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Bullying and Victimization at School

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VRIJE UNIVERSITEIT

Bullying and Victimization at School

ACADEMISCH PROEFSCHRIFT

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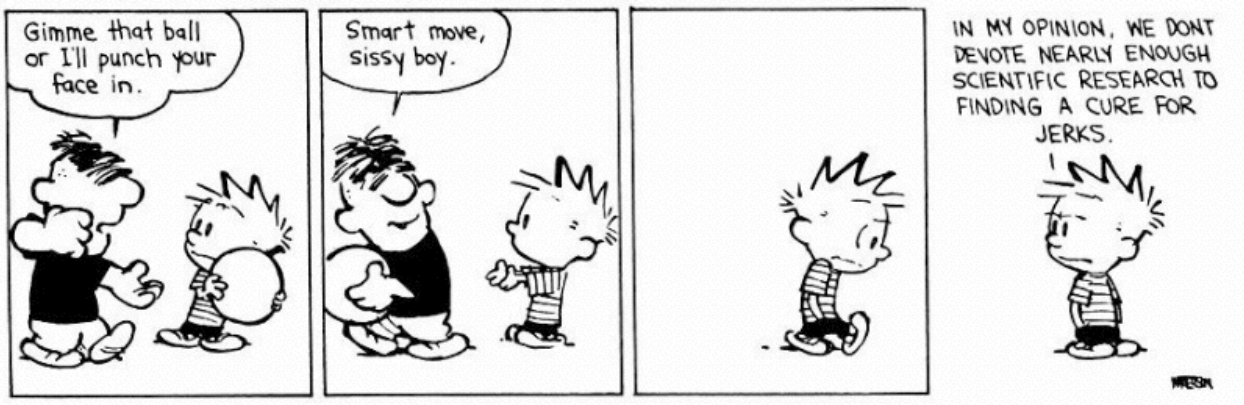

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To my travel mates

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Preface

The last thing one discovers in writing a book is what to put first

Blaise Pascal

The present work deals with bullying and victimization at school. These topics are receiving increasing research attention on account of the personal and social costs involved.

Bullying and victimization are tendencies in child behavior that follow a specific pathway (from early childhood to adult life). These tendencies are reinforced and become stable when children start to interact on a regular basis with peers, i.e. during kindergarten and primary school. The particular focus is therefore on bullying roles in the peer group at school, and on the type of aggression, cognitions and emotions related to involvement in bullying.

The present study is an effort to contribute to research into bullying and to focus on areas of the bullying process that have not yet been fully covered. First, the study aims to investigate whether being involved in bullying (either as a bully, a victim or in some other role) is stable through time. Second, the association between involvement in bullying and different types of aggression (i.e. reactive and proactive) is examined. Third, because little attention has been given in past studies to the way in which children involved in bullying process social information and express their emotions, our goal is to contribute to this area and investigate cognitions and emotions in these children. Finally, this study addresses how children imagine that one can best intervene in bullying; it goes on to explore how these opinions are related to children's role in the bullying situation, an area not yet dealt with in the literature.

Two methodological features enhance the reliability and validity of this study. First, the design of the study was longitudinal and covered a period of two years, with data collected at three points in time. The reason for collecting longitudinal data is that bullying and victimization are behaviors that develop through time and become more and more serious when they stabilize. Consequently, we considered it to be very important to test the same subjects several times in order to investigate whether the same roles are played after an interval of one or two years, which gives the research more validity than a one-off assessment.

The second important methodological feature employed in the present study was the use of a multimethod and multiagent approach, meaning that peer reports, self-assessments and teacher judgements have been collected. We used peer nominations to assess each subject's role in the bullying process, and self-reports and teacher judgements to assess other constructs linked to the involvement in bullying. A detailed presentation of the different methods used in past studies to detect bullying, and the justifications of our choices are given in section 1.6 and 1.10 (Chapter 1), respectively, while Table 1 in this preface presents an overview of the instruments used in our work.

This thesis consists of eight chapters, the first one and the last being the introduction and conclusion. Four of the eight chapters have been published or submitted to international journals as scientific articles. Thus, although there may be a degree of

redundancy, they have the advantage that they can be read as separate articles and not only as part of the thesis.

