediated by antibullying attitudes. In addition, perceiving fewer classmates to

reinforce the bully was a clear predictor of reductions in both self- and peer-reported bullying, but these perceptions did not emerge as a significant mediator. This was because the effect of the KiVa program on reinforcing had not yet reached statistical significance by the middle point of the school year. When examined along with the other hypothesized student-level mediators, students' increased affective empathy for the victim in KiVa schools did not significantly predict reductions in either self- or peer-reported bullying, which implies that antibullying attitudes and, at least for self-reported bullying, perceptions of peers' bystander behaviors and teacher's attitudes are more influential in bullying involvement.

At the classroom level, the program effects on both self- and peer-reported bullying were mediated by students' collective perceptions of their teacher's attitudes toward bullying. That is, students in KiVa schools collectively perceived their teacher as increasingly disapproving of bullying, which led to reductions in bullying perpetration in the classrooms. Increased reinforcing behaviors also predicted reductions in both self- and peer-reported bullying but did not emerge as a significant mediator due to the earlier mentioned nonsignificant program effect on reinforcing by that time. When all the hypothesized classroom-level mediators were examined simultaneously, increased defending behaviors in KiVa schools were not significantly related to either self- or peer-reported bullying. The results from the classroom-level multiple-mediator models were in line with the student-level findings in that perceived reinforcing appeared to be more strongly related to bullying than was perceived defending. This pattern of findings may be explained by the sensitivity of bullies to reinforcing rather than to defending behaviors as well as by the often less salient nature of acts of defending and supporting the victim.

STUDY III

Saarento, S., Garandeau, C. F., & Salmivalli, C. (2014). Classroom- and school-level contributions to bullying and victimization: A review. *Journal of Community & Applied Social Psychology, 25*, 204-218. doi: 10.1002/casp.2207

In this review paper, an overview was provided of the literature on classroom and school factors contributing to bullying and victimization among children and adolescents. Findings regarding the effects of demographic and structural characteristics (e.g. grade level, classroom and school size), the implications of peer contextual factors (e.g. status hierarchy, group norms, and bystander behaviors), and the role of teachers were discussed. According to the empirical studies reviewed, there are links between a number of classroom and school characteristics and students' bullying involvement.

The literature on the contributions of certain contextual characteristics—especially demographic and structural—is inconclusive, however, which calls for further investigations of cross-level interactions as well as interactions and mediated effects among different contextual factors.

Despite the partly mixed findings, the review suggested that some popular beliefs are not supported by empirical studies: For instance, the risk of bullying problems is generally not higher in larger classrooms, nor in big, urban schools. It is the social context that appears to bear more significance than the demographic and structural characteristics of classrooms and schools alone: Bullying is facilitated in classrooms characterized by higher status hierarchies and higher levels of collective probullying attitudes and behaviors among the students, such as reinforcing the bully and not standing up for the victim. Regarding the role of adults in schools, positive teacher-student relationships and clear disapproval of bullying by teachers tend to discourage bullying. What is more, the associations between victimization and its individual-level risk factors and consequences, for instance, vary across classrooms and are moderated by contextual factors. This suggests that the same risk factors only lead to victimization when the classroom context allows that to happen. The classroom context may also exacerbate or attenuate the psychosocial consequences of being bullied.

While researchers have so far focused on the more traditional forms or global estimates of bullying and victimization, contextual influences on the growing phenomena of cyberbullying have recently started to be investigated. These early investigations suggest that cyberbullying and cybervictimization are also influenced by the classroom context, and that peer-contextual and teacher-related influences on cyberbullying are partly distinct and partly similar to the influences on the more traditional forms such as those occurring in direct verbal or physical contact. Promisingly, research has shown that the effects of preventive whole-school antibullying programs can even generalize to cyber forms of bullying and victimization.

STUDY IV

Saarento, S., & Salmivalli, C. (2015). *Self- and peer reports of school bullying: Classroom context moderates self-declared victims' likelihood of being recognized by peers.* **Manuscript submitted for publication.**

This brief report focused on the concordance between self- and peer-reported measures of victimization. Specifically, the study explored whether the association between students' self- and peer reports of being bullied varies between elementary school classrooms. Classroom characteristics potentially moderating the association

were also considered. Analyses were based on a sample of 7,185 students from Grades 3, 4, and 5 who were nested within 387 classrooms within 76 schools across Finland. The results from multilevel structural equation models indicated that, indeed, the association between self- and peer-reported victimization varies between different classrooms, suggesting that the two types of reports show more concordance in some classrooms than in others. Significant classroom-level moderators of the association were also revealed.

Self-declared victims were more likely to be recognized by peers in classrooms of older students. This seems to support the notion that, as children grow older, they develop a more coherent understanding of victimization and become more competent observers and reporters of peers' victimization experiences. Classroom size also moderated the association between self- and peer reports, such that self-declared victims were more likely to be recognized by peers in smaller classrooms where bullying incidents may be salient to a larger proportion of peers and students may be better aware of others' social standing within the group. Classroom gender distribution, on the other hand, did not significantly moderate the association between self- and peer reports.

Furthermore, self-declared victims were more likely to be recognized by peers in classrooms characterized by higher levels of probullying bystander behaviors (i.e., reinforcing the bully) and lower levels of provictim bystander behaviors (i.e., defending the victim). The pattern of findings seems to suggest that the victims' plight is more likely to be recognized by others when their situation in the classroom is particularly difficult.

5. DISCUSSION

Findings from the four studies included in this thesis attest to the social-ecological conceptualization of bullying (see Espelage & Swearer, 2003; Rodkin & Hodges, 2003; Swearer & Doll, 2001; Swearer & Espelage, 2004) in that, alongside students' individual characteristics, both classroom and school factors, and importantly students' perceptions thereof, contribute in multiple ways to peer-to-peer bullying and victimization. Firstly, Study I demonstrated how both self- and peer reported victimization can be simultaneously predicted by distinctive risk factors at all the three levels of the school ecology. The study highlighted the implications of students' bullying-related classroom norms as well as perceptions of teachers' attitudes toward bullying operating at the multiple levels. It also showed how the effects of intra- and interpersonal risk indices can depend on the surrounding classroom context. Very much in line with the findings of this empirical study, the literature review on classroom and school contributions to the bullying dynamic (Study III) stressed the importance of peer contextual and teacher-related factors, as well as the moderating effects of contexts, whilst showing that some popular beliefs regarding the effects of demographic and structural characteristics of the school ecology are not supported by research.

