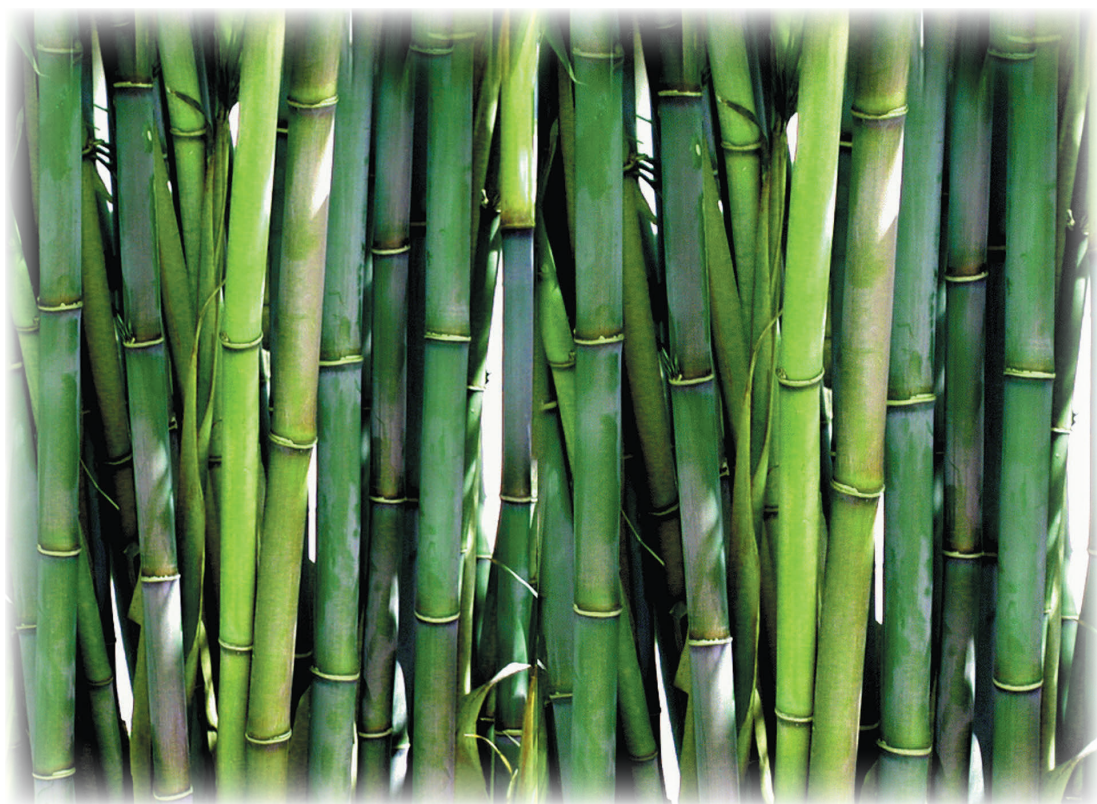Patrik Söderberg

Not Only Bad Luck

Studies on Peer Victimization and Social Exclusion
from a Multilevel Perspective

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Abstract

The purpose of this thesis was to examine the association between peer victimization and psychosocial adjustment at both individual and system levels. To this purpose, ethnographic reports from nomadic forager band societies around the world were reviewed (Study I), and regionally representative survey studies were conducted among adolescents in Ostrobothnia, Finland (Studies II–IV).

The ethnographic reports suggested that ostracism and exclusion are cross-cultural phenomena that foster conformity, and, furthermore, that an ostracism-detection system would have been adaptive in the evolutionary past. The quantitative studies, which were analyzed by means of mediation analysis, multilevel modelling, and multinomial regression, found peer victimization to be associated with individual level maladjustment indices, such as depressive symptoms, aggressive behavior, and peer rejection. In particular, the notion of symptom-driven pathways as well as the influence of the family environment on peer relationships was explored in Study II, where physical punishment was identified as a precursor to depressive symptoms, aggressive behavior, and victimization by peers. The role of the family was also indicated by the association between family economy and victimization experiences in Study III. Furthermore, Study III found victimization prevalence to be associated with classroom norms and social structure, thus highlighting circumstances in which bystanders may be particularly wary of intervening against victimization for fear of becoming the target themselves. Finally, Study IV found that while relational dynamics beyond victimization frequency influence the severity of victimization experiences, frequent peer victimization was also uniquely connected to internalizing and externalizing behaviors.

These empirical investigations are discussed in terms of the concept of peer victimization, the bi-directional relationships between victimization and maladjustment, and the influencing factors at multiple levels of the socio-ecological environment of the victim.

Abstrakt på svenska

Den här artikelavhandlingen består av fyra delstudier som på olika sätt undersöker sambandet mellan utsatthet för aggression och psykosociala utmaningar på individ- och systemnivå. Den första studien baseras på etnografiska rapporter från jägar- och samlarkulturer runtom i världen, medan de tre andra studierna analyserar datamaterial från två omfattande enkätundersökningar bland tonåringar i Österbotten.

Sammanställningen av de etnografiska rapporterna lyfter fram exkludering som ett socialt redskap för att stärka konformitet i miljöer som kan anses representera människans förhistoria. Studie I stöder även tanken om ett evolutionärt utvecklat varningssystem som upptäcker och reagerar på hot om utanförskap.

Det österbottniska enkätmaterialet utforskar å sin sida samband mellan utsatthet för aggression, ensamhet, depressiva symptom och aggressivt beteende. Studie II fokuserar på hemmiljöns betydelse genom att identifiera fysisk bestraffning som en riskfaktor för inåt- och utåtagerande problematik, vilket i sin tur ökar risken för att bli utsatt för aggression av jämnåriga. Studie III lyfter även fram familjeekonomi som en riskmarkör, men ser framförallt på betydelsen av sociala strukturer och normer i skolmiljön. Studie IV är en metodologisk studie som jämför elever som har blivit utsatta för aggressivt beteende (eng. *peer victimization*) med de som har blivit mobbade (eng. *bullying*), och analyserar hur de här grupperna delvis överlappar varnadra och delvis uppvisar unika drag.

De empiriska studierna förankras i en diskussion om begreppen mobbning och utanförskap, och om betydelsen av aktörer och normer på olika nivåer av individens socio-ekologiska omgivning. På basen av resultaten föreslås att antimobbningsprogram bör fortsätta att främja samhörighet och mångfald, men också ge mera individuellt stöd för individer med psykosociala utmaningar och problem i hemmiljön.

Acknowledgement

The late Sir Terry Pratchett once said: "People are not just people, they are people within circumstances" (Pratchett, 2012). As a developmental psychologist and a long-time admirer of the Discworld novels, I would add that these circumstances include the experiences that each person brings to the table. Thus, if we want to understand why people act in certain ways, we need to understand both where they come from and the situations in which they meet each other. And if we want to change how people act, we need to acknowledge that individuals hold a varying degree of agency over their circumstances, and work from there.

For this thesis, and in support of the research process behind it, there have been several contributors and influencers. I would like to offer my heartfelt thanks to the following persons.

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Over the course of my doctoral period, I have had the privilege to get to know graduate students and university personnel, with whom I have been able to share the everyday struggles, victories, and joys of life in academia. Here I would like to specifically mention Dr. Klas Backholm, for all the discussions on topics high and low, and for being a real-world example of inclusiveness.

Finally, I want to thank family and friends, for your tolerance of the strange ways of the academic. My mother and father, who probably knew about my career choice long before I did, and who have always supported me in my endeavors. My grandparents, for their prayers. My close friends, for always keeping an open door, even when we all got kids; and my two stars, Jonathan and Elliot, who thinks the best part of daddy's work is that there is a cafeteria downstairs. Last but certainly not least, my beautiful wife Charlotta. Thank you for all the times you've put your own work aside to allow me to focus on mine, for being understanding when I have been absent either physically or mentally, and for staying supportive throughout.

Until the next chapter,

Vasa, August 20, 2018

Patrik Söderberg

List of original publications

Study I: Söderberg, P., & Fry, D. P. (2016). Anthropological aspects of ostracism. In K. D. Williams & S. A. Nida (Eds.), *Ostracism, exclusion, and rejection* (pp. 258–272). New York: Routledge.

Study II: Söderberg, P., Björkqvist, K., & Österman, K. (2015). Exploring the effects of physical punishment on aggressive behavior and peer victimization: A conditional process analysis. *Journal of Aggression, Conflict, and Peace Research, 8*, 21–32.

Study III: Söderberg, P., Korhonen, J., & Björkqvist, K. (2017). Psychosocial maladjustment at student and classroom level as indicators of peer victimization. *Violence and Victims, 32*, 842–857.

Study IV: Söderberg, P., & Björkqvist, K. (accepted). Victimization from peer aggression and/or bullying: Prevalence, overlap, and psychosocial characteristics. Forthcoming in the *Journal of Aggression, Maltreatment & Trauma*.

Author contribution

Patrik Söderberg is the first author of all four studies that are included in this doctoral thesis. Söderberg is responsible for the data collection of Studies II–IV, and for all the statistical analysis used throughout the thesis. The four studies are listed in the order in which they were submitted for publication, and the publications have been reproduced with the permission of the copyright holders.

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1. Introduction

Have you or someone in your family ever been bullied or harassed? Odds are that no matter where you live, you know of someone who was picked on at school, teased, or subtly excluded from get-togethers and everyday social activities. Peer victimization has been found to be prevalent worldwide, although prevalence estimates vary both by sample characteristics and study methodology (Due & Holstein, 2008; Smith, Cowie, Olafsson, & Liefooghe, 2002).

And victimization hurts. As humans, we are sensitive to how other people treat us, and while sticks and stones may break our bones, words and silent rejection may shrink our hearts. Unsurprisingly, peer victimization has been consistently found to correlate with low levels of psychosocial adjustment and wellbeing (Hawker & Boulton, 2000). In recent years, popular media have also emphasized the role of bullying and victimization in a number of high-profile shootings and suicides carried out by adolescents (Yeager, Fong, Lee, & Espelage, 2015). While the extent to which victimization by peers has contributed to such extreme tragedies has been debated, these events have nonetheless galvanized public support for intervention and prevention efforts (Casper & Card, 2017; Hong & Espelage, 2012). In addition, research on bullying and victimization has been spurred by a growing appreciation that basic human rights include the right to be educated without suffering from ill-treatment (Olweus, 2001; Rigby, 2012). Studies on the effectiveness of school-based prevention efforts have, however, yielded mixed results, with several meta-analyses indicating small or non-significant long-term changes in behavioral outcomes (Jiménez-Barbero et al., 2016; Merrell, Gueldner, Ross, & Isava, 2008; Park-Higgerson, Perumean-Chaney, Bartolucci, Grimely, & Singh, 2008). At the same time, it has been noted that even when effect sizes are small in statistical terms, the effects may still be large in terms of real-world impact (Weare & Nind, 2011; Zych, Ortega-Ruiz, & Del Rey, 2015).

Within the Nordic countries, there is a strong tradition of research on peer victimization and bullying, and prevalence estimates of victimization are typically well below average in international comparisons (Due et al., 2005). For example, both the Olweus Bullying Prevention Program in

Norway and the KiVa Antibullying Program in Finland have been found to significantly decrease victimization rates over the last decades (Kärnä, Voeten, Little, Poskiparta, Kaljonen, & Salmivalli, 2011). Yet, research has not identified all of the critical components of effective anti-bullying efforts (Hymel, McClure, Miller, Shumka, & Trach, 2015), and efforts to reduce victimization have been found to be less effective in adolescence (Yeager et al., 2015).

This thesis explores peer victimization and social exclusion through a series of four articles. While the original studies are the primary result of the thesis, these empirical investigations are contextualized within a discussion on the concept of peer victimization, the features of adolescent development, and the bi-directional relationships between peer victimization and psychosocial maladjustment at both the level of the individual and that of the socio-ecological environment. After the introduction, the methods and results of the original studies are presented. Finally, methodological strengths and limitations are acknowledged, and avenues for further research and implications for praxis are suggested.

1.1 Peer victimization and related constructs

In contrast to diagnoses on social, emotional or mental health needs, there is no universally agreed-upon definition of peer victimization. However, common definitions include "a form of peer abuse in which a child is frequently the target of peer aggression" (Kochenderfer & Ladd, 1996, p. 1305), "the experience among children of being a target of the aggressive behavior of other children, who are not siblings" (Hawker & Boulton, 2000, p. 441), and "the receipt of any act of aggression from similar-aged peers" (Card & Hodges, 2008, p. 451).

A common theme in these definitions is the notion of aggressive behavior, which may be defined as behavior enacted with the intent to harm another person who is motivated to avoid that harm (Anderson & Bushman, 2002). Aggression is a well-studied phenomenon, which has been theorized to be both adaptive and maladaptive, a destructive instinct, a response to frustration, a natural drive, a means to establish dominance hierarchies, and an outcome of observational learning (for an overview on aggression theories, see Warburton & Anderson, 2015).

Neurological studies have connected the onset of aggressive behavior to the influence of neurotransmitters and hormones on neural pathways and brain area activity (Naganuma et al., 2017; Potegal, Herberg, Decoster, & Meyerhoff, 1996), while genetic studies have suggested both genetic and environmental influences, as well as interaction and correlational effects between the two, on individual variation in aggressive behavior (Kim-Cohen et al., 2006; Tuvblad, Raine, Zheng, & Baker, 2009).

Peer aggression studies, as a sub-category of aggression research, focus on aggressive behavior perpetrated by non-family individuals and groups of about the same age as the victim (Hawker & Boulton, 2000). Within the context of adolescent relationships, peer aggression thus excludes both adults and siblings as either perpetrators or victims (Steinberg, 2010).

Peer aggression can take many forms, such as hitting, kicking, verbally abusing, spreading rumors, or shunning the victim. While aggression research traditionally has focused on physical and other direct means of aggression, the term indirect aggression was popularized by Lagerspetz, Björkqvist, and Peltonen (1988) to indicate gossiping and other means to hurt someone without directly confronting the victim[1]. Later factor-analytic studies have supported the notion of indirect aggression as one of two forms of aggressive behaviors (see Vaillancourt, Brendgen, Boivon, & Tremblay, 2003).