In the *first chapter* we review research on bullying. Definitions are given and the characteristics of the bully and the victim are described, taking account of gender differences. Stability of bullying and victimization and a presentation of the different ways to measure bullying are dealt with as well. In addition, an overview of research on reactive and proactive aggression, social information processing and emotions is given, because these processes appear to be important explanations for involvement in bullying. Finally, the research questions guiding our work are presented.

The *second* and the *third chapters* describe research into the link between involvement in bullying and reactive and proactive aggression. The two studies used two different peer report methods to assess bullying. Our aim was to investigate whether being a bully or a victim was related to different types of aggression. In addition, Chapter 2 also deals with stability of bullying and victimization after a one-year interval.

The *fourth* and the *fifth chapters* investigate involvement in bullying and social information processing, pointing also to the role of reflection versus acting on impulse in constructing a response to provocation, and to the expression of emotions, respectively.

The *sixth chapter* is a presentation of the results of children's opinions on the effectiveness of intervention strategies proposed to a different sample than the one used in the longitudinal studies. (In this case, only one point in time has been considered). Children were interviewed about what they considered to be the best ways to stop bullying. In addition, the relationship between their choices and their role in the bullying situation was addressed.

The *seventh* and final *chapter* contains a general discussion and some conclusions. An overview of the results from the various studies is presented, and an analysis of the strong and weak points of the research is given. Suggestions for further research are proposed to enhance our knowledge of bullying.

Table 1
Samples and Respective Instruments Used in the Different Chapters of the Thesis

Assessments	*N*	Chapters	Peer reports	Self-reports[a]	Teacher reports
T1	236	2, 4	AVS	PS	
T2	242	2, 4	AVS	AS	RePro
T3	242	3, 5	PRS	AS, SEQ, EOQ	RePro
S2	309	6	PRS	EIQ	

Note. T1, T2, T3 = longitudinal sample at three different points in time; S2 = separate sample not included in the longitudinal design; AVS = Aggression and Victimization Questionnaire; PRS = Participant Role Scale; PS = Provocative scenarios; AS = Ambiguous scenarios; SEQ = Self-efficacy Questionnaire; EOQ = Expected Outcome Questionnaire; EIQ = Effective Intervention Questionnaire; RePro = Reactive and Proactive Aggression Questionnaire.
[a]All the self-reports, except the EIQ, were used to uncover social information processing.

1

Bullying, aggression, cognition and emotion: Theory and findings

It is the theory that decides what we can observe

Albert Einstein

This chapter presents theoretical notions and research on bullying at school. Its purpose is to give an overview of the most relevant studies on the topic, and to discuss definitions of bullying, characteristics of the children involved, gender differences in involvement and the consequences of having been bullies and victims later in life. Various methods of investigating bullying are presented. Since the thesis contains research on reactive and proactive aggression, social information processing and emotions, these concepts are introduced and their relevance to a study of the bullying phenomenon is shown. Finally, in the last paragraph, we explain the research questions that guided our research, together with the reasons for our choice of peer reports.

1.1 International interest in bullying

Although bully-victim problems are well known and have a long history in the school context, the phenomenon has been studied systematically and given scientific prominence only since the early 1970s in Scandinavia (Olweus, 1978). And only in the late 1980s/early 1990s did the subject of bullying receive scientific attention in other European countries, in the United States and Canada, in Australia and in Asia (cf. Smith, Morita, et al., 1999, for a cross-national perspective). In Europe, numerous studies were conducted in almost all countries, including Finland (Lagerspetz, Björkqvist, Berts & King, 1982; Salmivalli, Lagerspetz, Björkqvist, Österman & Kaukiainen, 1996), Germany (Schäfer, Werner & Crick, 2002), Greece (Andreou, 2000), Ireland (O'Moore & Hillery, 1989), Italy (Genta, Menesini, Fonzi, Costabile, & Smith, 1996), Malta (Borg, 1999), the Netherlands (Bokhorst, Goossens, Dekker & De Ruyter, 2000; Junger-Tas & van Kesteren, 1999), Norway (Roland, 2000), Spain (Garcia & Perez, 1989), the United Kingdom (Boulton, 1999; Boulton & Underwood, 1992; Smith & Brain, 2000; Whitney & Smith, 1993). Recently, Peter Smith set up and coordinated a European project, the "Nature and Prevention of Bullying" (Training and Mobility of Researchers Network Project [TMR], n.d.), which involved several countries (the United Kingdom, Germany, Italy, Spain and Portugal). Definitions of bullying have also been given in many languages in fourteen countries spanning the world (Smith, Cowie, Olafsson, Liefooghe, 2002).