As Swearer, Espelage, Vaillancourt, and Hymel (2010) note, in the spirit of the time of evidence-based practices, the focus of school bullying research has started to move to antibullying program evaluations and issues of assessment—a depiction that also fits the set of studies included in this thesis. As shown by Study II, which represents the first effort to disentangle the working mechanisms of antibullying program effects, classroom contextual factors are also critical in the chain-link processes of counteracting bullying and victimization. Students' strengthened antibullying attitudes and perceptions that peers' and teachers' responses to bullying have changed to a more antibullying direction were found to predict later decreases in bullying perpetration—although not all of these factors emerged as significant mediators—which in turn was associated with a simultaneous reduction in victimization. In addition to opening the black box of the KiVa antibullying program, this study contributes to the school bullying literature by providing longitudinal evidence of the influences of bystander behaviors, more research on which has been called for (see Polanin, Espelage, & Pigott, 2012; Salmivalli et al., 2011). The results indicated that students' perceptions of both reinforcing and defending behaviors in the classroom can matter for a later risk of bullying involvement. The study also elaborated the findings from Study I by

replicating the effect of perceived teacher attitudes toward bullying in a longitudinal design.

In a way, the partly exploratory Study IV represented a focus shift from the contextual factors operative in bullying and victimization, and in antibullying practices, to seeking a better understanding of the interrelated issues of assessment: The study examined the concordance between commonly used self- and peer-reported measures of victimization and, to my knowledge, was the first to explore how the classroom context can also affect this picture. The concordance between self- and peer reports was found to vary between classrooms, and examining the moderators of their association shed light on the features of the kinds of contexts in which self-declared victims' experiences are more likely to be recognized by classmates. Such features included the higher age of students, smaller classroom size, as well as higher levels of reinforcing the bully and lower levels of defending the victim.

In addition to pointing out interesting directions for future school bullying research, this set of studies can serve the further development of school-based antibullying practices. Effective antibullying programs support the healthy functioning of schools which should not only be viewed as havens for academic growth but also as powerful sources of influence for the socio-emotional development and adjustment of children.

5.1. Strengths and Limitations

The four studies all have their unique strengths which are discussed in each of the original papers. One of the strengths of the set of studies as a whole is that each of them brings together a number of relevant constructs in the school ecology contributing to the bullying dynamic among students. Another strength is the use of multiple sources of information on bullying and victimization, that is, self- and peer reports—despite the fact that some of the findings being dependent on the source complicates the picture to a certain degree. The set of studies also fills several gaps in the school bullying literature by including the simultaneous examination of the three levels of the school ecology, testing the working mechanisms of antibullying program effects, and examining the between-classroom variability and contextual moderators of the association between self- and peer reports. Moreover, the three empirical studies share methodological strengths such as the large sample size, the use of multilevel modeling techniques to appropriately account for the nested data structure and to model effects at, or between, the different levels, as well as state-of-the-art methods for handling missing data.

The unique limitations of each study are also discussed in the original papers. However, there are a number of limitations regarding the set of studies as a whole, or all of the three empirical studies, that deserve mention. First of all, although one of the strengths of the empirical studies was the inclusion of both self- and peer reports of bullying and victimization, what may be considered as a limitation is that the specific measure of self-reported victimization used differed to some extent between the studies: That is, whereas a composite of three items measuring different forms of victimization was used in Studies I and IV, the global item measuring victimization regardless of its form was used in Study II. In Studies I and IV, the goal was to utilize self- and peer-reported measures of victimization, the content of which was as similar as possible. In Study II, the global item was chosen because the items regarding the different forms of victimization were not included in the Internet-based questionnaire at Time 2 but only at Times 1 and 3. Given the evidence for the psychometric quality of both the global and the composite measure of victimization, not using the same measure in each empirical study included herein mainly affects the coherence between the studies, however. In Study II, analogous self- and peer-reported measures of bullying could not be used either because of the differing item content of the measures included in the questionnaires.

There was also variability in the conceptualization of peer group norms across the three empirical studies. As previously discussed, several different conceptualizations and operationalizations of norms have been used in the school bullying literature. Whereas in Study I, peer group norms were conceptualized as collective antibullying attitudes and outcome expectations regarding defending the victim, the latter of which seemed to be more influential in victimization, more explicit descriptors of the classroom normative environment were used in Studies II and IV: namely, classmates' bystander behaviors in bullying situations. In Study II, bystander behaviors were used instead of shared attitudes or outcome expectations regarding such behaviors, because changes in actual reinforcing and defending behaviors were more directly linked to the theorized core mechanisms of the KiVa program. Prior research on the influences of classroom norms on bullying involvement also suggests that the effects of antibullying attitudes at the classroom level might be partly mediated by classroom behaviors (Scholte et al., 2010). This could be due to the saliency of behaviors as compared to attitudes which may not always be explicitly expressed to others. Based on this notion of saliency, bystander behaviors were also included in the latest empirical study (Study IV).

The limited age range of the participants can be seen as a limitation in the empirical studies. Extending the age range beyond middle childhood and testing for possible moderating effects of age would have provided additional information on

the developmental changes in classroom and school contributions to the bullying dynamic. It is notable, however, that age effects were observed even in this rather narrow age range.

A further limitation is that the prevalence and significance of gender-segregation in middle childhood (see, e.g., Sroufe, Bennett, Englund, Urban, & Shulman, 1993) was not paid special attention. That is, bullying, victimization, and peer group norms were conceptualized and operationalized as purely within-classroom phenomena, without considering them as something occurring within boys' and girls' groupings within the classroom. Neither was bullying viewed from the perspective of whether it occurred between same- or other-gender students. Recent studies in the field imply that such considerations might be important, however. First of all, peer group effects can differ for boys and girls: In a study of students' willingness to intervene in bullying, a substantial peer group effect was found in boys' but not in girls' friendship groups (Espelage, Green, & Polanin, 2012), whereas another study reported stronger classroom effects on girls' behaviors in bullying situations (Salmivalli & Voeten, 2004). Secondly, there is indication that same-gender classroom norms may be better predictors of adjustment than are whole-classroom norms (Isaacs et al., 2013). Thirdly, children seem to more accurately perceive the perspectives of same-gender than other-gender peers, and the gender of the reference group moderates the associations between these perceptions and one's success in peer relations (Bellmore & Cillessen, 2013). Finally, interpersonal risk factors, and even antibullying program effects, can differ for victimization by same- versus other-gender perpetrators (Sainio, Veenstra, Huitsing, & Salmivalli, 2012). It is not clear to what extent the results of the studies included in this thesis were affected by the exclusion of such gender-related considerations, along which the implications of individuals' gender conformity versus nonconformity, and perhaps sexual orientation, would have warranted consideration.