Peer aggression research sometimes also distinguishes between pre-mediated, instrumental aggression, whereby the primary goal is to obtain rewards, and reactive, impulsive aggression that is enacted in response to a perceived threat (Kempes, Matthys, de Vries, & van Engeland, 2005). As noted by Voulgaridou and Kokkinos (2015), these functions of aggression are based on distinct theoretical approaches, so that proactive aggression can be attributed to social learning theory (see Bandura, 1973),

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[1] The term indirect aggression was first used by Buss (1961), albeit with a slightly different meaning than today's use. The phenomena of indirect aggression was later also branded as social aggression (Cairns et al., 1989; Galen & Underwood, 1997) and relational aggression (Crick & Grotpeter, 1996). Although each term technically refers to slightly different behaviors (see Voulgaridou & Kokkinos, 2015; Xie, Cairns, & Cairns, 2005), the thesis uses the terms interchangeably with a preference for the original term.

whereas reactive aggression may be described as a product of the frustration-aggression hypothesis (see Berkowitz, 1989). Nevertheless, most real-life cases have been shown to involve mixed motives and interacting causes (Bushman & Anderson, 2001), and individual differences in these behaviors tend to be highly correlated (for a meta-analysis, see Card & Little, 2006).

The third component of peer victimization, in addition to the peers and the aggression, is the victim. Although peer aggression always include one or several victims, Card and Hodges (2008) conclude that relative to research on perpetrators, victims of peer aggression have only recently been the focus of attention. However, since peer aggression and peer victimization concern the same social situations, albeit from different perspectives, present-day survey research typically includes items on both perpetration and victimization. As with peer aggression, peer victimization has thus been divided into sub-categories based on the form of aggressive behavior that the victim experiences. In a recent meta-analysis, Casper and Card (2017) did however report a strong correlation between overt and relational victimization, and noted that most of the research tends to aggregate the forms and report findings in relation to an overall composite measure (e.g. Hawker & Boulton, 2000; Cook, Williams, Guerra, Kin, & Sadek, 2010).

A related concept to peer victimization and aggression is bullying. Early pioneering work on bullying was done by Dan Olweus, who identified bullying as a particularly harmful form of peer aggression characterized by a power imbalance between perpetrator and victim, a certain degree of repetitiveness, and hostile intent on behalf of the perpetrator (Olweus, 1973, 1993). Similar to peer aggression and victimization, bullying can take several forms, such as "by physical contact, by words… and intentional exclusion from a group" (Olweus, 1993, p.8). Bullying behavior has traditionally been regarded as a sign of maladaptation and adjustment difficulties, and numerous studies report associations between aggressive behavior and internalizing and externalizing behaviors (see Heilbron & Prinstein, 2008). However, at least indirect aggression has also been associated with social intelligence (Kaukiainen et al., 1999), popularity (albeit not likeability), and "Olympian" characteristics, such as being good at sports and good-looking, in particular among adolescents (Heilbron & Prinstein, 2008). Recent theory

development by Volk and colleagues (Volk, Camilleri, Dane, & Marini, 2012; Volk, Dane, & Marini, 2014; Volk, Dane, Marini, & Vaillancourt, 2015; Volk, Veenstra, & Espelage, 2017) has even suggested that adolescent bullying could be considered an evolutionary adaption[2].

Conceptualizations and operationalizations of bullying, however, tend to vary between studies (Monk & Smith, 2006; O'Brien, 2009; Volk, Veenstra, & Espelage, 2017). Strikingly, in a recent symposium titled "40 years of bullying research: What we know", dozens of attending high-profile researchers came to the general consensus that there is still no adequate definition of bullying (Hymel, Swearer, McDougall, Espelage, & Bradshaw, 2013; for a brief overview of the history of bullying research, see also Smith, 2013). Similarly, in a recent meta-analysis of the effectiveness of anti-bullying school programs, Jiménez-Barero et al. (2016) noted that even though each program aimed at the prevention or reduction of violence and intimidation at school, the outcome measure varied among the studies included.

The emergence of online forms of bullying and victimization has further complicated the issue of how to define bullying, since single incidents of online victimization, such as posting a picture on social media, can have long-term detrimental effects for the victim and therefore ought to be recognized as bullying, even though it is a question of a single incidence, not repetitive behavior (Olweus, 2012). Furthermore, the potentially anonymous nature of online aggression makes it difficult to conceive of ready-made imbalances of power (Smith, 2013).

Even in traditional offline settings, one of the challenges in defining bullying is that the power imbalance between a perpetrator and victim is not solely a property of stable individual factors, such as the person's size and strength, but part of a dynamic relationship, as when a physically weaker individual recruits friends to gang up on a stronger peer. Arseneault (2018) also notes that a power imbalance is sometimes determined by the environment, such as when a new child at school

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[2] According to Volk et al. (2012, 2014), bullying as a goal-directed behavior might serve one or more adaptive goals in terms of reputation, non-social resources, and reproduction. While strong evidence for the latter is lacking, Volk et al. (2017) have later suggested an indirect value of bullying, arguing that it may increase social status and thereby facilitate the acquisition of non-social resources and romantic partners.

becomes the victim of bullying. Given the complexity of the term and the dynamics of power imbalance, Olweus (2012) has argued that the power imbalance is best determined by the victims themselves, and similarly Volk et al. (2015) concluded that the specific point of demarcation between general aggression and bullying might be best determined by the participants. However, to date, few studies have included measures of general peer victimization and bullying victimization within the same study or sample (see however Sawyer, Bradshaw, & O'Brennan, 2008; Ybarra, Espelage, & Mitchell, 2014).

In addition to the so-called bullying strand, peer victimization research has also been influenced by what Boivin et al. (2001) term the peer relationship strand. This school of thinking dates back to Asher, who in the 1970s and 1980s noted that rejection by peers acted as a predictor of later school adjustment problems (Asher & Coie, 1990). While the bullying strand can be said to have focused on prevalence estimates and identification of victims in order to support and validate prevention efforts (Solberg & Olweus, 2003), the peer relationship strand has rather assessed peer victimization as a fluid state along two continua: on the one hand as one kind of relationship among the many in which school children participate, and on the other, as a step on a temporal road between early acceptance or rejection by peers and later school and psychological outcomes (Boivin et al., 2001; Flook et al., 2005; Juvonen et al., 2000).

It should be noted, however, that the terms bullying strand and peer relationship strand are by no means universally applied and that most researchers do not explicitly commit to one school or the other[3]. Also, while these approaches differ in the aforementioned ways, they both share common ancestry in developmental and educational psychology insofar that both strands strive to illuminate long-term risk and protective factors, and to investigate the potential for school-based interventions.

Within the area of social psychology, on the other hand, behaviors akin to indirect aggression have been investigated in terms of ostracism and

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[3] Another way to differentiate between research orientations is to talk about an American research tradition focusing on childhood aggression and individual differences, and a Scandinavian research tradition illuminating the group dynamics and the effects of aggressive behavior on other children (Juvonen & Graham, 2014).

social exclusion (Williams, 2001). Current theory has yet to articulate the exact differences between ostracism and other types of rejection, but according to Ren, Hales and Williams (2017), ostracism may both refer to irrecoverable exclusion of an individual from a group or a society, and manifest itself in more subtle forms, such as denied eye contact or delayed responses to a victim's statements. A seminal study by Eisenberg and Lieberman (2005) was able to demonstrate that the same neural areas are activated when we experience so-called social pain by means of social exclusion as when we experience physical pain[4].

However, even though bullying and peer victimization research share some common ground with ostracism and social exclusion research, multi-disciplinary studies are uncommon. This may partly be explained by the fact that research on peer victimization has typically used real-life observational and survey studies to examine victimization by familiar peers, whereas ostracism research has predominantly used psychological experiments to study exclusion and rejection by strangers (Blackhart, Nelson, Knowles, & Baumeister, 2009; Schaafsma, 2017). Furthermore, ostracism research has primarily been conducted with adult samples and has only recently begun to focus on the adverse effects of ostracism on children and adolescents (Sandstrom, Deutz, Lansu, van Noorden, Karremans, & Cillessen, 2016).

1.1.1 Prevalence estimates, sex differences, and a note on cross-cultural differences

The term prevalence estimate refers to the estimated percentage of persons with a defined disease or condition, either at a particular point in time (point prevalence) or within a specific timeframe (cumulative prevalence, such as lifetime prevalence), within a given population exposed to risk. As noted by Seeley et al. (2009) (see also Solberg & Olweus, 2003), the concept of prevalence was adopted to bullying and peer victimization research from the field of epidemiology; however, in practice, the social dynamics of bullying and peer victimization bear little

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[4] These areas are mainly the dorsal portion of the anterior cingulate cortex (dACC) and the anterior insula cortex (AIC). For a review, and responses to competing explanations, see Eisenberg (2015). According to MacDonald and Leary (2005), the close relationship between social and physical pain is furthermore indicated by the praxis in different languages around the world to describe social disconnection by means of physical pain words and expressions (such as broken heart, hurt feelings, and emotional scars).

resemblance to a defined disease or condition (cf. Tuvblad et al., 2009). The prevalence of peer victimization has thus proven to be difficult to calculate reliably. Accordingly, prevalence rates of peer victimization have been estimated to be anything between 5% to 80% (Benton, 2011; Espelage & Asidao, 2001; Jiménez-Barbero et al., 2012; Nansel et al., 2004; Zych et al., 2015) with children and adolescents suffering from frequent victimization by peers suggested to be around 8–20% (Craig et al., 2009; Juvonen & Graham, 2001; Livingstone, Haddon, Görzig & Olafsson, 2011; Lund & Ross, 2017; Molcho, 2012). The stability of having a victim status is however debated, with some studies reporting chronic victimization, even during the transition to secondary school (Bowes et al., 2013), whereas other studies have shown that participant roles may switch both between and within victimization episodes (Gumpel, Zioni-Koren, & Bekerman, 2014).

The advent of online bullying and cybervictimization has also raised the issue of to what extent victimization experiences have moved out of the classroom and into the digital world. However, most studies comparing bullying and victimization online and offline have concluded that there is a strong overlap between bullying and cyberbullying (Ybarra, Boyd, Korchamros, & Oppenheim, 2012; Ybarra et al., 2014; Zych et al., 2015), and that the prevalence of noncyberbullying and victimization is still higher than that of online forms (Lund & Ross, 2017; Wang, Iannotti, & Nansel, 2008).

Concerning sex differences, large-scale studies indicate that boys are more often perpetrators of aggression than girls (Card, Stucky, Sawalani, & Little, 2008; Kljakovic & Hunt, 2016; Lansford et al., 2012), whereas sex differences in victimization rates are less clear (Benton, 2011; Due & Holstein, 2008; Jansen, Veenstra, Ormel, Verhulst, & Reijnveld, 2011; Sourander, Helstelä, Helenius, & Piha, 2000). The concept of indirect aggression has also questioned the assumption of unaggressive, docile girls (Archer, 2004; Björkqvist, 1994). However, in a recent meta-analytic review of 135 studies on child and adolescent direct and indirect victimization, Casper and Card (2017) did find that boys scored slightly higher on direct victimization, but did not find any sex differences with regard to indirect victimization.

Cross-national studies have found a large variation in victimization rates across nations (Due et al., 2005), although it remains unclear to what extent national differences are to be considered behavioral or linguistic (Smith et al., 2002). Within the Finnish school system, the concept of bullying is well established in both official languages (*kiusaaminen* in Finnish, *mobbning* in Swedish) with no clear differences in prevalence estimates between Finnish and Swedish schools. According to a large-scale longitudinal study (Kärnä et al., 2011), bullying rates in Finland have been decreasing during the 21st century (however, see also Sourander, Lempinen & Brunstein Klomek, 2016). All Nordic countries, however, show relatively low levels of victimization in an international context (Due et al., 2005).

1.2 Adolescent development and peer relationships

Adolescence is a period of physical, psychological and social change (Boivin et al., 2015), beginning at the onset of puberty and ending with stable commitment to an adult role (Spear, 2000). The fact that the age of puberty onset is declining, while the social transition into working-life and family life is delayed, has opened the debate on where to draw the lines between adolescence and the surrounding life periods of childhood and adulthood (Johnson, Crosnoe, & Elder, 2011). Nevertheless, adolescence is typically associated with the teenage years, and further divided into somewhat overlapping stages of early (10–15 years), middle (14–17 years) and late (16–19 years) adolescence (WHO, 2011). Johnson et al. (2011) further note that adolescence may represent both continuity and discontinuity in life pathways, as some adolescents exhibit stable psychosocial development, whereas others experience turning points that deflect earlier behavioral trajectories.

Adolescent development has been described in terms such as identity formation (Erikson, 1968), egocentrism (Elkind, 1967), and increased risk-taking and impulsivity (Romer, 2102). Early studies on adolescence characterized adolescence as a period of *Sturm und Drang* (Hall, 1904), an emotional rollercoaster of intensive experiences and stormy relationships, not least with the parents. Later research has nuanced this picture: most adolescents enjoy and work hard at school, get along with their parents and do not engage in high levels of risky behavior (Graham, 2004); however, adolescence is not an easy period for everyone.

According to Steinberg (2010), the desires to conform and to have friends are strong developmental characteristics of adolescence. Similarly Asher and Coie (1990) note that supportive intimate relationships as well as acceptance by larger peer groups are important pursuits during adolescence, as these kinds of relationships fill needs for belonging and acceptance, and provide opportunities to acquire new skills and competencies. By early adolescence, children are more likely to compare themselves with others, understand that others are making comparisons and judgements about them, and place high value on these judgements (Brechwald & Prinstein, 2011; Sebastian, Burnett, & Blakemore, 2008). Parents' values still matter (Masten, Juvonen & Spatzier, 2009), but as concerns about autonomy increase, adolescents spend more and more time with peers and begin to increasingly rely on their peers for support (Rubin, Bukowski, & Parker, 2006: Yeager et al., 2015). Similarly, Veenstra et al. (2013) posit that youth achieve group acceptance by acting in accordance with perceived group norms, i.e. with the behaviors, attitudes, values, and beliefs that unite group members and distinguish ingroups from outgroups. Chang (2004) further argues that adolescents conform to group norms by endorsing behaviors to the extent that the behaviors are consistent with the group majority, and that these conforming efforts in turn contribute to group norms.