In the United States, it was the work of Pellegrini, Bartini and Brooks (1999), Perry, Kusel and Perry (1988), Crick and Grotpeter (1995) and Kochenderfer and Ladd (1996a, 1996b, 1997) which focused on bullying, while in Canada Craig and colleagues (Craig, 1998; Craig & Pepler, 1995) investigated bullying and victimization. Forero, McLellan, Rissel and Bauman (1999) and Rigby and Slee (1991; 1995) conducted research into bullying in Australia. In addition, similar research is being carried out in China

(Schwartz, Chang & Farver, 2001), Japan (Hirano, 1992; Kanetsuna & Smith, in press) and Korea (Schwartz, Farver, Chang & Lee-Shin, 2002).

The incidence of bullying and victimization varies depending on the measures used to detect it (peer reports, self-reports, observation, diaries), the age of the target children, their culture (e.g. in some cultures aggression is more acceptable than in others, where inhibition is considered a value), and the school under examination (disadvantaged schools may report more children with behavioral problems, cf., Ciucci, Smorti, and Fonzi, 1997). There are also differences in the criteria employed by researchers to investigate the frequency of bullying. In fact, some studies used frequency measures (e.g. "often", "once a week") (Boulton & Underwood, 1992; Genta, et al., 1996; Whitney & Smith, 1993), while others did not (Boulton & Smith, 1994; Hirano, 1992). Figures on the prevalence of bullying in different countries are presented in Table 1.1.

Table 1.1
Overview of the Prevalence of Bullying and Victimization in Different Countries

Study	% Bully	% Victim	Frequency category
O'Moore & Hillery, 1989 (Ireland)	3%	8%	Once a week or more
Olweus, 1991 (Norway)	7%	9%	Now and then or more
Craig, 1998 (Canada)	7%	12%	Not specified
Salmivalli, Lagerspetz, et al., 1996 (Finland)	8%	12%	Not specified
Whitney & Smith, 1993 (UK)	4%-12%	10%-27%	Once a week-sometimes
Genta et al., 1996 (Italy)	8%-21%	17%-42%	Once a week-sometimes
Pellegrini et al., 1999 (USA)	14%	19%	Not specified
Borg, 1999 (Malta)	15%-36%	25%-41%	Frequent-occasional
Bokhorst et al., 2000 (Netherlands)[a]	16%-25%	15%-39%	Last five days-regularly
Junger-Tas & van Kesteren, 1999 (Netherlands)	20%	22%	Regularly
Forero et al., 1999 (Australia)	25%	12%	In this term

Note. Age of the samples ranged from 7 to 12 years. Decimals have been rounded off to the closest whole number. All these studies made use of self-reports, with the exception of Salmivalli et al., where peer reports were employed.
[a]Age range 5.5 to 7 years old.

1.2 What is bullying?

1.2.1 Definition

Bullying is a phenomenon present in all age groups and in many different situations (e.g. school, work, clubs, organizations), characterized by aggressive behavior towards those who are considered weaker and who are unable to respond.

Dan Olweus (1978, 1979, 1984, 1991, 1993, 1994) was one of the first researchers to investigate bullying and to define it, claiming that "a person is being bullied or victimized when he or she is exposed, repeatedly and over time, to negative action on the part of one or more persons" (1991, p. 413). He studied the characteristics of bullies and victims, provided figures about prevalence and stability, and designed a self-report measure (Olweus, 1983) to detect the bullies and the victims. With the passing of time, more studies focused on bullying, and new issues arose. But almost all the studies on the topic started from Olweus's pioneering work. Farrington (1993) defined bullying as psychological or physical oppression, repeated over time, perpetrated by powerful persons on less powerful persons. Smith and Thompson (1991) also stressed the physical or psychological characteristics of bullying, which is usually intentional, unprovoked, repeated, and in which the bully is stronger than the victim. Randall (1997, p. 4) employed a similar definition: "Bullying is aggessive behavior arising from the deliberate intent to cause physical or psychological distress to others".