Finally, another limitation may be that a subgroup of students involved in the bullying dynamic, namely, the so-called bully-victims, were not examined separately. Bully-victims refer to individuals who are both the perpetrators and targets of bullying: More specifically, they perpetrate significantly more physical and verbal bullying than do pure bullies and tend to score higher on cyberbullying, but not on indirect bullying, while also being more frequently the targets of all these forms of bullying as compared to pure victims (Yang & Salmivalli, 2013). Research has shown that the patterns of psychosocial adjustment and social behavior associated with this dual role differ in certain respects from those of pure bullies and victims (for reviews, see Graham & Bellmore, 2007; Schwartz, Proctor, & Chien, 2001). It seems plausible that the classroom- and school-level contributions to the bully-victims' situation are at least partly similar to thoseetributions to thed to disentangle the potentially

unique contributions to theding discussed in this thesis. Further reas discussed in this thesis, but further research is needed to disentangle the potentially unique aspects. Promisingly, however, recent data suggest that whole-school antibullying programs not specifically targeted at bully-victims can be equally effective in reducing the prevalence of bully-victims as they are in reducing the prevalences of pure bullies and victims (Yang & Salmivalli, 2015).

5.2.   Implications

The theorized functions of bullying—be they from the point of view of individual perpetrators (see Salmivalli, 2010) or the whole peer group (see Garandeau & Cillessen, 2006)—are closely tied with the social contexts within which bullying occurs. This thesis highlights the importance of classrooms and schools, that is, students' shared microsystems, in conceptualizing and countering bullying. Before further discussing suggestions for future research and practice based on what has been learned from the four studies, I would like to point out certain considerations related to this specific focus on classroom and school contexts.

As indicated by the intraclass correlations reported in the three empirical studies for bullying, victimization, and related variables such as bystander behaviors, the different levels of the school ecology explain variations in students' behavior in bullying situations: There is considerable variation between classrooms and smaller but significant variation between schools. This appears to suggest that where the classroom is a highly stable unit, such as in Finnish elementary schools, its influence may be stronger than that of the surrounding school context. This seems intuitive given that, for the students, the classroom is the more proximal of these two levels, as children spend most of their school days in the company of their own classmates and the homeroom teacher. As shown by Study I, students' collective perceptions of their teachers' attitudes toward bullying still clearly matter at the school level as well. A question remains regarding the relative influences of other peer groupings within schools with stable classroom units: Is it the whole classroom peer group or the informal within- or cross-classroom peer groupings, such as cliques, that have more bearing on the risk of, and consequences for, bullying and victimization? One might also ask whether the most influential peer group is the one that a student already belongs to or the one he or she aspires to join. Social network analyses (see Scott, 2012) combined with multilevel modeling methods could be helpful in finding out answers to these intriguing questions.

What about the relative significance of classroom and school contexts in school settings where the classroom is not as stable a unit? For instance, compared to those of

younger children, adolescents' learning contexts tend to be varied and complex (Lee, 2000). In Finland, for example, the complexity of these contexts increases whereas stability decreases as children enter middle school, and such a change is still more evident when entering high school. This means that the group of peers as well as the teacher with whom adolescents interact during lessons can change several times a day. Through increased interaction, students' peer relations outside of the lessons may also become increasingly inclusive of peers from outside of the classroom one has been assigned to. The implications of such variability and complexity should be taken into account when analyzing middle school and high school data. It may be that in such school settings it is the school level, rather than the classroom level, that has more significance to peer interactions, including bullying and victimization. As noted by Lee (2000), one simplification in such settings is to focus on the school unit. Along with school-level effects, attention ought to be directed to the contextual effects of the informal peer groupings as discussed in the preceding paragraph.

Parker, Rubin, Erath, Wojslawowicz, and Buskirk (2006) note that our understanding of children's peer experiences has been largely shaped by studies of children in school settings. This holds for bullying and victimization as well. The current thesis included, most of the research on contextual contributions to these issues has also focused on influences within the school ecology. Alongside pursuing a more refined body of knowledge on classroom and school influences, attention should be paid to a more comprehensive examination of the contexts in which children's development and peer interactions occur. Children are affected by, and interact with, a number of other microsystems which often increase through the years in number and complexity: families, neighborhood play groups, and extra-curricular groups, to name but a few. Beyond these proximal contexts, children grow within a multilayered social ecology, encompassing mesosystems—the links between different microsystems; exosystems—contexts such as the parents' workplaces which can indirectly affect the child; and macrosystems—the overarching structures of the society and culture (Bronfenbrenner, 1979). Then there are the chronosystems which represent the time dimensions of contexts—the individual's life events and socio-historical circumstances (Bronfenbrenner & Ceci, 1994). The different systemic levels can mutually influence each other, and a change at one level can cause a change at the others. A call has been expressed for bullying researchers to pay attention to examining influences of the levels beyond the microsystems and the interactions among the different systems (see, e.g., Espelage, 2014). For instance, the prevalence rates of bullying and victimization do not only vary between classrooms and schools but even between countries (Craig et al., 2009). It would be interesting to disentangle cultural and societal factors explaining such differences and to see whether the

information could be utilized in antibullying efforts at the more proximal systemic levels.

5.2.1. Directions for future research and antibullying practices in classrooms and schools

Although there is a need to develop a more comprehensive understanding of the complex contextual influences on bullying and victimization, microsystems such as classrooms and schools, within which children's daily interactions occur, remain important arenas for bullying prevention. This brings us back to what has been learned through the four studies included in the current thesis. According to these studies, classroom contexts favoring bullying are characterized, for instance, by probullying normative climates as reflected in students' bystander behaviors in bullying situations, collective social outcome expectations regarding these behaviors, collective antibullying attitudes, and perceptions that teachers hold condoning attitudes toward bullying. These findings call for efforts to change these aspects of the school ecology to be an integral part of school-based antibullying practices. Both students' and teachers' awareness of their critical role in the bullying dynamic should be raised. School-based antibullying programs have been shown to increase students' bystander intervention behavior (for a meta-analysis, see Polanin et al., 2012) and to decrease their tendency to reinforce the bullies' behavior (e.g., Kärnä, Voeten, Little, Poskiparta, Kaljonen, et al., 2011). Research suggests that students are not the only ones being affected: The programs can also influence the cognitions and behaviors of teachers implementing them, such as teachers' subjective evaluations of their competence to tackle bullying (Ahtola, Haataja, Kärnä, Poskiparta, & Salmivalli, 2012). In the case of the KiVa antibullying program, for instance, research further suggests that the changes in classmates' and teachers' reactions to bullying did not go unnoticed by the students. As shown by Study II, bullying can be successfully counteracted by a whole-school approach that changes the private attitudes of students along with students' bystander behaviors and perceptions of teachers' attitudes toward bullying.