From a neuro-psychological perspective, the teenage years are a period of substantial neural development. Both grey and white matter volumes increase in regions responsible for complex human behavior, while the puberty-induced surge in testosterone levels contribute to an increased desire for social status (Crone & Dahl, 2012). Moreover, the network of brain regions serving social cognition, sometimes referred to as the social brain, are still developing structurally in adolescence, and as a result of these biological changes, spending time with peers and gaining positive social feedback becomes increasingly rewarding during the teenage years (Blakemore, Brunett, & Dahl, 2010; Sebastian, Viding, Williams, & Blakemore, 2010). At the same time, adolescents are more sensitive to peer rejection, and the teenage years have thus been described as a critical period for the development of social relationships outside the home (Steinberg, 2010).

Since education is compulsory in most countries and students are rarely able to change classmates by their own choice, the school class plays a special role as the setting within which most peer relationships unfold (Serdoiuk et al., 2015; Rodkin & Hodges, 2003). In many countries, including Finland, the onset of puberty co-occurs with contextual changes in the form of a school transition from primary to secondary school / high school. During the transition from the familiar surroundings of the primary school, peer groups and friendships become more unstable, providing uncertainty about social relations and signaling new opportunities to improve one's social standing (Chan & Poulin, 2007; Juvonen & Graham, 2014). With the high school years described as a "land grab" for status and peer influence (Guerra et al., 2011), aggressive behavior in adolescence has been suggested to be the result of a (puberty-dependent) surge in social motivation rather than a sign of dysfunction (Pellegrini & Long, 2002; Yeager et al., 2015; see also Volk et al., 2012). Similarly, Voulgaridou and Kokkinos (2015, p. 88) note that the social changes in adolescence provide "a fertile ground" for indirect aggression, in particular, whereas Troop-Gordon (2017, p. 118) note a "confluence of contextual and maturational factors" that support the heightened use of aggression to obtain status within the peer groups.

In a meta-analysis on the relationship between aggressive behavior and peer status, Cook et al. (2010) found that whereas younger children who bullied others were socially rejected, adolescents who bullied other students had greater social status among peers. In a recent meta-analysis of anti-bullying programs, Yeager et al. (2015) showed a declining efficacy of intervention programs to the extent that whole-school programs in general were ineffective for 8th graders and above[5]. As a reason for the diminishing returns of anti-bullying programs in secondary school, Yeager et al. (2015; see also Hasebe et al., 2004) note that such programs may trigger adolescents to assert their autonomy and rebel against what they might perceive to be adult attempts to control a

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[5] Although previous meta-analyses have suggested that the effectiveness of intervention programs would be greater among older students (Mytton et al., 2006; Park-Higgson et al. 2008; Ttofi & Farrington, 2011), the work by Yeager et al. (2015) questioned the validity of those earlier syntheses. By using a hierarchal meta-analysis of intervention efficacy by age, Yeager and colleagues were able to show that the between-study designs employed in previous meta-analyses relied on unwarranted generalization, and that aggregated within-study results instead indicated a declining efficacy of intervention programs with increasing age.

personal domain. It has also been shown that adolescents may be less willing than both younger children and adults to challenge group norms about bullying for fear of being rejected and picked on themselves (Kollerva & Smolik, 2016).

In general, victimization rates have been found to reach their peak around early adolescence and then decline throughout adolescence (Nylund, Bellmore, Nishina, & Graham, 2007; Sumter, Baumgartner, Valkenburg, & Peter, 2012; however, see also Lund & Ross, 2017). The age decline in victimization reports has been suggested to be due to younger children being bullied by older children and younger children having not yet acquired the social and assertiveness skills required to effectively deal with bullying incidents in order to discourage further victimization (Smith, Madsen, & Moody, 1999). Alternatively, or additionally, the decline in victimization frequency during middle adolescence may be driven by a decline in direct and observable victimization, while indirect victimization, sexual harassment, and cyber victimization may even increase (Björkqvist, Lagerspetz, & Kaukiainen, 1992; Tremblay, 2010). Furthermore, although the absolute frequency of victimization drops during adolescence, there is also evidence to suggest that the rank order stability remains fairly constant so that peer victimization becomes more targeted and persistent in the teenage years (Boulton & Smith, 1994; Sourander et al., 2000; Troop-Gordon, 2017). Thus, while bullies may be more fluid in their roles across adolescence, victims may become more stable in their roles across time (Kljakovic & Hunt, 2016).

1.3 Psychosocial correlates of victimization at the individual level

Peer victimization has been correlated with a range of detrimental developmental outcomes. For example, victims have been characterized by poor academic achievement (Gardella, Fisher, & Teurbe-Tolon, 2017; Nakamoto & Schwartz, 2010), physical weakness (Hodges & Perry, 1999), obesity (Baldwin et al., 2016; Lembeck, 2015), substance abuse (Moore, Norman, Suetani, & Thomas, 2017; however, see also Maniglio, 2017). Longitudinal cohort studies also suggest that individuals who have been bullied in childhood have more difficulties keeping their jobs in young adulthood, are more likely to be unemployed at midlife, and report a lower perceived quality of life at age 50 (Takizawa et al., 2014; Wolke et

al., 2013). In particular, peer victimization has consistently been found to be associated with internalizing and externalizing problems, as well as with low levels of social support (Kretschmer, 2016; Nansel et al., 2004; Reijntjes, Kamphuis, Prinzie, & Telch, 2010).

Regarding internalizing behaviors, peer victimization has been connected to mental illness and ill-health such as depression, anxiety, low self-esteem, poor emotional regulation, and suicidal ideation (Benton, 2011; Bond, Carlin, Thomas, Rubin, & Patton, 2001; Hansen, Steenberg, Palic, & Elkit, 2012; Sourander et al., 2000). Longitudinal studies suggest that the effect of victimization may persist into adulthood (Hemphill et al., 2015; Takizawa, Maughan, & Arseneault, 2014), and that even shorter episodes of victimization may have enduring effects (Hellfeldt, Gill, & Johansson, 2018). For example, in a prospective cohort study, Bowes, Joinson, Wolke, and Lewis (2015) found a robust association between victimization by peers at age 13 and depression at 18, even when controlling for key confounders such as baseline depression. Although common factors may predispose individuals to being bullied and independently also increase the risk of adverse health problems, Bowes et al. (2015) concluded that their results indicate a causal relation between peer victimization and depression, and that victimization is associated with both onset and persistence of depression. Similarly, in a meta-analysis of 135 studies on the effects of peer victimization in childhood and adolescence, Moore et al. (2017) used the grading system developed by the World Cancer Research Fund to evaluate the level of evidence – including assessment of temporal relationships, consistency across geographic regions and study designs, and dose response tests – and found convincing evidence for a casual relation between peer victimization and mental health problems.

The relationship between peer victimization and internalizing behaviors is however not one-sided; several studies attest to internalizing behaviors preceding victimization by peers (Hellfeldt et al., 2018; Kochel, Ladd, & Rudoplh, 2012). Thus, victims of peer aggression have been suggested to be targeted on the basis of perceived affective and behavioral vulnerability (Björkqvist, Österman, & Berg, 2011; Cook et al., 2010; Ettekal et al., 2015; Storch & Ledley, 2005). For example, Vaillancourt et al. (2013) found evidence of symptom-driven pathways, and Kochel et al. (2012) have used the term "scar theories" to describe how depressive

symptoms interfere with social skill development and increase the risk for peer relationship problems. From an information-processing perspective, Rosen, Milich, and Harrison (2007) have suggested that victims internalize cognitive and emotional experiences associated with victimization into a victim schema that subsequently informs behaviors, thoughts, and self-concepts. Adolescents that are reminded of their victim schema may reinforce the patterns of victim-related socioemotional and socio-cognitive processes in their expectations about themselves and others, which is reflected in their behavior and subsequent social feedback, promoting increased victimization (see also Juvonen & Graham, 2014). In line with these suggestions, a large-scale study with over 160,000 Midwestern U.S. adolescents found that students with mental health or behavioral/emotional problems experienced significantly higher rates of harassment than both students without any disabilities and students with physical disabilities only (Bucchianeri et al., 2016).

At the same time, not all victims are shy and withdrawn. Several studies have shown that peer victimization is also associated with aggressive behavior and other externalizing behavior (Casper & Card, 2017). Conceptualizing social exclusion within the framework of the General Aggression Model (GAM; see DeWall, Anderson, & Bushman, 2011), DeWall, Enjaian and Bell (2017) suggests that exclusion functions as a situational input that may increase aggression by altering cognition, affect and arousal of the situation, and thus promote impulsive aggressive acts rather than thoughtful prosocial ones (see also Azrin, Hake, & Hutchinson, 1965; Sandstrom et al., 2016). In the long-term, Ren et al. (2014) have noted that ostracized individuals who strive to regain social acceptance may become particularly vulnerable to dangerous social influences and bad environments fostering aggressive behavior. The association between victimization and aggressive behavior is also present in the term bully-victim, which refers to individuals who are said to both bully others and be victims of bullying themselves (Smokowski & Kopasz, 2005). In the same vein, Rudolph et al. (2013) have suggested that research needs to distinguish between passive victims that show internalizing and withdrawn behaviors, and aggressive victims that show externalizing behaviors.

Again, the relationship may often be best described as bidirectional, as aggressive behavior has been shown to be both a consequence and a precursor of peer victimization (Moilanen et al., 2010; Reijntjes, Kamphuis, Prinzie, van det Schoot, & Telsch, 2011). In a prospective study, Jansen and colleagues (2011) noted that the proximal and distal developmental consequences of antisocial behavior differ, which serves as a trap facilitating aggressive behavior: in the short term, aggressive behavior may act as a defense against early victimization or as a means to gain adult-opposed popularity; however, protective effects appear to be temporary at best.

The association between victimization and aggression can also be described in terms of multifinality, that is, as separate outcomes of shared predictors (see Ball et al., 2008; Cicchetti & Rogosh, 1996; Jansen et al., 2011). From a gene-environment perspective, Ball et al. (2008) note that the covariation between victimization and aggression may occur either via heritable characteristics, such as emotional dysregulation, making adolescents more likely to be both victims and perpetrators of aggressive behaviors, or via phenotypic causality, so that genetic factors influence aggressive behaviors, which in turn provoke victimization by peers.

In addition to the correlation with externalizing and internalizing behaviors, peer victimization has also been associated with peer rejection and low levels of social support (Casper & Card, 2017; Kollerva & Smolik, 2016), while supportive relationships have been shown to promote decreased victimization (Hodges et al., 1999; Masten, Telzer, Fuligni, Lieberman, & Eisenberg, 2012). According to Kollerva and Smolik (2016), other students may be reluctant to associate with victims due to fear of being picked on themselves. Similarly, Olweus (1973) noted a gradual cognitive dehumanizing change in the perception of the victim, so that other students over time will regard the victimization as justified and become less likely to befriend the victim. Similarly, qualitative studies have indicated that rejected students may be socially construed as 'odd' or 'weird', constructions which are used to justify bullying and harassment (see Teräsahjo & Salmivalli, 2003; Thornberg, 2010).

As has been noted, rejection by peers is conceptually close to indirect victimization. However, lower levels of received prosocial behavior are linked with higher levels of not only indirect but also direct victimization

(Casper & Card, 2017). According to the peer relationship strand, peer victimization may be seen as a temporal step from initial peer rejection to later maladjustment outcomes (Bush & Ladd, 2001; Bush, Ladd, & Herald, 2006), and Ladd (2006) has proposed that a student's acquisition of rejection status signals to members of the peer group that the individual is a suitable target for maltreatment. Similarly, Hodges and Perry (1999) found that victimized children were already rejected when chosen as victims, but also got more rejected over time.

Along these lines, a recent meta-analysis of longitudinal studies identified four predictors of victimization in adolescence: conduct problems, social isolation, internalizing problems, and prior victimization (Kljakovic & Hunt, 2016). In summary, the evidence for reciprocal processes, not only between peer victimization and low levels of social support, but also between peer victimization and internalizing and externalizing behaviors, suggests the existence of vicious cycles in the development of victimization and individual-level psychosocial maladjustment.

1.4 Socio-ecological influences on victimization

The prevalence of peer victimization has been found to vary by individual characteristics of both perpetrator and victim (see chapters 1.1 and 1.3 above). However, several researchers have argued that to fully understand a child's susceptibility to victimization, one must also consider larger relational contexts beyond the perpetrator-victim dyad (Hawley & Willford, 2015; Kochenderfer-Ladd & Troop-Gordon, 2010; Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996).

In the late 1990s, Salmivalli and colleagues showed that bullying and peer victimization usually occur in the presence of other students, and they argued that bystanders should not merely be considered as background noise but rather as potentially influential actors that affect the outcome for both victims and perpetrators (Salmivalli et al., 1996). During the 21st century, peer victimization and bullying researchers have increasingly adopted a socio-ecological approach inspired by Bronfenbrenner's ecological system theory (Bronfenbrenner, 1979). According to this perspective, adolescents are situated within multi-level contexts or systems that directly and indirectly influence and interact with the

individual's intra- and interpersonal development (Hong & Espelage, 2012; Espelage, 2014; Tudge, Mokrova, Hatfield, & Karnik, 2009).

The first level of context is the microsystem, that is, the immediate surroundings of the individual. Within peer victimization and bullying research, proximal social ecologies, such as peer groups, have been seen as having the most impact on bullying behavior and victimization experiences (Rodkin & Hodges, 2003). In particular, the school and the school classroom have been identified as the immediate surrounding within which most peer relationships unfold (Serdiouk, Rodki, Madill, Logis, & Gest, 2015; Spriggs, Iannotti, Nansel, & Haynie, 2007; Veenstra, Verlinden, Huitsing, Verhulst, & Tiemeier, 2013).

In line with the socio-ecological perspective, anti-bullying programs have increasingly been based on the assumption that all students are valid targets for intervention (Kärnä et al., 2011; Polanin, Espelage, & Pigott, 2012). However, while active bystander intervention has been found to effectively diminish victimization (Fekkes, Pijper, & Verloove-Vanhorick, 2005; Hawkins, Pepeler, & Craig, 2001), and while most students report anti-bullying and pro-victim attitudes, far less students seem to have actually intervened during a bullying episode. To explain such inconsistencies, Salmivalli (2010) has suggested that a lack of intervention may result from bystander effects such as diffusion of responsibility, whereby bystanders are less likely to intervene in the presence of other witnesses (Darely & Latané, 1968; see also Clark & Word, 1972). At the same time, researchers have called for studies to investigate factors that facilitate or hinder bystander intervention within the school context (Capadocia, Pepler, Cummings, & Craig, 2012). Results from other settings indicate that bystander behavior may be best explained by situational variables, but bystander intervention has also been associated with the bystanders' pro-social tendencies, social self-efficacy, self-defense training, empathy, shyness and embarrassability (Andreou, Vlachou, & Didaskalou, 2005; Bennett, Banyard, & Garnhart, 2014; Brewster & Tucker, 2016; Cappadocia, Pepler, Cummings, & Craig, 2012; Sabini, Siepmann, & Stein. 2001; Zoccola, Green, Karoutsos, Katano, & Sabini; 2011).