All definitions of bullying have some important points in common. Thus, to sum up, we can say that bullying is a particular form of aggression (direct or indirect), aiming to harm, unjustified, intentional and unprovoked, frequent and repeated over time, in which the victims are oppressed by force or threats, are perceived to be weaker or less powerful than the bullies and are unable to defend themselves. In this study we limit ourselves to bullying in the school context, particularly in the context of class or group.

1.2.2 Different forms

Bullying may take different forms (Rivers & Smith, 1994). Direct bullying includes both physical and verbal harassment (Olweus, 1993; Boulton & Underwood, 1992): hitting, kicking, pushing, teasing, calling names, or insulting, but also damaging other's property or stealing. On the other hand, relational bullying causes harm through damaging or controlling relationships with peers (Björkqvist, Lagerspetz & Kaukiainen, 1992; Crick, Casas & Mosher, 1997; Crick, Casas & Ku, 1999; McNeilly-Choque, Hart, Robinson, Nelson & Olsen, 1996; Schäfer et al., 2002; Wolke, Woods, Bloomfield & Karstadt, 2000). Crick and Grotpeter (1995, p. 711) included in relational aggression forms of harassment such as "excluding a peer from one's play group, purposefully withdrawing friendships or acceptance in order to hurt or control the child, and spreading rumors about the child so that peers will reject him/her".

Whitney and Smith (1993) found that more than 50% of bullying takes the form of name calling, which is followed by hitting, threatening and spreading rumors. Baldry and Farrington (1999) and Borg (1999) also found that name calling was one of the most frequently used types of bullying against both boys and girls. Although Boulton and Underwood (1992) claimed that teasing was the most common type of bullying, it is worthwhile differentiating between teasing and bullying. Teasing is a milder and more playful type of aggression (Smith et al., 2002), which takes the form of joking, annoying, provoking or making fun of someone. Van Sligtenhorst (2000) found that bullying causes more offence, hurts more and gives rise to a greater emotional response (anger, shame,

embarrassment and humiliation) than teasing. Furthermore, being bullied leads to aggressive responses, while being teased does not. Teasing is not usually included in studies of bullying.

1.2.3 Who is involved?

Bullying is a phenomenon which involves one or more bullies against one or more victims (Junger-Tas & van Kesteren, 1999; Olweus, 1993) and which usually takes place when several peers are present (Craig & Pepler, 1997; O'Connell, Pepler & Craig, 1999; Pepler & Craig, 1995). In fact, almost the entire group is involved and everyone plays a role, either in reinforcing the bully or in helping the victim, or simply in acting as the "necessary public" in front of which the bully performs in order to show power and dominance (Craig & Pepler, 1995; Menesini & Gini, 2000; Salmivalli, Lagerspetz, et al., 1996; Sutton & Smith, 1999). Bullying, like other peer behaviors, is influenced by social networks. Children who are similar to each other tend to form cliques (Cairns & Cairns, 1991; Salmivalli, Huttunen & Lagerspetz, 1997) and when aggressive children join with aggressive peers such close friendships may serve as a context in which aggression is maintained or reinforced. Once the group is formed, each member is influenced by the others (Menesini & Gini, 2000). What is more, the victims may be chosen by the bullies on the basis of certain characteristics, such as providing tangible rewards, giving signs of suffering and being unable to retaliate (Perry, Williard & Perry, 1990). Thus, bullying can be considered as the result of individual characteristics and social context (environment and group of peers). Through their behavior, almost all children help to maintain bullying or reduce it. There are children who support the bullies (laughing, inciting or keeping the victim still), children who help the victims (consoling them, showing their friendship and empathy, talking to the bully or getting angry with the bully), and children who simply observe the situation (Salmivalli, Lagerspetz, et al., 1996). Even those children who pretend not to be involved are actually part of the scenario in which bullying takes place, through not taking sides.