What are the mechanisms through which such changes can be achieved? Answers to this question should be searched for, first of all, in the literature on peer bystander and teacher reactions to bullying. According to research, students' willingness to intervene in bullying (Espelage et al., 2012) as well as actual defending behavior (Peets, Pöyhönen, Juvonen, & Salmivalli, 2015) are explained by both individual and contextual factors. The intraclass correlations reported in Study II suggest that the classroom context may play an even bigger role in explaining children's engagement in defending the victim and reinforcing the bully as compared to bullying and victimization, which suggest that classroom characteristics explaining the variations

in bystander behaviors warrant further attention. Also teachers' beliefs regarding bullying are known to have implications for their efforts to intervene in bullying behavior among the students (Kochenderfer-Ladd & Pelletier, 2008; Troop-Gordon & Ladd, 2015). Question such as how do bullying-related norms among school staff impact individual teachers' ways of handling bullying among their students, and what are the concrete steps that teachers can take to best convey an antibullying message to the students, have to my knowledge not been explored.

While Study II represented the first attempt to unravel the working mechanisms of antibullying program effects on bullying and victimization, more detailed information about the chain-link processes leading to such effects could be obtained by examining the mediators through which the programs change students' and teachers' bullying-related cognitions and behaviors, the changes in which lead to reduced bullying problems. In practice, such investigations call for multiple measurement points. In the future, the mechanisms should also be studied using a wider age range of students in order to shed light on factors explaining the observed age-related declines in antibullying program effectiveness (for a meta-analysis, see Yeager, Fong, Lee, & Espelage, 2015). Also, examining the processes leading to reductions in different forms of bullying might provide useful insights. As pointed out by Study III, research suggests that the contextual risk factors and correlates of cyberbullying may be partly the same and partly different from those related to the more traditional forms of bullying. More research on this growing topic is warranted, however, to find out the extent to which the mechanisms explaining effective prevention and reduction of cyberbullying (see Williford et al., 2013) may differ from those pointed out by Study II.

Then what are the effective components of antibullying programs that can bring about the desired changes in students' cognitions and behaviors, and what are the actions needed to influence the teachers? Scholars have expressed a call for research to determine not only the working mechanisms but also the relative effectiveness of different components of antibullying programs (e.g., Eisner & Malti, 2012). For instance, there is evidence that children's bystander intervention behaviors can be increased by antibullying programs that specifically target bystander attitudes and behaviors (e.g., Polanin et al., 2012), but the specific program components inducing these changes should be investigated. Regarding teachers, research suggests that participation in antibullying program implementation can also change teachers' perceptions of bullying (Ahtola et al., 2012), but again, further research is needed to determine the relative contributions of factors such as the amount of training teachers receive prior to, or during, implementation, and the different approaches through which they deliver the antibullying curriculum in their classrooms. This is

not to suggest, however, that educating teachers about bullying and victimization should only start as they themselves begin to implement a new program in their school. Rather, it is imperative that these topics are increasingly incorporated into the curriculum of teacher education. Based on information gained through detailed chain-link process analyses and investigations of effective components of antibullying programs, evidence-based practices should be implemented to prevent and intervene in bullying as early in the process as possible.

In addition to the working mechanisms and effective components, the individual-, classroom-, and school-level moderators of antibullying program effectiveness are another area where further research is warranted (e.g., Kärnä et al., 2013). These can include demographic and structural as well as social contextual characteristics of classrooms and schools. For instance, it seems likely that influencing the classroom bullying dynamic may be especially difficult if bullying has, indeed, come to serve the function of bringing a common purpose and a sense of cohesiveness for the peer group. Especially in such contexts, it may not be enough for educators to convey to the children the message of *do not bully*. Rather, the message should be amended to *we do not bully*, highlighting the shared responsibility of students in preventing and reducing bullying. Such a tenet could offer the group of children a common goal toward which to strive and, thereby, a healthier means to experience togetherness. Taking it further, in order to counteract bullying, groups of children should be helped to adopt positive and constructive ways to create shared goals, bonds, and cohesion—whereas individual children need to be supported in developing the kinds of social skill sets needed to communicate with peers to achieve such goals. Empirically testing the lack of cohesiveness hypothesis (see Garandeau & Cillessen, 2006) and the associations among students' shared responsibility to counteract bullying, bystander behaviors, and the risk of bullying perpetration remain intriguing tasks for future research.

Having an awareness of the influential role of contexts and having evidence-based antibullying programs are prerequisites for successful antibullying work—yet, more is needed. Implementation fidelity, which can be conceptualized as the quantity or quality of program implementation, is one of the crucial aspects determining the effectiveness of antibullying programs (e.g., Haataja et al., 2014). Although knowing the degree of implementation could inform program developers on whether the program is feasible for schools to use, and could help to tailor support for the implementers, monitoring implementation is oftentimes overlooked (Haataja et al., 2014). Teachers are often the implementers of school-based antibullying programs. Along with their individual characteristics, school-level factors such as principal's support for antibullying work, have been shown to explain substantial amounts of variability

between teachers in the amount of time and effort they invest in implementation (Ahtola, Haataja, Kärnä, Poskiparta, & Salmivalli, 2013). In addition to the normative climate, the demographic characteristics of schools may have implications for implementation fidelity. For instance, as can be concluded from the findings of Studies I and III included in this thesis, small schools are not necessarily safe havens as far as bullying and victimization are concerned. Due to the small number of teachers, and classrooms combining several grade levels, small schools report having their unique challenges in implementing comprehensive antibullying programs as intended by program developers (Sainio, 2014).

These examples highlight the need to understand the influences of the different systemic levels of the social ecology not only on the bullying dynamic, per se, but also on the implementation of school-based antibullying practices. Beyond the support and commitment at the school level, schools need resources from the local community. Communication with parents is also critical, as having the parents on board will most likely facilitate the school's implementation efforts in addition to supporting children's internalization of antibullying attitudes and behaviors and the transference of these to children's daily interactions in different contexts. In the future, more research on factors promoting, or inhibiting, the fidelity of school-based antibullying program implementation is needed in order to develop effective ways to support school staff in the challenging work.

Methodological aspects are clearly intertwined with our understanding of school bullying. As emphasized in this thesis, the nesting of students within classrooms within schools poses the challenge of hierarchical data, which should be appropriately handled in statistical analyses in order to arrive at valid inferences about effects occurring at, or between, these different levels of the school ecology. The other methodological issue discussed relates to the assessment of bullying and victimization, and especially to the concordance between different reporters in varying contexts. Study IV demonstrated that the strength of the association between students' self- and peer reports of victimization varies between classrooms and is moderated by factors such as students' age, classroom size, and classroom norms reflected in bystander behaviors in bullying situations. I hope the study will serve as an opening for further research on the contextual moderators of the concordance between different methods of assessment, which has so far been largely neglected in the field of bullying research, and guide the thinking of the implications that using one method of assessment over the other may have in different contexts. Composite measures combining information from both sources will most likely have better psychometric properties in contexts with higher concordance between self- and peer reports. The reliability and validity of self- versus peer reports, which are entwined with the issue of concordance, should

be further examined especially in contexts in which concordance has been shown to be low.