To investigate the role of the school classroom, bullying and peer victimization research have increasingly adopted a multilevel

perspective (e.g., Saarento, Kärnä, Hodges, & Salmivalli, 2013; Veenstra et al., 2013). Originally developed in the fields of education, sociology and demography, multilevel analysis allows the examination of both inter-individual and inter-group variability (Bliese, 2000). So far, research seems to suggest that intraclass correlations, i.e., the amount of variability attributed to group effects, are bigger at the classroom level than at the school level (Kärnä et al., 2011; Saarento et al., 2013). According to Saarento et al. (2013), this may be particularly true in contexts where the classroom is a relatively stable unit, such as the Finnish school system.

Inter-group differences may furthermore be attributed to either compositional variables, which are derived from the characteristics of the individuals of each group, or integral variables, which refer to group level constructs without any individual level analogues (Diez-Roux, 2002). Studies on the effects of integral variables, such as classroom size, school size or student-teacher ratio, have produced mixed findings (Wei, Williams, Chen & Chang, 2010; Saarento et al., 2013), whereas students' perceptions of fairness of school rules and hallway monitoring staff have been related to less victimization (Jeong et al., 2013).

Teacher praxis has also been linked to levels of aggression and victimization (Gest & Rodkin, 2011; Troop-Gordon & Kopp, 2011; Wei et al., 2012). Serdiouk et al. (2015) have suggested that teachers may lower victimization by promoting egalitarian classroom environments, whereas Kochenderfer-Ladd and Pelletier (2007) found that active intervention by means of separating bullies and victims lowered victimization rates. At the same time, correlations between teachers' and students' identification of victims have been found to be moderate at best, suggesting that teachers may not be fully aware of the social dynamics of the classroom (Ahn, Rodkin, & Gest, 2013; Leff et al., 1999; Thornberg, 2011). Furthermore, a recent multi-level study on New Zeeland high school students found that schools where students took action to stop bullying suffered from less victimization than other schools, whereas no decline in victimization was found for schools were students reported that teachers took action against bullying (Denny et al., 2014). In line with these results, Serdiouk et al. (2015) concluded that peer processes exert a stronger influence on students than teacher practices.

Peer influence on victimization has typically been described in terms of group norms, and measured as group aggregates of students' values, beliefs and behaviors (Chang, 2004; Kollerva & Smolik, 2016; Pozzoli, Gini, & Vieno, 2012; Sentse, Veenstra, Kiuru, & Salmivalli, 2015). As examples of the influence of group norms on victimization experiences, Hymel et al. (2015) found that children more readily endorsed victim-blaming responses to victimization in classrooms where they perceived more victim-blaming. Chaux, Molano, and Podlesky (2009) reported that bullying was less common in environments where students were more emphatic and assertive, and Pozzoli et al. (2012) found that children and adolescents who were in classrooms that made more collective efforts to defend victims also were themselves more likely to defend victims. Similarly, ethnographic studies have indicated that bullying and harassment may be associated with intolerance of diversity in the peer culture (see Thornberg, 2010, 2011).

It should be mentioned that compositional features of the classroom may not indicate group norms only. As noted by Ender and Tofighi (2007) (see also Diez-Roux, 2002) aggregate-level variables may differ in subtle but important ways from their individual-level counterparts. While classroom-aggregated aggressive behaviors may be regarded as a descriptive norm of peer aggression that influence the likelihood of bystander intervention through processes of group identification and peer pressure, a high proportion of rejected students in a classroom may rather imply a lack of psychosocial resources on part of the bystanders than describe any normativity of friendships structures. It has been suggested that bullying and peer victimization can provide a common goal and sense of cohesion in groups that lack genuine friendships (Garandeau & Cillessen, 2006). To date, however, there is a lack of victimization studies that investigate bystander social resources as measured by classroom aggregated psychosocial characteristics.

In addition to classroom-level main effects on peer victimization, socio-ecological models also focus on understanding how characteristics of the individual interact with features of the social context (Espelage, 2014; Garandeau et al., 2011). Studies on such cross-level interactions indicate that rejected children are more victimized in classrooms where bullying behaviors are more common (Isaacs et al., 2012; see also Chang, 2004) or where victimization is centralized toward fewer victims (Serdiouk et al.,

2015), and, conversely, that students who are victims of multiple forms of victimization also become the least accepted by their classmates (Ploeg, Steglich, Salmivalli, & Veenstra, 2015). Victims of peer aggression have also been found to report more maladjustment in classrooms where aggression is directed toward only a few children, which has been explained in terms of increased internal attribution and self-blame by the victims (Huitsing, Veenstra, Sainio, & Salmivalli, 2010; Nishina & Juvonen, 2005; Sentse, Scholte, Salmivalli, & Voeten, 2007; for an overview of frame-of-reference research, see Marsh et al., 2008). Thus the peer context can be said to function as both a risk and protective factor that either suppresses or amplifies a student's individual level of risk (Ettekal et al., 2015).

A special case of cross-level interaction is posited by the person-group similarity model, according to which group members' social evaluation and acceptance of an individual's behavior depend on the degree to which the behavior is aligned with the behavioral norms of the group (Stormshak et al., 1999; Wright, Giammarino, & Parad, 1986; Wesselmann, Williams, Pryor, Eichler, Gill, & Hogue, 2014). For example, Chang (2004) used a sample of 82 Chinese middle school classes to show that social withdrawal and aggression was, respectively, more accepted in classes with a high average level of withdrawal or aggression. Similarly, Juvonen and Gross (2005; see also Huitsing et al., 2010) have described ostracized individuals as group misfits, whereas Brendgen, Girard, Vitaro, Dionne, and Boivin (2015) found that children with a genetic disposition for aggressive behavior were at higher risk of being victimized by their peers only when classroom norms were unfavorable for such behaviors. Recently, Espelage (2015) has argued that teachers who strive to instill a class atmosphere that dissuades aggression must make an effort to protect children who engage in aggressive behavior from becoming victims themselves. At the same time, Stromshak et al. (1999) found that the social acceptability of some behaviors (such as aggressive and withdrawn behaviors) were influenced by their normativeness in the group, other behaviors (such as inattentive-hyperactive behaviors) have more absolute value in affecting peer relationships. As noted by Wright, Giammarino and Parad (1986), it is equally important to identify context-dependent and invariant variables in order to better understand the dynamics between the individual and

the group. However, within peer victimization research, studies on person-group similarity effects are still only emerging.

While most studies with a socio-ecological approach have focused on the microsystems of peer groups and classrooms, there have also been calls for peer victimization studies to pay attention to the influence of other contexts (Espelage, 2014; Zych et al., 2015). One of these contexts is the family.

The family unit is typically identified as a microsystem in the same way as the peer group (Hong & Espelage, 2012). However, in terms of bullying and peer victimization, family-related factors may also be regarded as mesosystemic influences, since characteristics of one microsystem (the family) are hypothesized to affect experiences and behaviors within another microsystem (the peer group). Parents affect the social development of their children through a variety of means, including shared environment factors such as norms, values and modeling behaviors, genetic inheritance (Ball et al., 2008; Brendgen, Boivin, Vitaro, Girard, Dionne, & Pérusse[6]), and gene-environment interaction and correlation effects (Jaffee et al., 2005; Tuvblad, Grann, & Lichtenstein, 2006). One family environment factor known to affect psychosocial development is harsh parenting, and in particular physical punishment (Gershoff, 2002).

While physical punishment was regarded as acceptable praxis in most countries during the 20th century, accumulating research, law reforms and the convention of the rights of the child have altered the landscape of child rearing practices in the west (Durrant & Ensom, 2012; Durrant & Ensom, 2017; Pinheiro, 2006). However, parents are still the primary perpetrators of aggression against children (Bérgamo & Bazon, 2011).

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[6] Genetically informed studies on peer victimization have so far provided mixed findings. For example, Ball et al. (2008) found that genetic factors accounted for almost three quarters of individual variation in victimization scores in a sample of 1,116 families with 10-year-old twins, whereas Brendgen et al. (2008) found that both shared and non-shared environmental factors contributed more than genetic factors in a sample of 253 families with 6-year-old twins. Due to the scarcity of studies it is, however, difficult to decide to what extent these different conclusions are due to methodological issues or sample characteristics.

Childhood maltreatment has been shown to be associated with a range of detrimental child outcomes, not least aggressive behavior (Anda et al., 2006; Durrant & Ensom, 2017; Gerschoff, 2002; Sheehan & Watson, 2008). Some researchers have raised questions about the extent to which mild physical punishment, such as spanking, have the same detrimental effects as harsher forms of punishment and abuse (Ferguson, 2013), the extent to which parents' use of physical discipline techniques are predicting or evocated by children's aggressive behavior (Lazerele, Kuhn, & Johnson, 2004), and the extent to which cultural norms moderate the detrimental effects of physical punishment (Lansford et al., 2011). However, the most recent meta-anlysis on the effects of physical punishment, by Gershoff and Grogan-Kaylor (2016), did not find any significant country effects in their meta-analysis of 75 studies[7].

In a longitudinal prospective study, Choe, Olson and Sameroff (2013) noted bidirectional associations between parents' positive and negative discipline techniques and children's behavioral problems, and concluded that even mild levels of physical discipline are a risk factor for child maladjustment. Similarly, Gerschoff and Grogan-Kaylor (2016) found that even when punishment begin as a response to children's misbehavior, physical punishments have long-term detrimental effects on child outcomes over and above child-evocated effects. Furthermore, Choe et al. (2013) (see also Grogan-Kaylor et al., 2008) showed that even though physical punishment provides parents with a power-assertive means of eliciting immediate compliance, it does not model appropriate behavior or help children to internalize social conventions. On a related note, Gray (2009) has suggested that hunter-gatherer societies, known for their low rates of inter-personal violence, are able to reduce aggression and maintain egalitarian relations between members through non-coercive or indulgent child-rearing practices.

Furthermore, Gershoff and Grogan-Kaylor (2016) found that physical punishment was associated with over a dozen detrimental effects, including aggression, mental health problems, negative relationships

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[7] In response to these findings, Grogan-Kaylor, Ma, and Graham-Bermann (2018) observed that the relationship between spanking and negative outcomes is remarkably similar across context. A notable exception, however, is neighborhood agency, in that the effects of physical punishment appear to be less severe in neighborhood environments characterized by strong social cohesion (Gershoff & Grogan-Kaylor, 2016).

with parents, and low self-esteem. In order to explain the graded relationship between adverse childhood experiences and multiple negative developmental outcomes, Anda et al. (2006) have noted that adverse experiences such as physical abuse may trigger neurobiological stress effects which have been demonstrated to have detrimental effects on developing neural networks.

However, even though physical punishment has been connected to detrimental psychosocial outcomes, including both internalizing and externalizing behaviors, which in turn have been connected to peer victimization in other studies (see Chapter 1.2), there is a dearth of studies that explore the relation between physical punishment and peer victimization. Notable exceptions include longitudinal studies among pre-school children by Barker and colleagues (2008), showing higher levels of harsh parenting to predict increased peer victimization, and two prospective cohort studies by Lereya, Copeland, Costello, and Wolke (2015) that found that about 40% of children who were maltreated by their caretakers were also bullied by their peers. Lereya et al. (2015) note that many kinds of victimization have common risk factors, such as family instability and insufficient supervision, and suggest that experience of earlier forms of victimization may interfere with children's emotional regulation, which in turn might create susceptibility for being bullied (see also Finkelhor & Dziuba-Leatherman, 1994; Kim & Cicchetti, 2010). Similarly, Björkqvist et al. (2011) (see also Björkqvist & Österman, 2014) have suggested that victims of physical punishment may develop a "victim personality" that attracts potential bullies by signaling defenselessness and vulnerability. Banny, Cicchetti, Rogosh, Oshri, and Crick (2013) (see also Bolger & Patterson, 2001) have also suggested that maltreated children develop negative expectations regarding themselves and others, as well as concepts of relationships that involve victimization and coercion, and may as a result engage in maladaptive behaviors ranging from hypervigilance to submissiveness. Paradoxically, these behaviors may have been adaptive in an abusive home environment but may later increase the risk for victimization by peers[8].

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[8] On a related note, Finkelhor and colleagues (Finkelhor, Ormrod, & Turner, 2007; Finkelhor, Shattuck, Turner, Ormrod, & Hamby, 2011), have shown that children who experience so-called poly-victimization, for example abuse from both parents and peers, are more likely to report mental ill-health than victims of only one form of aggression.

In addition to the effects of proximal ecologies, such as parents and peers, individual development may also be influenced by exo- and macrosystem characteristics (Hong & Espelage, 2012). The exosystem can been defined as a larger social system in which the child does not directly function but which nonetheless has an impact on the child's development by interacting with microsystem structures (Tudge et al., 2009). Mesosystemic agents include parents' workplace schedules, community-based family resources, or school neighborhood. The macrosystem, on the other hand, refers to the overall patterns of culture and organization that characterize a given society or social group (Hong & Espelage, 2012)

In an effort to combine developmental and social psychology perspectives on intergroup social exclusion, Brenick and Halgunseth (2017) have argued the need to recognize that power is not only based on individual differences in strength and popularity, but also derived from an asymmetry in power between larger macro-level groups such as social minorities and majorities. As an example of these kind of processes, the authors note that sexual minorities such as LGBT students experience more victimization than students from the (heterosexual) majority. In support of this assumption, a large-scale study with over 160,000 American adolescents found evidence of so-called cross-harassment, where members of certain minority groups experienced high rates of multiple harassment types (Bucchianeri et al., 2016). LGBT youth in particular were disproportionately vulnerable as they experienced not only higher rates of harassment about sexual orientation but also higher rates of weight/appearance and disability-based harassment compared to heterosexual youth.