1.2.4 Where does bullying take place?

Adults are usually not as aware of bullying as peers are (Olweus, 1993), since harassment and threats are carried out when teachers or parents are absent. Some studies (Baldry & Farrington, 1999; Borg, 1999; Junger-Tas & van Kesteren, 1999; Whitney & Smith, 1993) claimed that bullies prefer rest rooms or playgrounds and break time or recess for their activities, i.e. places and moments in which they are not (or insufficiently) supervised and their actions can be hidden from adult eyes. However, because bullies and victims often belong to the same class, bullying also occurs in classrooms. Some bullying also takes place on the way to and from school, or just outside the school (Boulton & Underwood, 1992; Glover, Gough, Johnson & Cartwright, 2000; Olweus, 1993; Whitney & Smith, 1993). Bullying increases when teachers are not able to keep order, when too many pupils do not like school, or when the support given by the school to problematic children is not enough (Junger-Tas & van Kesteren, 1999).

1.2.5 How do children cope with bullying?

Although victims of peer harassment have been found to be at risk for maladjustment (see paragraph 1.5.2), there are also children who seem not to be affected by abusive peers (Kochenderfer-Ladd & Skinner, 2002). Problem-solving strategies, seeking support, ignoring or avoidance are all strategies which help children to cope quite

successfully with bullying, at least when conflicts are not too severe. Nonchalance has been found to be the best strategy to make the bully stop (Salmivalli, Karhunen & Lagerspetz, 1996).

Factors that protect against bullying have also been found, such as having friends (Bukowski, Hoza & Boivin, 1994; Hodges, Boivin, Vitaro & Bukowski, 1999; Pellegrini et al., 1999), and adult intervention to stop harassment (Hoover, Oliver & Hazler, 1992). Unfortunately, only half or less of bullied children tell adults or peers (Rigby & Slee, 1995; Whitney & Smith, 1993), although higher percentages have been found in other studies (Junger-Tas & van Kesteren, 1999). Teachers have been perceived to intervene more often than peers (Menesini et al., 1997; Whitney & Smith, 1993), although only one third of them tried to stop bullying regularly and still fewer talked to pupils about their being bullied (Boulton & Underwood, 1992).

1.2.6 What are the causes of bullying and becoming a victim?

Although the origin of the bullies' and victims' behaviors is not a goal of the present work and will not be tested in the empirical sections, we present here a brief overview of the literature on this topic. According to Boulton and Underwood (1992) bullies claim they harass others because they have been provoked (which was also found by Junger-Tas and van Kesteren, 1999); sometimes they do not even know why they bully. Victims think they are bullied because they are weaker and unable to defend themselves. However, victims often do not see any reason for their being bullied, which is also claimed by those children not involved (cf. Whitney and Smith, 1993).

Of course, deep-rooted causes of bullying behavior may be found in temperament and genetic endowment, in family and cultural background, in school climate and policy (Olweus, 1993; Rigby, 1997; Ross, 1996). For instance, it has been claimed (Olweus, 1993, p. 39) that "too little love and care and too much 'freedom' in childhood" on the part of parents, as well as physical punishment, are conditions which increase the likelihood of developing a pattern of aggressivity (cf. Olweus, 1978). Junger-Tas and van Kesteren (1999) also found that one of the strongest predictors of bullying and delinquency was lack of supervision by parents, who often did not know where and with whom their children spent their spare time. Aggressive children have been found to be reared in a punitive and cold family and to be exposed to aggressive adult models (Baldry & Farrington, 2000; Dodge, 1991; Olweus, 1980; Schwartz, Dodge, Pettit & Bates, 1997), who may act as reinforcers of their aggressive behavior (Fonzi, Ciucci, Berti & Brighi,1996).

On the other hand, overprotection in the family (Olweus, 1993; Rigby, 1997) may cause victimization, as may authoritarian, non-playful and non-spontaneous parents (cf. Randall, 1997). Fonzi et al. (1996) found that victims perceived their parents as indifferent when they reported victimization to them. However, further research is needed to uncover the causes of victimization. Schwartz et al. (1997) claimed that aggressive victims (i.e. bully/victims) were characterized by past harsh and abusive home enviroments and were often the object of physical abuse at home. Furthermore, aggressive victims often witnessed violence between adults at home.

Personality characteristics such as impulsiveness or low empathy will be discussed in the following paragraph, but we will not focus any further on the causes of bullying and victimization.