As discussed in Study IV, factors that can affect peer nomination patterns and influence the agreement among nominators include, but are not limited to, the social preferences and friendships of the nominator (Monks, Smith, & Swettenham, 2003) and the match or mismatch between the gender and ethnicity of the nominator and those of the reference group (Bellmore & Cillessen, 2003; Bellmore, Nishina, Witkow, Graham, & Juvonen, 2007). As pointed out by Bellmore and colleagues (2007), there are likely to be a number of other social categorizations that affect students' peer nomination patterns, such as academic tracking and peer crowd affiliation, all of which influence opportunities for peer interactions. Children seem to know more about members of the social group they interact with the most (Bellmore & Cillessen, 2003). Furthermore, as implied by Study II included in this thesis and by a prior study (Bellmore & Cillessen, 2003), girls tend to give their classmates overall more nominations than do boys. This is not to say that the accuracy of girls' versus boys' nominations differs, however (see Bellmore & Cillessen, 2003). The overall participation rate is known to affect the reliability of peer nomination scores (Cillessen, 2009; Marks et al., 2013), which was taken into account by excluding classrooms with a low participation rate from the three empirical studies included in the current thesis.

Less empirical attention seems to have been paid to factors influencing self-reports such as to reasons for students' over- or underreporting of their own victimization experiences. These may include unwillingness to report being bullied because of embarrassment or fear that their situation will get worse, misattributions of others' behaviors, or sometimes the unawareness of being the target of more hidden forms of bullying (e.g., Card & Hodges, 2008). The intraclass correlations reported in the studies included in this thesis imply that students' peer reports are more dependent on the classroom and school context than are self-reports, which seems intuitive. Further empirical attention should be paid to the ways is which different individual and contextual factors, and their interactions, impact self- and peer reports of bullying and victimization and thereby the concordance between the two types of measures in different contexts. The examinations could be extended to other sources such as teacher and parent reports. As they relate to the accurate recognition of children's roles in the bullying dynamic, the issues of assessment are important not only for researchers but also for teachers and other educators who are in a position to intervene in bullying and to help the victimized children.

Increasingly incorporating mixed methods—that is, both quantitative and qualitative data—in empirical studies and in research syntheses could also be a fruitful direction for future research. Using mixed methods can bring about new

insights, complementary findings, and divergent findings regarding the bullying phenomenon and antibullying practices (for a review, see Hong & Espelage, 2012). Collecting both quantitative and qualitative data from students and teachers could, for instance, provide insight into needs to improve the contents or components of antibullying programs. The data could also be used to shed light on teachers' ways of implementing the programs, their strategies to adhere to the program components (Hong & Espelage, 2012), as well as the challenges that they face in implementation in different classroom and school settings. Such information could be used to develop ways to provide adequate support that would increase the likelihood of teachers' sustained implementation fidelity.

On a final note, personal communication with teachers and other school professionals has revealed to me that although the research in the past couple of decades has reformed the view of bullying, bringing into focus the group processes and contextual factors involved, oftentimes the bully-victim dyad remains in the focus of schools' everyday efforts to counteract bullying among students. All too often in the busy life at school, these efforts tend to revolve more around tackling the identified cases of bullying rather than investing in preventive work that encompasses the whole school ecology. Such discrepancies between theory and practice should motivate researchers to increasingly collaborate with school professionals, parents, and policy makers to ensure that research gets translated into feasible evidence-based tools and practices to prevent and intervene in bullying. While the focus of the present thesis was on student-to-student bullying, an urgent call has been expressed for broadening the focus of research to other forms of aggression that are taking place in schools such as student-to-adult, adult-to-student, as well as adult-to-adult bullying (Allen, 2010; Espelage et al., 2013), homophobic teasing, and sexual harassment (Espelage, Basile, Hamburger, 2012). Shedding light on the extent to which individual and contextual risk factors and consequences of the different forms of aggression overlap, and on whether the effects of aggression prevention efforts such antibullying programs can generalize to multiple forms, will help to make schools safer and more supportive environments for both children and adults.

6. REFERENCES

Ahtola, A., Haataja, A., Kärnä, A., Poskiparta, E., & Salmivalli, C. (2012). For children only? Effects of the KiVa antibullying program on teachers. *Teaching and Teacher Education*, *28*, 851-859.

Ahtola, A., Haataja, A., Kärnä, A., Poskiparta, E., & Salmivalli, C. (2013). Implementation of anti-bullying lessons in primary classrooms: How important is head teacher support? *Educational Research*, *55*, 376-392.

Allen, K. P. (2010). Classroom management, bullying and teacher practices. *Professional Educator, 34*, 1-15.

Asparouhov, T., & Muthén, B. (2006). *Constructing covariates in multilevel regression.* Mplus Web Notes: No. 11. February 15, 2006.

Bacchini, D., Esposito, G., & Affuso, G. (2009). Social experience and school bullying. *Journal of Community & Applied Social Psychology, 19*, 17-32.

Bellmore, A. D., & Cillessen, A. H. (2003). Children's meta-perceptions and meta-accuracy of acceptance and rejection by same-sex and other-sex peers. *Personal Relationships, 10*, 217-234.

Bellmore, A. D., Nishina, A., Witkow, M. R., Graham, S., & Juvonen, J. (2007). The influence of classroom ethnic composition on same- and other-ethnicity peer nominations in middle school. *Social Development, 16*, 720-740.

Bellmore, A. D., Witkow, M. R., Graham, S., & Juvonen, J. (2004). Beyond the individual: The impact of ethnic context and classroom behavioral norms on victims' adjustment. *Developmental Psychology, 40*, 1159-1172.

Bradshaw, C. P., Sawyer, A. L., & O'Brennan, L. M. (2009). A social disorganization perspective on bullying-related attitudes and behaviors: The influence of school context. *American Journal of Community Psychology, 43*, 204-220.

Brendgen, M., Girard, A., Vitaro, F., Dionne, G., & Boivin, M. (2015). Gene-environment correlation linking aggression and peer victimization: Do classroom behavioral norms matter? *Journal of Abnormal Child Psychology*, *43*, 19-31.