On the other hand, findings on race/ethnicity effects on peer victimization have been inconsistent (Espelage, 2014), with some studies finding ethnically-based differences in bullying and victimization prevalence (Spriggs et al., 2007) and other studies finding no clear differences between ethnic minority and majority groups (Sawyer et al., 2008; Vitoroulis & Vaillancourt, 2015). In Finland, a nationwide longitudinal study found no differences in bullying or victimization prevalence between Finnish- and Swedish-speaking schools (Kärnä et al., 2011). It might also be noted that, in comparison to the school system in the United States, the Finnish- and Swedish-speaking population in Finland have separate schools.

Turning to exosystemic influences, a proxy for exosystemic effects is arguably the family economy. Although Hong and Espelage (2012) identify poverty status as a characteristic of the individual, other scholars have noted that adolescents typically cannot influence their parents' work-life situation, yet they are affected both directly and indirectly by the amount of money their parents bring to the family (Hatfield & Karnick, 2009; Oswalt, 2015). Measures of socio-economic status (SES) are frequently missing in peer victimization research among children and adolescents. This may partly be explained by the inherent challenges of properly addressing underage students' socio-economic status in survey research, as students may not be aware of their parents' monthly earnings or educational background.

Existing studies on the role of poverty and family economy on bullying and peer victimization have reported mixed findings. While some studies have found that victims of peer aggression are overrepresented in low socio-economic status families (Jankauskiene, Kardelis, Sukys, & Kardeliene, 2008; Jansen et al., 2011), other have not (Sourander, Helstelä, Helenius, & Piha, 2000). Multilevel studies suggest that economic inequality, either at the national or the school level, rather than face-value poverty may be related to increased school-level victimization (Due et al., 2009; Chaux et al., 2009). A recent meta-analysis on the relation between SES and roles in school bullying (Tippett, & Wolke, 2014) found significant but weak associations so that victimization was positively related to low SES, and negatively related to high SES. The authors of the study note that the results might be interpreted in terms of denied access to lifestyle goods and resources, which might single out children for victimization, but may also reflect an indirect relationship mediated by the adverse home environments.

1.5 Aim of the thesis

The purpose of the thesis is to replicate and extend existing research on the connections between peer victimization and psychosocial adjustment at both individual and system levels. Specifically, the goals of the four studies included were as follows:

1) To explore evolutionary aspects of ostracism and victimization (Study I)
2) To confirm previous findings on the connections between peer victimization and psychosocial maladjustment at the level of the individual (Studies II–IV)
3) To expand the literature on system level influences on peer victimization (Studies II–III).
4) To identify differences and similarities between peer victimization and bullying victimization (Study IV)

2 Method

2.1 Participants

2.1.1 Nomadic Forager Band Societies

Nomadic forager band societies (NFBS) may be viewed as the oldest form of human society, constituting the socioeconomic adaption for the longest part of the time that the species *Homo sapiens* has existed on Earth. Forager data are regularly used to draw inferences about the past and about adaptive responses toward problems faced in the ancestral environment (Binford, 2001; Bowles, 2009; Fry & Söderberg, 2013).

For the original study included in this thesis, a subsample of NFBS were extracted from the standard cross-cultural sample (SCCS), a collection of ethnographic data on 186 distinct cultural provinces from around the world (see Murdock & White, 1969). In order to circumvent sampling bias, the sample was derived based on published rating criteria of other researchers (Murdock, 1967; White, 1989). Specifically, the 21 societies included in Study I are those coded by Murdock (1967) as nomadic or semi-nomadic but lacking both class distinction and any type of domestic animal. Furthermore, at the time of the source material, these societies obtained at most five percent of their subsistence requirements from agriculture. In other words, the ethnographic material pertains to times and places when the traditional foraging subsistence modes were still practiced and outside influence from the modern world was minimal (Ingold, 1999).

Within this sample, the mean group sizes for residential camps was between 15 and 45 persons, including children (Binford, 2001). The social structure was characterized by egocentric networks, lack of leadership, and egalitarian social order. Group composition was not static or segmented into subgroups, but fluctuated over time, resulting in kinship and social relations that went across group lines (Leacock et al., 1978; Gray, 2009).

For each of the 21 NFBS in the sample, so-called principal authority sources (PAS) were used as the earliest, best-described ethnographic sources available. The PAS was ranked by White (1989) as the highest

quality primary sources linked to particular pin-point times and locations. All descriptions and cases of ostracism were extracted from the PAS ethnographic material. This sample was used in Study I.

2.1.2 Ostrobothnian Youth Survey

The Ostrobothnian Youth Survey (OYS) is part of a regional youth participation project in a collaboration between the Finnish-Swedish Youth Association in Ostrobothnia and the Åbo Akademi Youth Researchers, funded by the Finnish Ministry of Education and Culture. The project has collected survey data in Finnish- and Swedish-speaking upper primary schools (7th and 9th grade, mean age 13 years and 15 years, respectively) five times since 2005. The Ostrobothnia region is one of the few mainland areas of Finland with a substantial Swedish-speaking population, a national minority found to report higher social capital than the Finnish-speaking majority (Nyqvist, Finnäs, Jakobsson, & Koskninen, 2008).

For studies II, III, and IV, data from spring 2011 and spring 2013 were used. On both occasions, school principals, schools boards, youth workers, and members of youth councils were informed about the project and invited to review the questionnaire prior to data collection. Parental consent was obtained for students under the age of 15, but only a small proportion of students (< 1 % for each cohort) were omitted from the samples in this way. Students were informed about the purpose of the project before completing the anonymous questionnaire in class, either online or on paper. To account for reading abilities and questionnaire familiarity, 7th graders completed a shorter version of the questionnaire than 9th graders.

Within the target region, there are 27 upper primary schools for grades 7–9, with about 2,250 students in each grade. In spring 2011, a total of 23 schools and 3,300 students at 7th or 9th grade completed the survey, whereas 25 schools and 3,645 students completed the survey in 2013. The average response rate within participating schools was 82% in 2011 and 83% in 2013.

Data from the OYS-11 was used in Study II, while data from OYS-13 was used in Studies III and IV. Since not all measures were included in the questionnaires aimed at the younger students, only 9th grade students

participated in Study III, whereas both 7th and 9th grade students were included in Studies II and IV (see Table 1 for a socio-demographic overview of the study samples, and Chapter 2.3 below for details on data preparation and handling of missing data).

Table 1
Socio-demographic description of the samples in Studies II–IV.

	Dataset	N	Age (M, SD)	Gender (boys)	Grade (9th grade)	School language (Swedish)
Study II	OYS-11	2,424	14.2 (1.0)	47%	55%	47%
Study III	OYS-13	1,115	15.1 (0.5)	49%	100%	55%
Study IV	OYS-13	3,447	14.3 (1.0)	51%	52%	49%

2.2. Measures

2.2.1 Peer victimization

Peer victimization was measured with three items from the Mini Direct and Indirect Aggression Scale by Österman (2010). Respondents were asked how often, on a scale from 0 (never) to 4 (very often) they had been the victims of physical (i.e. being hit or kicked), verbal (being ridiculed or insulted), and indirect aggression (being left out or being maliciously gossiped about behind one´s back) by their peers. For Studies II and III, the three items were combined to form a general scale on peer victimization, which showed adequate reliability (Cronbach's $\alpha_{\text{study II}}$ = .75; $\alpha_{\text{study III}}$ = .75).

For the purpose of multinomial regression in Study IV, the items were dichotomized and combined into one variable that indicated whether or not a student had been often or very often victimized (i.e. had scored a 3 or a 4) by at least one form of peer aggression (1 = frequently victimized by at least one form of peer aggression, 0 = not frequently victimized).

2.2.2 Internalizing behaviors

Internalizing behaviors were operationalized as depressive symptoms (Studies II and IV) and anxiety symptoms (Study III). Both depressive symptoms and anxiety symptoms were measured with five items each from the Brief Symptom Inventory by Derogatis (1975). Recent testing of BSI divergent validity has also argued that the depression and anxiety scales may tap into general distress rather than specific mood or anxiety symptoms (Lancaster, McCrea, & Nelson, 2016).

To measure depressive symptoms, respondents were asked how often, on a scale from 0 (never) to 4 (very often) they had been suffering from feelings of hopelessness, worthlessness, loneliness, apathy, and feeling blue. The scale showed good reliability ($\alpha_{\text{study II}}$ = .88; $\alpha_{\text{study IV}}$ = .89).

To measure anxiety symptoms, respondents were asked how often they had experienced nervousness, being suddenly scared for no reason, feeling fearful, having spells of panic, and feeling so restless that they could not sit still. The scale showed good reliability ($\alpha_{\text{study III}}$ = .89).

For Study III, the scale for anxiety symptoms was used both at the level of the individual and aggregated at the classroom level as a proxy for classmate psychosocial resources. For Study IV, the scale for depressive symptoms was categorized at +/- 1 standard deviation to indicate low, medium and high levels.

2.2.3 Aggressive behavior

Aggressive behavior was measured with three items from the Mini Direct and Indirect Aggression Scale by Österman (2010). Students were asked how often, on a scale from 0 (never) to 4 (very often) they had been using physical, verbal, and indirect aggression against someone. The scale showed adequate reliability in all studies (Cronbach's $\alpha_{study\ II}$ = .74; $\alpha_{study\ III}$ = .74; $\alpha_{study\ IV}$ = .78).

For Study III, aggressive behavior was used both at the level of the individual and aggregated at the classroom level as a descriptive norm. For Study IV, the scale for aggressive behavior symptoms was categorized at +/- 1 standard deviation to indicate low, medium and high levels. Due to data characteristics, this categorization resulted in two categories: one for low/medium levels, and one for high levels of aggressive behavior.

2.2.4 Peer rejection and peer support

Peer rejection was operationalized in Study III by the question "Do you have any close friends?" and with the response options "zero", "one", "two" and "three or more". Because the percentage of students without any close friends (3%) was considered to be too low for reliable analysis, the variable was dichotomized into rejected (no close friend or at most one, 10% of the study sample) and not rejected (at least two close friends, 90% of the sample). The variable was used both at the level of the individual and aggregated at the classroom level as a proxy for classmate psychosocial resources.

Peer support was measured in Study IV with four items from the Multidimensional Scale of Perceived Social Support by Zimet, Dahlem, Zimet, and Farley (1988). Students were asked to what extent they agreed, on a scale from 0 (completely disagree) to 4 (completely agree) with statements such as "my friends really try to help me" and "I can count on

my friends when things go wrong". The scale showed good internal consistency (Cronbach's $\alpha_{study\ IV}$ = .89), and was categorized at +/- 1 standard deviation to indicate low, medium and high levels of support.

2.2.6 Physical punishment

Physical punishment was measured in Study II with four items from the Brief Physical Punishment Scale by Österman and Björkqvist (2007). Respondents were asked how often, on a scale from 0 (never) to 4 (very often), they had been pulled by the hair, pulled by the ear, hit with a hand, and hit with an object, by an adult. The scale showed adequate reliability (Cronbach's $\alpha_{tudy\ II}$ = .77).

2.2.6 Family economy

To measure family socio-economic status in Study III, students were asked to what extent they experienced that their family had enough money. Ordinal scale options ranged from 1 ("no, we receive financial support from the social services") to 5 ("yes, we can buy anything we want"). The variable was dichotomized into poor family economy ("we can at best cover the basic needs") and good family economy ("we can buy what we want, as long as we prioritize").

2.2.7 Other measures

In addition to the aforementioned measures, the original studies also included items on participant gender and age (Studies II–IV), classroom aggregated gender distribution (Study III), and school language (Studies III–IV). Furthermore, data on school size were received from the school administrations for Study III.

2.3 Statistical analyses

Most statistical analyses were performed using the software package SPSS Statistics (versions 19–21). For Study II, the standard SPSS package was complemented by a macro for conditional process analyses by Hayes (2012).

2.3.1 Data preparation and preliminary analyses

Attempting survey research on a regionally representative sample, not least among teenagers, is prone to gather a certain amount of fake responses as students experience questionnaire fatigue or for other reasons choose not to respond in an honest way.

In order to minimize the amount of fake responses, a system of 21 so-called "red flags" was developed within the OYS project. For example, respondents claiming to be 12 years old yet attending 9th grade (where mean student age is around 15 years), or those with full scores on both depressive symptoms and global self-esteem, were marked with a red flag. Respondents with only one red flag were still included, whereas respondents with five or more flags were invariably excluded from the data. Respondents scoring between two and four flags were categorized as unresolved, whereby a group of project assistants manually examined the response patterns for unresolved cases and decided to include or exclude respondents from the sample. Based on this procedure, 7% of the students (8% of the boys and 6% of the girls) were removed from the OYS-11 and 6% of the students (7% of the boys and 6% of the girls) from the OYS-13.

Even with their best intentions, survey participants may still miss or choose to omit certain items within a questionnaire. For Study II, which was based on the OYS-11, missing data was handled by list-wise deletion so that respondents who did not provide valid scores on all variables were omitted from the final analysis. For Studies III and IV, which were based on the OYS-13, missing data was imputed by the expectation-maximization (EM) algorithm by Dempster, Laird and Rubin (1977). Compared to list-wise deletion, EM imputation is regarded as a superior technique for handling missing data as it only requires data missing at random, not completely at random (see Enders, 2010).

Scale variables were screened for skewness and kurtosis, and extreme outliers were collapsed onto the nearest non-extreme value. All scales were standardized to avoid multicollienarity between main variables and interaction terms.

2.3.2 Correlational analysis

Correlational analyses were used to survey the relationship between continuous variables in Studies II and III. Specifically, correlations between mediators (Study II) and between multilevel independent variables (Study III) were screened to avoid suspicion of multicollienarity. Furthermore, Fisher's *r*-to-*z* transformation was used to compare the strength of bivariate correlations between subsamples, for example to see whether the relation between aggressive behavior and peer victimization would be stronger for boys than for girls (Colman, 2008).

2.3.3 Conditional process analysis

Conditional process analysis is used to investigate the mechanisms (mediators) and circumstances (moderators) that account for the effect of one variable on another (Preacher & Hayes, 2008; see also Dearing & Hamilton, 2006). In Study II, two conditional process analyses were used to examine the mediating and moderating effects on the relationship between physical punishment, aggressive behavior, and peer victimization. In comparison to traditional techniques for mediation analysis where each regression coefficient is analyzed separately (Baron & Kenny, 1986; Sobel, 1982), the conditional process analysis uses a bootstrapping approach to build an empirical approximation of the sampling distribution and to construct confidence intervals for the indirect effects (Preacher & Hayes, 2004).

Although bootstrapping is computational-intensive in comparison to ordinary linear regression models, bootstrapping approaches have been shown to produce less Type I problems in mediation analyses (MacKinnon, Lockwood, Hoffman, Wet, & Sheets, 2002). Furthermore, the conditional process model has the advantage of being able to accommodate multiple mediators and moderators in the same model and thus allows the researcher to examine not only the combined indirect effect but also the relative magnitude of specific indirect effects. For Study III, 5,000 bootstrap samples were used to calculate bias-corrected 95 percent confidence intervals.

2.3.4 Multilevel modelling

Multilevel modelling was used in Study III to examine individual, classroom-level and cross-level effects on peer victimization. An unconditional null-model was employed to separate victimization variance into within- and between-classroom components, and intraclass correlation and design effect coefficients were calculated to test whether a multilevel approach was warranted (Muthén, 1991; Peugh, 2010). Student- and classroom-level variables, as well as random slopes and cross-level interactions, were introduced and examined in a series of models (see Study III for details). All models were estimated with a 2000 iteration Full Information Maximum Likelihood (FIML) estimation, and likelihood ratio tests were used to compare models.

In addition, a test for equality of regression coefficients by Paternoster, Brame, Mazerolle, and Piquero (1988) was used to compare the effects of student and classroom level variables and to explore the extent to which classroom variation in victimization prevalence was due to compositional or integral effects. That is, whether the differences between classrooms should be attributed to individual characteristics of the victims, or to features of the classroom ecology beyond the student level.

2.3.5 Multinomial logistic regression

Multinomial logistic regression was employed to examine overlap and distinctions between victims of peer aggression and victims of bullying in Study IV. As an extension of binary logistic regression, multinomial regression assesses the probability of participants being in each of several outcome categories relative to a reference category from a set of predictor variables. Multinomial regression thus allows researchers to disentangle conceptual overlaps and to avoid an erroneous rejection of a null hypothesis. Within Study II, this translated into comparing victims of peer aggression, victims of bullying, and convergent, multi-identified victims, with non-victims by means of psychosocial adjustment indices.

Because SPSS does not automatically compare relative strengths of odds ratios across outcome categories, post-hoc analyses were completed by re-running the model with different reference categories. This allowed an assessment to be made of whether and to what extent types of victims

differed not only from non-victims but also from each other, in terms of psychosocial adjustment characteristics.

2.4 Ethical considerations

The original studies included in this thesis were designed, reviewed and undertaken to ensure integrity and quality. The studies adhere to the principles concerning human research ethics of the Declaration of Helsinki (World Medical Association, 2013), as well as guidelines for the responsible conduct of research of the Finnish Advisory Board on Research Integrity (2012).

For the contemporary studies (Studies II, III, and IV), questionnaires were completed on a voluntary basis as part of a regional youth participation project, with parental consent required for participants under the age of 15 years. To ensure a fair burden for participating schools, school reports with descriptive statistics were compiled and distributed to schools with more than 30 participants (cf. Cohen, Manion, & Morrison, 2000). Local and regional panel discussion meetings with students, politicians and civil servants were also arranged to highlight specific themes in the surveys, including peer victimization. To ensure confidentiality, data was anonymized before the analysis, and the results of the original studies do not highlight specific classrooms, schools, or municipalities.

The first author of the original studies received funding for doctoral studies from Åbo Akademi University as well as from several foundations and non-profit organizations, including Svenska Kulturfonden, Högskolestiftelsen i Österbotten, Svensk-Österbottniska Samfundet, and the International Society for Research on Aggression (ISRA). No conflict of interest was declared for any of the original studies.

3 Overview of the original publications

3.1 Study I: Anthropological aspects of ostracism

The purpose of the study was to examine the role of ostracism and social exclusion as social control mechanisms among nomadic forager band societies (NFBS), a type of social organization believed to be most reminiscent of early human social life.

According to ethnographic reports, independent living outside the band structure is virtually non-existent for the NFBS, not least because food is accessible mainly through intensive cooperation and division of labor (Marshall, 1961; Turnbull, 1983). The ethnographic reports furthermore portray ostracism as a strong form of social control that may even fill a role similar to that of a death sentence, and that the mere threat of ostracism is enough to promote conformity to unspoken social norms for most nomadic foragers (Boehm, 1999; Marshall, 1961).

Furthermore, the study identified the main reasons for ostracism in the NFBS as free-riding, forbidden sexual relations, and non-conformist/disrespectful behavior. Typically, the targets of ostracism are described as aggressive, selfish, or unusually dominating (see Honigmann, 1954; Guisinde, 1937; Turnbull, 1965). These characteristics stand in stark contrast to the goals of childhood socialization in the NFBS, which are to create individuals that are generous, cooperative, and neither bossy nor arrogant (Boehm, 1999). While the threat of ostracism as well as other milder forms of social control such as gossip, shaming, or criticism are intended to reform non-conformists and social deviants, ostracism is used as a last resort to protect the group from further misbehavior in cases of incorrigible repeat offenders or those who commit the most serious violations.

The study thus supported the notion by Spoor and Williams (2007) that a sensitive ostracism-detection system would have been highly functional and adaptive in the evolutionary past, at the level of the individual. At the same time, the effectiveness of social exclusion to strengthen group norms and protect the group members from potential danger would also seed the ground for mechanism of peer victimization.

3.2 Study II: Exploring the effects of physical punishment on peer victimization and aggression: A conditional process analysis

The purpose of the study was to examine the influence of family environment on peer victimization, as well as to test whether such an influence would be mediated by victim internalizing or externalizing behaviors, or moderated by victim gender. A conditional process model was applied to investigate the relationship between physical punishment, peer victimization, aggressive behavior and depressive symptoms.

Preliminary analyses indicated that both peer victimization and aggressive behaviors were robustly correlated with experiences of physical punishment. The link between physical punishment and peer victimization was partly mediated by both aggressive behavior and depressive symptoms, and more pronounced for girls than for boys.

In an alternative model, the link between physical punishment and aggressive behavior was partly mediated by peer victimization but not by depressive symptoms. Within this second model there was also support for a moderated mediation, as the mediating effect of peer victimization was stronger for girls than for boys.

In conclusion, the study complemented previous research on physical punishment by highlighting the connection to not only aggressive behavior and depressive symptoms but also to peer victimization, suggesting a mesosystemic effect of the family environment on victimization by peers.

3.3. Study III: Psychosocial maladjustment at the student and classroom level as indicators of peer victimization

The purpose of this study was to examine the influence of the classroom ecology, in the form of classroom norms of aggressive behavior and bystander psychosocial resources, on the prevalence of victimization. After preliminary analyses indicated that a significant proportion of victimization variance in the Ostrobothnian schools was due to classroom-level factors, a multilevel approach was used to investigate aggressive behavior, anxiety symptoms and peer rejection as indicators of peer victimization, both within and between classrooms.

Each form of psychosocial maladjustment was found to predict peer victimization within classrooms. That is, both internalizing and externalizing behaviors, as well as peer rejection, were associated with increased peer victimization. Moreover, victimization was also predicted by students' family economy, suggesting an exo-level effect of the parental work-life situation on adolescent peer relationships.

Contrary to expectations, the study did not find any significant results for a person-group dissimilarity hypothesis; that is, the suggestion that individual characteristics are more likely to predict victimization within certain environments where these characteristics are non-normative. Nor were any other cross-level interactions found to influence victimization prevalence.

However, classrooms with a higher prevalence of aggressive behavior were shown to suffer more from peer victimization, beyond compositional effects of aggressive victims. Similarly, classrooms with a higher proportion of rejected students were found to suffer relatively more from peer victimization than classrooms with lower proportions of rejected students. That is, victimization was more common in classrooms where aggressive behavior was normative and where bystanders were short on social support. Both results thus support the notion that micro-level characteristics of the peer group are important for the understanding and prevention of peer victimization.

3.4. Study IV: Victims of frequent peer victimization and/or bullying

This study was methodologically less complex than Studies II and III, yet the theme was firmly set on victimization methodology. The purpose of the study was to examine psychosocial differences and similarities between students that reported experiencing peer victimization and/or bullying victimization. Multinomial logistic regression was applied to examine the psychosocial profiles of teenagers that reported frequent peer victimization, episodes of being bullied, neither, or both.

Bullying victimization and peer victimization were found to be partly overlapping constructs as 32% of the students who reported frequent peer victimization also reported episodes of bullying, whereas 60% of those that reported bullying victimization also reported frequent peer victimization.

The results indicated that convergent, multi-identified victims were the most likely to report high levels of depressive symptoms. However, frequent peer victimization and bullying victimization were also each uniquely associated with more depressive symptoms than non-victimization. The study thus found support both for the suggestion that relational dynamics beyond victimization frequency influence the severity of victimization experiences (Solverg & Olweus, 2003), as well as the notion that peer victimization in itself is connected to poor mental health, regardless of whether students identify themselves as bullied or not (Turner et al., 2014).

Furthermore, in comparison between frequent peer victimization and bullying victimization, the former showed a stronger association to student aggressive behavior, whereas the latter showed a stronger connection to lack of social support. Suggested interpretations are that aggressive students with good social support are less likely to become victims of bullying, or, alternatively, that aggressive students are more reluctant to frame themselves as victims of bullying (Green et al., 2013).

4 Discussion

To reiterate, the purpose of the thesis was to examine the connections between peer victimization and psychosocial maladjustment at both the individual level and multiple contextual levels. In the following sections, the results and methods of the original studies are discussed, and suggestions for future studies and implications for praxis are made.

4.1 Results of the original studies in relation to existing research

Previous research has established a solid connection between peer victimization and internalizing behaviors. While internalizing behaviors are typically described as symptoms of peer victimization, several studies have found evidence for bi-directional relationships and symptom-driven pathways from mental ill-health to the experience of victimization (Reijntjes et al., 2010; Troop-Gordon, 2017; Vaillancourt et al., 2013). For example, Kochel et al. (2012) have argued that such explanations are consistent with "scar" theories of depression, whereby earlier negative experiences can leave lasting personality changes and interfere with later emotion regulation and social skill development (psychosocial scars), which in turn increase the risk for negative peer experiences[9]. Similarly, Storch and Ledley (2005; Cook et al., 2010) have suggested that victims of peer aggression may be targeted on the basis of perceived affective and behavioral vulnerabilities (cf. Björkqvist et al., 2011, on the concept of "victim personality").

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[9] Within psychopathology research, the "scar hypothesis" has been used to account for deficits in dealing with daily problems due to earlier depressive episodes (O'Grady, Tennen, & Armeli, 2010) and, in general, to test whether personality is altered by mood disorders (Christensen & Kessing, 2009; Rohde, Lewinsohn, & Seeley, 1994). The alternative hypothesis, the vulnerability or "trait marker" hypothesis, posits preexisting characteristics that render some individuals vulnerable to daily stressors, regardless of earlier depressive episodes. It should be noted that within the field of peer victimization, the suggestion of symptom-driven pathways from mental ill-health to experiences of victimization does not exclude trait marker models, and that Kochel et al. (2012) do not distinguish between the competing models. However, the scar theory analogue appears apt to describe how physical punishment might contribute to long-term social difficulties and negative peer experiences (cf. Study II).

In accordance with previous studies, internalizing behavior in the form of depressive symptoms (Studies II and IV) and anxiety symptoms (Study III) was found to be strongly and significantly related to experiences of peer victimization in the samples of Finnish adolescents. Specifically, by disentangling peer victimization and bullying victimization, Study IV confirmed a strong connection between peer victimization and depressive symptoms, even for students who did not report episodes of victimization from bullying (cf. Turner et al., 2014).

Furthermore, Study II found depressive symptoms mediate the relationship between experiences of physical punishment and peer victimization. The link between physical punishment, internalizing behaviors, and peer victimization is understudied, but the results may well be interpreted in terms of scar theories (Kochel et al., 2012) or victim schemas (Rosen et al., 2007), so that children and adolescents who are victims of aggression internalize these experiences in ways that interfere with their self-regulatory capacity and social skills development, and thus increases the risk for later victimization by peers (see also Kim & Cicchetti, 2010).

At the microsystem level, preliminary analysis in Study III suggested that classrooms with higher aggregated anxiety symptoms also suffered from higher levels of victimization. However, when controlling for the classroom-level effects of aggressive behavior and peer rejection, the effect of aggregated anxiety was no longer significant, suggesting that descriptive norms of aggressive behavior and classroom social structure are more important contextual markers of victimization than aggregated levels of internalizing behaviors.

Turning to externalizing behaviors, aggressive behavior was found to correlate with experiences of peer victimization in the three survey-based studies (Studies II–IV). Moreover, non-conformist/disrespectful behavior, including aggressive behavior, was also suggested to be one of the main reasons for ostracism in the ethnographic reports of the nomadic forager bands (Study I). For example, it was noted that the Kaska Indians, one of the indigenous subarctic people of America, typically will avoid someone who is "to much mean, swear, cranky" (Honigmann, 1954, p. 40). This is in line with the peer victimization literature, in which aggressive behavior has been found to provide short-term protection

from victimization at best (Jansen et al., 2011) and to increase the likelihood of victimization in the long run (Moilanen et al., 2010; Reijntjes et al., 2011).

Furthermore, Study II found aggressive behavior to be a moderately strong mediator of the relation between physical punishment and peer victimization (and vice versa), indicating a vicious circle between experiences of victimization and the perpetration of aggressive behavior. However, as was shown in the multinomial regression analysis of Study IV, aggressive behavior may be primarily associated with experiences of peer victimization that the students themselves do not classify as episodes of bullying. As noted by Green et al. (2013; see also Sawyer et al., 2008), the word "bullied" may be at odds with students' self-image, and the findings of Study IV suggest that aggressive students in particular may be reluctant to define themselves as victims of bullying. Possibly, there might also be an important difference in victimization experiences between students using instrumental and reactive aggression, or, alternatively, between bully-victims and provocative victims. Further studies are however needed to investigate under what circumstances such distinctions are useful for researchers, practitioners, or students[10].