Bronfenbrenner, U. (1979). *Ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

Bronfenbrenner, U., & Ceci, S. J. (1994). Nature-nurture reconceptualized in developmental perspective: A bioecological model. *Psychological Review, 101*, 568-586.

Card, N. A., & Hodges, E. V. E. (2008). Peer victimization among schoolchildren: Correlations, causes, consequences, and considerations in assessment and intervention. *School Psychology Quarterly, 23*, 451-461.

Carpenter, J. R., Bartlett, J. W., & Kenward, M. G. (2011). MLwiN macros for multiple imputation (Version 2.23). Retrieved from http://www.missingdata.org.uk

Cillessen, A. H. N. (2009). Sociometric measures. In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 82-99). New York, NY: Guilford Press.

Coie, J., Dodge, K., Terry, R., &Wright, V. (1991). The role of aggression in peer relations: An analysis of aggression episodes in boys' play groups. *Child Development, 62*, 812- 826.

Cook, C. R., Williams, K. R., Guerra, N. G., Kim, T. E., & Sadek, S. (2010). Predictors of bullying and victimization in childhood and adolescence: A meta-analytic investigation. *School Psychology Quarterly, 25*, 65-83.

Craig, W., Harel-Fisch, Y., Fogel-Grinvald, H., Dostaler, S., Hetland, J., Simons-Morton, B., et al. (2009). A cross-national profile of bullying and victimization among adolescents in 40 countries. *International Journal of Public Health, 54*, 209-215.

Eccles, J. S., & Roeser, R. W. (2011). Schools as developmental contexts during adolescence. *Journal of Research on Adolescence, 21*, 225-241.

Eisner, M. P., & Malti, T. (2012). The future of research on evidence-based developmental violence prevention. *International Journal of Conflict and Violence, 6*, 166-175.

Enders, C. K. (2010). *Applied missing data analysis*. New York, NY: Guilford Press.

Enders, C. K., & Tofighi, D. (2007). Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. *Psychological Methods, 12*, 121-138.

Espelage, D. L. (2014). Ecological theory: Preventing youth bullying, aggression, and victimization. *Theory Into Practice*, *53*, 257-264.

Espelage, D., Anderman, E. M., Brown, V. E., Jones, A., Lane, K. L., McMahon, S. D., ... & Reynolds, C. R. (2013). Understanding and preventing violence directed against teachers: Recommendations for a national research, practice, and policy agenda. *American Psychologist, 68*, 75-87.

Espelage, D. L., Basile, K. C., & Hamburger, M. E. (2012). Bullying perpetration and subsequent sexual violence perpetration among middle school students. *Journal of Adolescent Health, 50*, 60-65.

Espelage, D., Green, H., & Polanin, J. (2012). Willingness to intervene in bullying episodes among middle school students: Individual and peer-group influences. *The Journal of Early Adolescence*, *32*, 776-801.

Espelage, D. L., Polanin, J. R., & Low, S. K. (2014). Teacher and staff perceptions of school environment as predictors of student aggression, victimization, and willingness to intervene in bullying situations. *School Psychology Quarterly, 29*, 287-305.

Espelage, D. L., & Swearer, S. M. (2003). Research on school bullying and victimization: What have we learned and where do we go from here? *School Psychology Review, 32*, 365-383.

Farrington, D. P., Lösel, F., Ttofi, M. M., & Theodorakis, N. (2012). *School bullying, depression and offending behaviour later in life: An updated systematic review of longitudinal studies*. Stockholm, Sweden: Swedish National Council for Crime Prevention.

Foucault, M. (1961). *Folie et déraison: Histoire de la folie à l'âge classique* [Madness and civilization: A history of insanity in the Age of Reason]. Paris, France: Librairie Plon.

Garandeau, C. F., & Cillessen, A. H. (2006). From indirect aggression to invisible aggression: A conceptual view on bullying and peer group manipulation. *Aggression and Violent Behavior*, *11*, 612-625.

Garandeau, C. F., Lee, I. A., & Salmivalli, C. (2014). Inequality matters: Classroom status hierarchy and adolescents' bullying. *Journal of Youth and Adolescence*, *43*, 1123- 1133.

Graham, S., & Bellmore, A. D. (2007). Peer victimization and mental health during early adolescence. *Theory Into Practice, 46*, 138-146.

Haataja, A., Voeten, M., Boulton, A. J., Ahtola, A., Poskiparta, E., & Salmivalli, C. (2014). The KiVa antibullying curriculum and outcome: Does fidelity matter? *Journal of School Psychology*, *52*, 479-493.

Harel-Fisch, Y., Walsh, S. D., Fogel-Grinvald, H., Amitai, G., Pickett, W., Molcho, M., et al. (2011). Negative school perceptions and involvement in school bullying: A universal relationship across 40 countries. *Journal of Adolescence*, *34*, 639-652.

Hawkins, D. L., Pepler, D. J., & Craig, W. M. (2001). Naturalistic observations of peer interventions in bullying. *Social Development, 10*, 512-527.

Hong, J. S., & Espelage, D. L. (2012). A review of mixed methods research on bullying and peer victimization in school. *Educational Review*, *64*, 115-126.

Huitsing, G., Veenstra, R., Sainio, M., & Salmivalli, C. (2012). "It must be me" or "It could be them?": The impact of the social network position of bullies and victims on victims' adjustment. *Social Networks, 34*, 379-386.

Isaacs, J., Voeten, M., & Salmivalli, C. (2013). Gender-specific or Common Classroom Norms? Examining the Contextual Moderators of the Risk for Victimization. *Social Development*, *22*, 555-579.

Khoury-Kassabri, M., Benbenishty, R., Astor, R. A., & Zeira, A. (2004). The contributions of community, family, and school variables to student victimization. *American Journal of Community Psychology, 34*, 187-204.

Kochenderfer-Ladd, B., & Pelletier, M. E. (2008). Teachers' views and beliefs about bullying: Influences on classroom management strategies and students' coping with peer victimization. *Journal of School Psychology, 46*, 431-453.

Kumpulainen, T. (Ed.) (2014). *Opettajat Suomessa 2013* [Teachers in Finland 2013]. Helsinki, Finland: The Finnish National Board of Education.

Kupiainen, S., Hautamäki, J. & Karjalainen, T. (2009). *The Finnish education system and PISA*. Helsinki, Finland: Ministry of Education.

Kärnä, A., Voeten, M., Little, T. D., Alanen, E., Poskiparta, E., & Salmivalli, C. (2013). Effectiveness of the KiVa antibullying program: Grades 1-3 and 7-9. *Journal of Educational Psychology, 105*, 535-551.