Moreover, aggressive behavior was not only associated with peer victimization at the individual level but also at the classroom level. According to Ender and Tofighi (2007), a group level correlation of this kind may suggest emergent properties on part of the aggregated variables, and as noted in Study III, the connection between aggregated peer victimization and aggressive behavior is partly conceptual, at least to the extent that victims of peer aggression will be found in the same classroom as the aggressors. However, the findings may also indicate that students in classrooms where aggression is normative will be less likely to intervene against peer victimization (Pozzolli et al., 2012; Sentse et al., 2015), not least as adolescents have been shown to be particularly weary

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[10] As noted be Arseneault (2018), it has been suggested that bully-victims represent a different group with different long-term outcomes than pure, non-aggressive, victims. However, the difference between bully-victims and aggressive, provocative victims has not been thoroughly examined, and Volk et al (2017) have even questioned the notion of bully-victims, claiming that the aggression by bully-victims does not appear to be goal-directed or successful.

of challenging group norms of bullying for fear of being rejected (Kollerva & Smolik, 2016). Standing up for the victim in such settings may be deemed to not only anger the perpetrator, but also to go against the group norm[11].

Study III also found a connection between peer victimization and peer rejection at both the individual and group levels. The correlation at the individual level was to be expected, as peer victimization has been suggested to be a step up and continuation of peer rejection (Bush et al., 2006; Casper & Card, 2017)[12]. However, the finding of a contextual effect at the classroom level, whereby classrooms with a higher proportion of rejected students suffered from more peer victimization beyond the effect of rejected students being victimized, extends current research literature. The results may indicate that bullying and peer victimization provide a kind of common activity in groups that lack genuine friendships and cohesiveness (cf. Garandeau & Cillessen, 2006). Alternatively, as suggested in study III, classroom-aggregated peer rejection may be taken as a proxy for bystander resources, and while Kollerva and Smolik (2016)

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[11] This may also be contrasted with the settings of the nomadic forager band societies (NFBS) where overt aggression is clearly non-normative, and the aggressor rather than the victim may be expected to be rejected by the community (cf. Honigmann, 1954). This may in part be explained by differences between provocative behavior of aggressive victims and the subtler behavior of students using aggression as a tool to gain dominance and popularity (cf. Volk et al., 2014). However, it should also be noted that the context and social structure of modern schools differ from (settings that resemble) pre-historic hunter-gatherer societies. For one thing, the threat of ostracism could be expected to promote conformity and cooperation in the NFBS, as independent living outside the band structure would be virtually impossible due to food acquisition techniques (Boehm, 1999; Marshall, 1961; Turnbull, 1983). In our modern societies, the schools, in comparison, seem to put more value on individual competency and competition, while students also lack the means to choose their own classmates.

[12] At first glance, these results may seem to run counter to Study IV, where victims of peer aggression-only reported as much peer support as non-victims. The fact that convergent victims, who reported experiences of both peer victimization and bullying victimization, received less support than non-victims could indicate that levels of peer support is mainly associated with experiences of bullying victimization and that the face value association between peer victimization and lack of peer support only applies to a subgroup of victims. It should also be noted that whereas Study III operationalized peer rejection as having at most one friend, Study IV used a scale measure of perceived peer support. Nevertheless, further studies are encouraged to explore the extent to which a lack of support acts as a social trigger for (increased) victimization, versus a personal trigger for labeling victimization experiences as bullying victimization.

have noted that other students may be reluctant to associate with a victim due to fear of being picked on themselves, the findings of Study III suggest that this effect may be particularly strong in classrooms with less social cohesion. Again, this may be compared with the strong kinships of the NFBS, where it literally takes a village to raise a child, and where victims of chronic aggressors will have more people to stand up for them.

Contrary to expectations, Study III did not find the role of student characteristics to vary as a function of classroom descriptive norms. That is, aggressive students were not more victimized in classrooms where aggressive behavior was non-normative, nor were anxious students more victimized in one setting or the other. These results are not in accordance with the person-group similarity model, according to which the acceptance of an individual's behavior depends on the degree to which the behavior is aligned with the behavioral norms of the group (Wesselmann et al., 2014; Wright et al., 1986). In contrast, Chang (2014) found, in a Chinese sample of middle-school students, social withdrawal and aggression to be more accepted in classes with a high average level of such behaviors, and Saarento et al. (2013) found that the effect of social anxiety on peer victimization was stronger in smaller classrooms whereas the effect of peer rejection on peer victimization was stronger in larger classrooms, in a sample of Finnish elementary school students. One explanation for the lack of significant cross-level interactions in Study III could be the lack of statistical power due to a relatively small number of second-level units, i.e. classrooms (Wilson van Voorhis & Morgan, 2007). It might also be that the macrosystem characteristics of the Finnish school system make psychosocial maladjustment indices, such as anxiety, peer rejection, and aggressive behaviors, invariant indicators of victimization in adolescence. Further studies are needed to explore conceptual, developmental, and cultural aspects that may account for context-dependency of peer victimization correlates (Wright et al., 1986).

In addition to illuminating the microsystemic effects of the school classroom, the original studies highlight the role of the family, and in particular the connection between physical punishment and peer victimization. While physical punishment has been associated with a range of negative developmental outcomes (Gershoff & Grogan-Kaylor, 2016), few studies to date have directly explored the relationship between physical punishment and peer victimization (for exceptions, see Barker et

al., 2008; Björkqvist et al., 2011; Dussich & Maekoya, 2007; Lereya et al., 2015). In this thesis, Study II found a moderate relationship between physical punishment and peer victimization (equal in strength to that between physical punishment and aggressive behavior). Furthermore, this relationship was found to be partially mediated by both aggressive behavior and depressive symptoms, indicating various detrimental pathways from negative family experiences to negative peer experiences (cf Banny et al., 2013). The results are in line with the notion that child maltreatment correlates with lower emotional regulation on the part of the child, which in turn is associated with higher externalizing symptomatology and peer rejection (Kim & Cicchetti, 2010), as well as studies showing that adverse experiences in childhood may trigger neurobiological stress reactions with long-term detrimental effects on neural networks (Anda et al., 2006).

It has also been suggested that the social pain system, described in Study I as an evolved warning system that would have piggybacked onto the pre-existing (physical) pain system to alert individuals to the danger of social separation (cf. Eisenberg & Lieberman, 2005; Spoor & Williams, 2007), might, in order to effectively respond to natural variation in the human social ecology, be dynamic rather than static. That is, Chester et al. (2012) propose that an individual's social pain sensitivity is calibrated in the early life stages, so that frequency and intensity of social rejection in infancy and childhood influence how individuals respond to rejection signals in later life stages. As a protection against the negative health consequences of chronic rejection, individuals who have experienced constant maltreatment and rejection may thus have a numbed social pain system. However, while such a calibration may take the edge out of later rejection experiences, a numbed system may also increase the risk of missing social signals within the classroom and thus increase the risk for committing non-normative behavior and suffer exclusion by peers, as when bystanders report that the victim "had it coming" (cf. Thornberg, 2010). However, the connection between early rejection experiences within the family and later non-normative behavior among peers remains to be explored by future studies.

The role of the family was observed from another perspective in Study III, which found peer victimization to be related to poor family economy, beyond the impact of psychosocial maladjustment variables. As noted

earlier, family economy can be seen as representing the exo-system of Bronfenbrenner's (1979) socio-ecological framework, as children and adolescents have little influence over their parents' work-life situation, yet they experience the consequences of a poor economy both in terms of parental stress and parents' ability to provide status items and extracurricular activities. The association between low socio-economic status and peer victimization has also been suggested to be mediated by adverse home environments, to the extent that poverty is correlated with more violent disputes and experiences of physical punishment (Tippet & Wolke, 2007). Since previous studies have provided mixed findings on the role of family economy (Chaux et al., 2009; Jankauskiene et al., 2008; Jansen et al., 2011; Sourander et al., 2000; Tippet & Wolke, 2007), further studies are encouraged to examine the circumstances under which family economy may influence the quality of peer experiences.

School language, on the other hand, did not substantially affect the frequency of peer victimization or the associations between victimization and psychosocial maladjustment. According to the developmental intergroup framework (see Brenich & Halgunseth, 2016, Killen et al., 2012), representatives of ethnic minorities may be expected to experience more victimization than majority students as a result of society-level group-based status hierarchies. However, the intergroup frameworks have predominantly examined one-time instances of social exclusion rather than recurring peer victimization, and although some social minority groups, such as sexual minorities, have consistently been found to experience more harassment and aggression by peers (Bucchianeri et al., 2016), children from ethnic minority groups have not been consistently shown to experience more victimization than ethnic majority children (Espelage, 2014; Sawyer et al., 2008; Vitoroulis & Vaillancourt, 2015; however see also Spriggs et al., 2007). In addition, Finnish- and Swedish-speaking students typically attend separate schools in Finland (see also Kärnä et al., 2011).

4.2 Strengths and limitations

The unique strengths and limitations of the original studies included in this thesis are discussed in each paper (Appendix I–IV). However, there are also methodological strengths and limitations of the thesis as a whole. One of the strengths of the set of studies is that each of them brings

together a number of relevant constructs in the social ecology that may contribute to peer victimization and exclusion. Furthermore, the three survey-based studies share the methodological strength of a large sample size ($N_{Study\ II}$ = 2,424; $N_{Study\ III}$ = 1,115; $N_{Study\ IV}$ = 3,447).

For the ethnographic reports, the study sample professes both a strength and a limitation. To ensure consistent and high-quality data, a subsample of nomadic forager band societies were systematically identified through the standard cross-cultural sample (SCCS) based on existing rating criteria of other researchers (Murdock, 1967; White, 1989). Sampling bias was further circumvented by only reviewing so-called principal authority sources (PAS) for each of the selected societies (White, 1989). Through this two-fold process, the ethnographic material pertains to times and places when outside influence from the modern world was minimal (Ingold, 1999). As noted by Gray (2009), hunter-gatherer societies are not all carbon copies of one another yet their social structures are remarkably similar given their geographical spread. According to Gray (2009) (see also Bowles, 2009; Fry & Söderberg, 2013) this gives some level of confidence that they are likely to be similar to hunter-gatherer societies in pre-agricultural times. At the same time, it should be noted that the details of the data in the ethnographic reports are reliant on the interpretive techniques of the ethnographers. Together with the similarity in social structure among the NFBS, this circumstance restricts the opportunities to explore society-level characteristics that would account for variation in ostracism and exclusion practices. One suggestion for future research is to include semi-nomadic and settled societies to more systematically identify contextual characteristics that might have influenced the use of ostracism and other forms of social control techniques in early human societies. Another suggestion is to extend the ethnographic approach to modern times by conducting qualitative studies in the classrooms (cf. Boulton, 1999; Gumpel et al., 2014; Thornberg, 2011). By means of comparison, such an approach might also shed light on the extent to which evolutionary adaptive responses risk produce maladaptive outcomes in a specific setting such as the modern school system.

For the three survey-based studies, the authors had access to a representative and bilingual sample of Ostrobothnian adolescents through a regional youth participation project. Thanks to the fact that

questionnaires were completed mainly online during school hours, within-school participation rates were high (over 3,000 students in both OYS-11 and OYS-13, representing 82–83% of the students at 7th and 9th grade in the participating schools). Furthermore, the method of "red flags" developed within the project (see Study II) increased the likelihood that students who had not responded to the questionnaire in an honest way were excluded, thus enhancing the external reliability of the sample, while the handling of missing data was improved over the course of the doctoral period by moving from list-wise deletion to data imputation (Enders, 2010).

Most of the statistical analyses were performed with SPSS, a popular statistical software that is becoming increasingly adapt at performing computational-intensive analyses, with the help of modular add-ons. One example of such an add-on is the freely available macro PROCESS, by Hayes (2012), which utilizes a bootstrapping approach and allows for the estimation of multiple mediation. At the time of Study II, the bootstrapping approach was a relatively new alternative to the causal step approach by Baron and Kenny (1986; Sobel, 1982), although by now the macro is well-documented (Kretschmer, 2016). In the multilevel analysis, on the other hand, the statistics from the general linear model of SPSS was complemented by calculations of the intraclass correlation and design effect coefficients, which tested whether a multilevel approach was warranted (Muthén, 1991; Peugh, 2010), and a test for equality of regression coefficients, which allowed for the identification of integral versus compositional classroom level effects (Paternoster et al., 1998). The results would have been further enhanced by the use of path analysis and structural equation modeling (SEM), which would have provided goodness-of-fit indices for the models and allowed for the estimation of latent variable components (Muthén & Asparouhov, 2011). More advanced statistical tools would further restrict the potential impact of missing data by employing multiple imputation or maximum likelihood estimation. However, by upgrading and complementing SPSS with the aforementioned add-ons, the original studies were still able to explore more complex issues than those accessed by regular regression analysis, such as including multiple mediators and comparing individual- and group-level relationships.

Another limitation in the studies is the reliance on concurrent, cross-sectional data. The cross-sectional design means that the original studies primarily address the magnitude of the association between peer victimization and psychosocial maladjustment but do not test the direction of influence and cannot exclude the possibility of third-variable causes (although several cofounders were included to limit the scope of third-variable causes). A longitudinal design, in contrast, would have allowed for testing of both evocative effects and developmental cascades as well as in-depth exploration of victimization-maladjustment linkages in relation to student age (Troop-Gordon, 2017). Furthermore, longitudinal studies would be needed to examine the stability and persistence of victimization experiences and roles (see Hellfeldt et al., 2018), and to determine the cases in which physical punishment elicits internalizing versus externalizing behaviors in the child, and to what extent such effects are unidirectional or transactional (Jansen et al., 2001; Lansford et al., 2011; Sameroff, 2000).

Moreover, the second-level sample size of 54 classrooms in Study III provide limited statistical power to detect group-level effects in general and cross-level interactions in particular (Serdiouk et al., 2015), while the reliance on self-reports may have conflated correlations by shared method variance (Kretschmer, 2016). As noted by Casper and Card (2017), there is no gold standard for addressing interpersonal aggression and victimization, and the value of self-reports lays in the ability to capture experiences of victimization. Nevertheless, by including additional informants, future studies will be able to paint a broader picture of the topics addressed in the thesis, not least with respect to differences between peer victimization and bullying victimization. Future studies would also do well to include longer measures of direct and indirect victimization in order to highlight the connection to social exclusion and pre-victimized peer rejection, and to test whether the results hold true not only at the aggregated level of peer victimization sum scores but also for individual forms of victimization. Employing multi-informant assessment methods and investigating different forms of victimization might also provide a basis to look for gender-differential effects on group acceptance of group-dissimilar behaviors (cf. Boulton, 1999).