Kärnä, A., Voeten, M., Little, T. D., Poskiparta, E., Alanen, E., & Salmivalli, C. (2011). Going to scale: A nonrandomized nationwide trial of the KiVa antibullying program for Grades 1-9. *Journal of Consulting and Clinical Psychology, 79*, 796-805.

Kärnä, A., Voeten, M., Little, T. D., Poskiparta, E., Kaljonen, A., & Salmivalli, C. (2011). A large-scale evaluation of the KiVa anti-bullying program: Grades 4-6. *Child Development, 82*, 311-330.

Kärnä, A., Voeten, M., Poskiparta, E., & Salmivalli, C. (2010). Vulnerable children in varying classroom contexts: Bystanders' behaviors moderate the effects of risk factors on victimization. *Merrill-Palmer Quarterly*, *56*, 261-282.

Ladd, G. W., & Kochenderfer-Ladd, B. (2002). Identifying victims of peer aggression from early to middle childhood: Analysis of cross-informant data for concordance, estimation of relational adjustment, prevalence of victimization, and

characteristics of identified victims. *Psychological Assessment, 14*, 74-96.

La Greca, A. M., & Lopez, N. (1998). Social anxiety among adolescents: Linkages with peer relations and friendships. *Journal of Abnormal Child Psychology, 26*, 83-94.

Lee, V. E. (2000). Using hierarchical linear modeling to study social contexts: The case of school effects. *Educational Psychologist, 35*, 125-141.

Lüdtke, O., Marsh, H. W., Robitzsch, A., Trautwein, U., Asparouhov, T., & Muthén, B. (2008). The multilevel latent covariate model: A new, more reliable approach to group-level effects in contextual studies. *Psychological Methods, 13*, 203-229.

MacKinnon, D. P. (1994). Analysis of mediating variables in prevention and intervention research. In A. Cázares & L. A. Beatty (Eds.) *Scientific methods in prevention research* (pp. 127-153). NIDA Research Monograph 139. DHHS Pub. No. 94-3631. Washington, DC: U.S. Govt. Print Office.

Marks, P. E. L., Babcock, B., Cillessen, A. H. N., & Crick, N. R. (2013). The effects of participation rate on the internal reliability of peer nomination measures. *Social Development, 22*, 609-622.

Ministry of Education and Culture, Finnish National Board of Education, & CIMO (2012). *Finnish education in a nutshell*. Espoo, Finland: Kopijyvä.

Monks, C. P., Smith, P. K., & Swettenham, J. (2003). Aggressors, victims, and defenders in preschool: Peer, self-, and teacher reports. *Merrill-Palmer Quarterly*, *49*, 453-469.

Muthén, B., & Asparouhov, T. (2011). Beyond multilevel regression modeling: Multilevel analysis in a general latent variable framework. In J. Hox & J.K. Roberts (Eds.), Handbook of Advanced Multilevel Analysis, pp. 15-40. New York, NY: Taylor and Francis.

Muthén, L. K., & Muthén, B. (1998-2012). *Mplus User's Guide*. Seventh Edition. Los Angeles, CA: Muthén & Muthén.

Nishina, A., & Juvonen, J. (2005). Daily reports of witnessing and experiencing peer harassment in middle school. *Child Development, 76*, 435-450.

O'Connell, P., Pepler, D., & Craig, W. (1999). Peer involvement in bullying: Insights and challenges for intervention. *Journal of Adolescence, 22*, 437-452.

Oldenburg, B., van Duijn, M., Sentse, M., Huitsing, G., van der Ploeg, R., Salmivalli, C., & Veenstra, R. (2015). Teacher characteristics and peer victimization in elementary schools: A classroom-level perspective. *Journal of Abnormal Child Psychology, 43*, 33-44.

Olweus, D. (1993). *Bullying at school: What we know and what we can do*. Malden, MA: Blackwell.

Olweus, D. (1996). *The Revised Olweus Bully/Victim Questionnaire*. Bergen, Norway: Research Center for Health Promotion (HEMIL Center), University of Bergen.

Parker, J. G., Rubin, K. H., Erath, S. A., Wojslawowicz, J. C., & Buskirk, A. A. (2006). Peer relationships, child development, and adjustment: A developmental psychopathology perspective. *Developmental Psychopathology, Theory and Method, 1*, 419-493.

Peets, K., Pöyhönen, V., Juvonen, J., & Salmivalli, C. (2015). Classroom norms of bullying alter the degree to which children defend in response to their affective empathy and power. *Developmental Psychology.* Advance online publication. doi: 10.1037/a0039287

Pituch, K. A., & Stapleton, L. M. (2012). Distinguishing between cross- and cluster-level mediation in the cluster randomized trial. *Sociological Methods & Research, 41*, 630- 670.

Polanin, J. R., Espelage, D. L., & Pigott, T. D. (2012). A meta-analysis of school-based bullying prevention programs' effects on bystander intervention behavior. *School Psychology Review*, *41*, 47-65.

Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods, 15*, 209-233.

Pöyhönen, V., & Salmivalli, C. (2008). New directions in research and practice addressing bullying: Focus on defending behavior. In D. Pepler & W. Craig (Eds.), *Understanding and addressing bullying: An international perspective* (pp. 26-43). Bloomington, IN: Author House.

Rasbash, J., Browne, W. J., Healy, M., Cameron, B, & Charlton, C., (2012). *MLwiN Version 2.25*. Centre for Multilevel Modelling, University of Bristol.

Raudenbush, S. W. (1988). Educational applications of hierarchical linear models: A review. *Journal of Educational Statistics, 13*, 85-116.

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed.). Thousand Oaks, CA: Sage.

Reijntjes, A., Kamphuis, J. H., Prinzie, P., & Telch, M. J. (2010). Peer victimization and internalizing problems in children: A meta-analysis of longitudinal studies. *Child Abuse & Neglect*, *34*, 244-252.

Rigby, K., & Slee, P. T. (1991). Bullying among Australian school children: Reported behavior and attitudes toward victims. *Journal of Social Psychology, 131*, 615-627.

Rivers, I., Poteat, V. P., Noret, N., & Ashurst, N. (2009). Observing bullying at school: The mental health implications of witness status. *School Psychology Quarterly, 24*, 211- 223.

Rodkin, P. C., & Hodges, E. V. (2003). Bullies and victims in the peer ecology: Four questions for psychologists and school professionals. *School Psychology Review, 32*, 384-400.

Roland, E., & Galloway, D. (2004). Professional cultures in schools with high and low rates of bullying. *School Effectiveness and School Improvement, 15*, 241-260.

Sainio, M. (2014). *KiVa Koulu® -ohjelma suomalaisissa peruskouluissa: Miten ohjelmaa toteutetaan tai miksi sitä ei käytetä?* [The KiVa antibullying program in Finnish schools providing basic education: How is the program being implemented or why is it not being used?]. Retrieved from http://www.kivakoulu.fi/assets/files/KiVa- tutkimusraportti.pdf

Sainio, M., Veenstra, R., Huitsing, G., & Salmivalli, C. (2012). Same-and Other-Sex Victimization: Are the Risk Factors Similar?. *Aggressive Behavior, 38*, 442-455.

Salmivalli, C. (2010). Bullying and the peer group: A review. *Aggression and Violent Behavior, 15,* 112- 120.

Salmivalli, C., Kärnä, A., & Poskiparta, E. (2010). From peer putdowns to peer support: A theoretical model and how it translated into a national anti-bullying program. In S. R. Jimerson, S. M. Swearer, & D. L. Espelage (Eds.), *Handbook of bullying in schools: An international perspective* (pp. 441-454). New York, NY: Routledge.

Salmivalli, C., Lagerspetz, K., Björkqvist, K., Österman, K., & Kaukiainen, A. (1996). Bullying as a group process: Participant roles and their relations to social status within the group. *Aggressive Behavior, 22*, 1-15.

Salmivalli, C., & Voeten, M. (2004). Connections between attitudes, group norms, and behaviour in bullying situations. *International Journal of Behavioral Development, 28*, 246-258.

Salmivalli, C., Voeten, M., & Poskiparta, E. (2011). Bystanders matter: Associations between reinforcing, defending, and the frequency of bullying behavior in classrooms. *Journal of Clinical Child & Adolescent Psychology, 40*, 668-676.

Scholte, R., Sentse, M., & Granic, I. (2010). Do actions speak louder than words? Classroom attitudes and behavior in relation to bullying in early adolescence. *Journal of Clinical Child & Adolescent Psychology*, *39*, 789-799

Schuster, B. (1999). Outsiders at school: The prevalence of bullying and its relation with social status. *Group Processes & Intergroup Relations*, *2*, 175-190.

Schwartz, D., Proctor, L. J., & Chien, D. H. (2001). The aggressive victim of bullying. *Peer harassment in school: The plight of the vulnerable and victimized*, 147-174.

Scott, J. (2012). *Social network analysis*. London, UK: Sage.

Selig, J. P., & Preacher, K. J. (2008, June). Monte Carlo method for assessing mediation: An interactive tool for creating confidence intervals for indirect effects [Computer software]. Available from http://quantpsy.org

Serdiouk, M., Rodkin, P., Madill, R., Logis, H., & Gest, S. (2015). Rejection and victimization among elementary school children: The buffering role of classroom- level predictors. *Journal of Abnormal Child Psychology, 43*, 5-17.

Smith, P. K., Madsen, K. C., & Moody, J. C. (1999). What causes the age decline in reports of being bullied at school? Towards a developmental analysis of risks of being bullied. *Educational Research, 41*, 267-285.

Smith, J. D., Schneider, B. H., Smith, P. K., & Ananiadou, K. (2004). The effectiveness of whole-school antibullying programs: A synthesis of evaluation research. *School Psychology Review, 33*, 547-560.

Smith, P. K., & Sharp, S. (Eds.). (1994). *School bullying: Insights and perspectives.* New York, NY: Routledge.

Snijders, T. A. B., & Bosker, R. J. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modeling*. London, UK: Sage.

Sroufe, L. A., Bennett, C., Englund, M., Urban, J., & Shulman, S. (1993). The significance of gender boundaries in preadolescence: Contemporary correlates and antecedents of boundary violation and maintenance. *Child Development, 64*, 455-466.

Swearer, S. M., & Doll, B. (2001). Bullying in schools: An ecological framework. *Journal of Emotional Abuse, 2*, 7-23.

Swearer, S. M., & Espelage, D. L. (2004). Introduction: A social-ecological framework of bullying among youth. In D. L. Espelage & S. M. Swearer (Eds.), *Bullying in American schools: A social-ecological perspective on prevention and*

intervention (**pp.** 1-12). Mahwah, NJ: Lawrence Erlbaum Associates.

Swearer, S. M., Espelage, D. L., Vaillancourt, T., & Hymel, S. (2010). What can be done about school bullying? Linking research to educational practice. *Educational Researcher, 39*, 38-47.

Ttofi, M. M., & Farrington, D. P. (2011). Effectiveness of school-based programs to reduce bullying: A systematic and meta-analytic review. *Journal of Experimental Criminology, 7*, 27-56.

Troop-Gordon, W. (2015). The role of the classroom teacher in the lives of children victimized by peers. *Child Development Perspectives, 9*, 55-60.

Troop-Gordon, W., & Ladd, G. W. (2015). Teachers' victimization-related beliefs and strategies: Associations with students' aggressive behavior and peer victimization. *Journal of abnormal child psychology*, *43*, 45-60.

Unicef. (2007). *Child poverty in perspective: An overview of child well-being in rich countries*, Innocenti report card 7. Florence, Italy: UNICEF.

Vervoort, M. H. M., Scholte, R. H. J., & Overbeek, G. (2010). Byllying and victimization among adolescents: The role of ethnicity and ethnic composition of school class. *Journal of Youth and Adolescence, 39*, 1-11.

Vreeman, R. C., & Carroll, A. E. (2007). A systematic review of school-based interventions to prevent bullying. *Archives of Pediatrics & Adolescent Medicine, 161,* 78-88.

Williford, A., Elledge, L. C., Boulton, A. J., DePaolis, K. J., Little, T. D., & Salmivalli, C. (2013). Effects of the KiVa antibullying program on cyberbullying and cybervictimization frequency among Finnish youth. *Journal of Clinical Child & Adolescent Psychology, 42*, 820-833.

Yang, A., & Salmivalli, C. (2013). Different forms of bullying and victimization: Bully- victims versus bullies and victims. *European Journal of Developmental Psychology*, *10*, 723-738.

Yang, A., & Salmivalli, C. (2015). Effectiveness of the KiVa antibullying programme on bully-victims, bullies and victims. *Educational Research*, *57*, 80-90.

Yeager, D. S., Fong, C. J., Lee, H. Y., & Espelage, D. L. (2015). Declines in efficacy of anti-bullying programs among older adolescents: A developmental theory and a three- level meta-analysis. *Journal of Applied Developmental Psychology*. Advance online publication. doi: 10.1016/j.appdev.2014.11.005

Yoneyama, S., & Naito, A. (2003). Problems with the paradigm: The school as a factor in understanding bullying (with special reference to Japan). *British Journal of Sociology of Education, 24*, 315-330.

Yoneyama, S., & Rigby, K. (2006). Bully/victim students & classroom climate. *Youth Studies Australia, 25*, 34-41.