4.3 Implications for praxis and suggestions for future studies

4.3.1 Toward a unified framework of victimization studies

According to socio-ecological frameworks on human development, people are situated within multiple contexts that directly and indirectly influence their intra- and interpersonal development (cf. Bronfenbrenner, 1979; Hong & Espelage, 2012; Espelage, 2014; Tudge et al., 2009). As noted by Espelage (2014), an ecological perspective on adolescent behavior provides a rich framework, albeit not a uniform set of explanations, for identifying contextual factors that can be supported with appropriate interventions to promote healthy development. Here, the original studies suggest ways in which peer victimization is directly influenced by characteristics of the peer group, such as classroom aggression norms and bystander resources, and indirectly by characteristics of the family environment, such as physical punishment and family economy. Further studies are encouraged to include and test factors from multiple contexts in the same analysis to disentangle overlapping influences, explore interaction effects, and determine the most promising points of intervention (cf. Brendgen & Troop-Gordon, 2015; Jeong et al., 2013). For example, future studies could include both classrooms and self-selected peer groups as parallel social contexts for peer victimization, and contrast the effects of these peer contexts with that of the family.

Adolescent samples have been popular in the social sciences due to the convenience of survey studies, but most studies, including the original studies in this thesis, fail to specifically address the developmental processes of adolescence (Troop-Gordon, 2017). With technological advances promoting a growing interest in neuropsychology, developmental researchers have increasingly focused on the prenatal period and early childhood. At the same time, the falling age of puberty onset has been said to require a rewriting of the boundaries between childhood and adolescence, and some authors have called for researchers to investigate the transition between childhood and adolescence to enable a maximization of early investment (Johnson et al., 2011). An avenue for future research might be to design studies that permit testing of the later Bronfenbrenner's suggestion of proximal processes as the driving forces of development (Bronfenbrenner & Morris, 1998). Such studies would address enduring forms of interaction in the immediate environment and account for the role of time at both the level of the individual and the

societies, such as individual age and cohort effects (Tudge et al., 2009). Studies using neuroimaging techniques may also address to what extent victimization experiences in childhood affect changes in brain structures and functioning, and to what extent such changes influence later peer interaction (cf. Arseneault, 2018).

To facilitate cross-disciplinary understanding and promote theoretical development, the need for coherent terminology is evident (Casper & Card, 2017; Ren et al., 2017), not least due to the rise of online forms of victimization (Nocentini, Zambuto, & Menesini, 2015). In particular, the concept of bullying has been found to be difficult to pinpoint, and it has even been suggested that the peer victimization concept provides a more empirical and less constrained foundation for a field looking to become more evidence-based, than the bullying concept (Finkelhor et al., 2012; Schafer, Werner, & Crick, 2002). As noted by Smith et al. (2002, p. 1131), those who wish to generalize about the occurrence of bullying "face the problem of deciding which acts should be included as bullying", which amounts to "a decision by the researchers, not the children". Here it may also be noted that in Sweden, a country that reports the least bullying victimization in the world (Due et al., 2008), the National Agency for Education (Skolverket, 2011) has chosen to focus on repetition and the victim's perception of intent, but not on power imbalance, in their measurement of bullying, and has increasingly replaced the concept of bullying with the concept of equal treatment (see Ahlström, 2009). Similarly, although Volk et al. (2012) want to keep the concept of bullying, they have suggested a re-conceptualization of the phenomenon as goal-directed behavior that promotes adolescent bullies' evolutionary-relevant somatic, sexual, and dominance goals. In terms of measurement, Volk et al. (2012) recommend researchers to assess specific behaviors as well as the goals of bullying, frequency ratings, and the experience of harm.

The thesis also supports the call for more research on developmental pathways between psychosocial maladjustment and victimization experiences (Moilanen et al., 2010; Vaillancourt et al., 2013). From a developmental psychopathology perspective, the concept of multifinality suggests that children and adolescents who experience maltreatment and victimization may traverse various pathways that lead to a diverse array of outcomes (Banny et al., 2013; Cicchetti & Rogosch, 1996; Drabick &

Kendall, 2010)[13]. By investigating individual responses to adversity, such analyses may better identify the contexts and timings under which stress exposure in the form of physical punishment and peer victimization might be particularly harmful (Pollak, 2015). Furthermore, cascade models may explore the extent to which victimization experiences and social interactions within one domain impact on functioning in other areas (Masten & Cicchetti, 2010; Vaillancourt et al., 2013), such as in the case of poly-victimization (Finkelhor et al., 2007, 2011).

Furthermore, since genetic and environmental influences are confounded within families, genetically informative studies are required to more thoroughly investigate the role of the family on peer victimization (cf. Frick & Viding, 2009; Raine, 2002; Tuvblad et al., 2006). As noted by Ball et al. (2008), introverted parents may have introverted children as a result of genetic transmission, over-controlling parenting, or both. According to Tuvblad et al. (2006), we still have a very limited understanding of how genes and environment contribute to differences in aggressive behavior, and the same holds true for peer victimization, an area in which more research is needed to examine the extent to which genetic influence is moderated and exacerbated by environmental factors.

Recently, several researchers have argued that efforts to understand and prevent peer victimization may be improved by the integration of developmental and social psychology principles (Brenick & Halgunseth, 2017; Hymel et al., 2015). However, as noted by Hagell (2017), in an editorial to the *Journal of Adolescence* special issue on bullying, the field of victimization research has yet to integrate social psychological constructs into developmental studies, and, it might be added, to align findings from experimental studies with observation studies and interventions in non-laboratory settings. One reason for this discrepancy may be that while developmental and educational psychology have focused more on peer aggression than on peer victimization (Casper & Card, 2017; Juvonen & Graham, 2014), research on ostracism and social exclusion has focused more on the victims than on the perpetrators (Ren et al., 2017).

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[13] For comparison, research on antisocial behavior suggests distinct pathways through which children and adolescents develop such behavior, identifying childhood- and adolescent-onset groups with different outcomes and risk factors (Frick & Viding, 2009).

The current thesis includes survey studies that can be said to stem from a developmental psychology perspective on peer victimization (Studies II, III, and IV), as well as ethnographic reports on ostracism that touch upon perspectives from evolutionary and social psychology (Study I). However, further research is recommended to more systematically design studies that allow for methodological pluralism and that disentangle interrelated constructs such as indirect aggression, exclusion, discrimination, and stigmatization, and to determine the core mechanisms that provoke distress or foster resilience in each case. Specifically, such studies, either quantitative or qualitative, might provide for a more nuanced understanding of ongoing transactional processes between aggressors, victims, and bystanders that influence within- and cross-setting stability or instability of victimization experiences. Or, as noted by Troop-Gordon (2017, p. 119), studies that identify "in what contexts, for which youths, and through what mechanisms" factors, at both the individual and system levels, are linked to increased victimization.

As noted by Warburton and Anderson (2015), the greater the number of factors that researchers need to consider, the more difficult it is to determine how the factors interact with each other. On the other hand, it has also been said (Albert Einstein, quoted in Sameroff, 2010, p. 20): "Everything should be as simple as possible, but not simpler".

4.3.2 Guidelines for interventions

In the end, the question presents itself: So what should we do about it? School-based intervention programs for social and emotional development can be categorized based on their target group (Weare & Nind, 2011); that is, whether the goal is to help students at risk (indicated approaches) or with established problems (targeted approaches), or to promote positive outcomes by working with the entire school population (universal approaches). The latter can also be described in terms of a whole-school approach or setting focus, whereby the whole school is seen as the area of change rather than just the behavior and attitudes of the individuals.

In the 21st century, bullying and victimization programs have increasingly adopted a whole-school approach. This development might be due in part to the relative success of whole school programs such as

the Olweus antibullying program and the KiVa koulu program, and has been paralleled by a research focus on bystander roles (cf. Hagell, 2017) as well technological advancement that facilitates multilevel analysis. For example, a recent meta-analysis found that programs that practiced effective bystander intervention skills were more effective than those that did not (Polanin, Espelage, & Pigott, 2012).

It has been argued that programs that aim to reduce bullying and victimization should not only try to reduce the number of victimized children, but should aim to promote egalitarian classroom structures and cultivate norms that support diversity and inclusion (Brenick & Halgunseth, 2017; Huitsing et al., 2010; Hymel et al., 2015; Serdiouk et al., 2015). Such recommendations are supported by the findings of Study III, which showed that a significant proportion of victimization variance between classrooms could be attributed to social structure and aggression norms.

At the same time, the results from the original studies also strongly suggest that intervention and prevention efforts must not forget about the individual-level psychosocial characteristics of the victims. It is also worth mentioning that evaluations of the effectiveness of school-based intervention efforts against bullying and victimization have yielded limited effect sizes (Jiménez-Barbero et al., 2016; Merrell et al., 2008; Park-Higgerson et al., 2008), in particular for adolescent samples (cf. Kärnä et al., 2011; Yeager et al., 2015). It has been suggested that statistically limited effect sizes may still provide a substantial real-world impact (Zych et al., 2015), and that the small effects for universal approaches is due to a ceiling effect, whereby groups with less overt problems do not have the same room for improvement (Adi, Schrader McMillan, Kiloran, & Stewart-Brown, 2007). However, there have also been suggestions that universal approaches may become too diluted and vague and that intervention programs may need to redress the balance between universal and targeted approaches somewhat in favor of more work on targeted approaches (Weare & Nind, 2011). Crucially, the acquisition of social and emotional skills have been associated with a wide range of positive outcomes, including reductions in depression and anxiety (Blank et al., 2009) and improvement in conflict resolution (Garrard & Lipsey, 2007; Waddell et al., 2007). It has also been suggested that a combination of anti-bullying and mental health interventions may offer the best results

(Sourander et al., 2016), which would be in line with the suggested reciprocal processes between psychosocial maladjustment and victimization experiences. In addition, funds should also be invested to help victims of bullying to build resilience and to limit distress and adjustment difficulties (Arseneault, 2018).

At the same time, it is worth stressing that victimization is an exposure rather than a behavior (Tuvblad et al., 2009). Thus, looking for evidence for symptom-driven pathways or genetic influences does not imply that victimization is a personality trait, but acknowledges that certain factors may influence children's behavior in such ways as to increase the likelihood of becoming victimized. In other words, the conceptualization of internalizing and externalizing behaviors as antecedents of victimization must not be taken to support the practice of blaming the victim. Possibly the last thing victimized children need is for someone to tell them they are themselves to blame for their situation, in particular as such interpretations may be used by perpetrators to justify further victimization (cf. Salmivalli & Teräsahjo, 2003; Thornberg, 2010). At the same time, in order to effectively intervene at a long-term basis against peer victimization, adults must not overlook individual characteristics[14].

Neither does a refocus on victim skills and competences diminish the role of system-level efforts. On the contrary, the interventions suggested to be most effective are those developed from a multidisciplinary perspective directed at improving social and interpersonal skills and modifying attitudes and beliefs (Jiménez-Barbero et al., 2012), that is, where individual level skill work is embedded in a whole-school approach that embraces diversity (including diversity based on mental wellbeing) and empowers bystander intervention against bullying and peer victimization. Moreover, working at a contextual level can also strengthen individual victims, as peers and teachers act as socialization agents in the development of social cognitions and behaviors (cf. Ettekal et al., 2015).

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[14] For children and adolescents who do blame themselves for being victims, it has also been noted that there is a distinction between behavioral self-blame ("It's something about what I did") and characterological self-blame ("It's something about the way I am"), where the latter has been found to be associated with more severe ill-health (Graham & Juvonen, 1998).

However, it should be acknowledged that in most schools and local communities, resources for prevention programs are limited. Given the mixed findings on the effectiveness of intervention programs, it has been suggested that it might be a misuse of resources to sustain such programs in high schools (Skolverket, 2011; Yeager et al., 2015). In a more moderate tone, several authors have underlined the importance of tailoring intervention programs to local contexts in order to ensure implementation quality and fidelity (Farrington & Ttofi, 2009; Haataja et al., 2014). That is, schools seeking prevention programs may be advised to prioritize those that will be easiest to successfully implement in their settings. Moreover, even if well designed, interventions are only effective to the extent that they are implemented with clarity, intensity, and fidelity (Weare & Nind, 2011). Here it might also be noticed that using specialist staff to deal with school-based victimization may be effective in the short-term but is unsustainable in the longer term and for larger-scale interventions. Long-term prevention efforts must thus utilize available resources such as teaching staff, student organizations, and, not least, parents. However, these agents, in turn, need informed and continuous training to acquire the required tools to strengthen victims and provide beneficial environments (Helltfeltd et al., 2018).

In addition to supporting school-based programs, the original studies highlight the family environment as a potential target for intervention and prevention measures. While school-based interventions can provide the turning point for adolescents from disadvantageous home environments (Weare & Nind, 2011), researchers have noted that most anti-bullying programs neglect potentially important contexts outside of the school environment and thus miss important sources of adolescents' learning and norms (Ettekal et al., 2015). Specifically, helping parents to effectively use inductive techniques should arguably be a widespread practice to prevent maltreatment. Moreover, Ettekal et al. (2015) have suggested that when the attitudes and beliefs that people receive via multiple socializing agents are concordant, they are more likely to internalize these values and apply them in social interactions, whereas when the messages are discordant, the influence of one agent may be tempered or suppressed by others.

In conclusion, the purpose of this thesis was to examine the association between peer victimization and psychosocial adjustment at both

individual and system levels. To this purpose, ethnographic reports from nomadic forager band societies around the world were reviewed, and regionally representative survey studies were conducted among adolescents in Ostrobothnia, Finland. Given the methodological limitations noted above, the original studies contribute to a growing body of research on contextual factors related to victimization, and highlight the importance of considering both individual characteristics and contextual influences. The thesis addresses meso- and exosystem variables that are still understudied (Zych et al., 2015) and supports the notion that preexisting factors such as family violence may contribute to victimization experiences in adolescence (Jansen et al., 2001; Troop-Gordon, 2016).

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Patrik Söderberg

Not Only Bad Luck

Studies on Peer Victimization and Social Exclusion from a Multilevel Perspective

Adolescent victimization and social exclusion are universal phenomena with long-term negative mental health consequences. Meanwhile, studies on the effectiveness of anti-bullying programs have yielded mixed result.

This thesis adopts a multilevel approach to explore the bi-directional relationships between psycho-social maladjustment and peer victimization, in settings that participants have little to no choice but to belong to, such as nomadic forager band societies, modern high-school classrooms, and the family environment.

Based on the results, the thesis suggests that whole-school programs should continue to promote inclusiveness and diversity, but should also acknowledge the impact of individual characteristics and family adversities on peer victimization.