1.3 Bullies' and victims' characteristics

1.3.1 Bullies

Bullies use their strength and power to dominate and to reach their goals. They have a positive attitude towards aggression (Lagerspetz et al., 1982; Pellegrini et al., 1999) and seem to enjoy inflicting suffering on others and controlling them. Their aggression is often directed not only towards their peers, but also towards teachers, parents and other adults (Olweus, 1991, 1993). Children who bully are very dominant, disruptive and impulsive (Björkqvist, Ekman, & Lagerspetz, 1982; Boulton & Smith, 1994).

Sutton (2001) and Sutton, Smith and Swettenham (1999b) advanced the hypothesis that bullies are socially skilled because they are able to achieve their aims with the use of manipulation. This can be the reason for their having high self-esteem (Junger-Tas & van Kesteren, 1999; Olweus, 1993), although lower than children not involved in bullying (O'Moore, Kirckham & Smith, 1997). However, their self-esteem can in fact only reflect an inflated, narcissistic view of themselves (Salmivalli, 2001b; Salmivalli, Kaukiainen, Kaistaniemi, & Lagerspetz, 1999). Cairns and Cairns (1991) suggested that even if aggressive children had the same level of self-esteem as non-aggressive children, they valued different behaviors. Although bullies seem to recognize emotions (Sutton et al. 1999b), they lack empathy and the capacity to understand others' sufferings (Ciucci & Smorti, 1999; Kaukiainen et al., 1999).

Bullies' sociometric status is inconsistent across studies. Bullies can be much disliked by the peer group (Pellegrini et al., 1999), over-represented in the rejected group and under-represented in the popular group (Boulton & Smith, 1994; Crick et al., 1997). On the other hand, they have also been found to be very popular (Ciucci & Smorti, 1999; Espelage & Holt, 2002), to hold the position of leader and to have many friends, although these friends are usually bullies themselves who engage in antisocial behavior (Dishion, Andrews & Crosby, 1995; Pellegrini et al., 1999). We think that age may play a role, and that younger children see the bullies as strong leaders to be imitated, but when they grow up, social norms become more internalized and children start to reject and condemn bullying.

1.3.2 Victims

Victims are usually physically weak, insecure, quiet and withdrawn. They feel helpless when harassed and usually react by crying (Salmivalli, Karhunen, et al., 1996), suffering in silence or showing forms of submission; sometimes they pretend not to be affected or they show no reaction (Junger-Tas & van Kesteren, 1999). Although Olweus (1993) did not find any physical risk factor for being a victim (except weakness), there is evidence that victims often present physical deviance (e.g. obesity) or handicaps (e.g. defects in sight or speech) (Glover et al., 2000; Lagerspetz et al., 1982). Sometimes even more trivial features, such as wearing the wrong make of clothes, can be sufficient reason for being bullied (Junger-Tas & van Kesteren, 1999).

Victims lack self-esteem (Egan & Perry, 1998; Junger-Tas & van Kesteren, 1999; Lagerspetz et al., 1982; Rigby, 1997) and feel stupid, physically unattractive (Björkqvist et al., 1982) and lacking in athletic ability (Boulton & Smith, 1994). They are unhappy and suffer from anxiety and depression (Boivin, Hymel & Bukowski, 1995; Boulton & Underwood, 1992; Fox, Rotenberg & Boulton, 2001; Huffman & Watson, 2001; Olweus, 1978; Slee, 1994). Poorer health has also been found to be a characteristic of victims (Rigby, 1997).

A lack of friends and feeling alone are also characteristics of victims (Ciucci & Smorti, 1999; Schwartz, McFadyen-Ketchum, Dodge, Pettit & Bates, 1999), but these could also be risk factors for being the target of victimization. In fact, children who can count on good friends are more protected against harassment than those who lack such interpersonal help (Bukowski et al., 1994; Hodges et al., 1999; Pellegrini et al., 1999). As Hodges, Malone and Perry (1997) claimed, if victims have friends, these may help in different ways: the victim is less often alone and thus is less available as target, the bully may fear retaliation by the victims' friends, and friends provide advice on how to cope with harassment and threats. In the social context, victims usually have lower levels of peer acceptance in comparison to bullies and children not involved, and are more often rejected by their classmates (Boulton & Smith, 1994; Crick, Casas, et al., 1999; Perry et al., 1988).

1.3.3 Bully/victims

Some studies (Perry et al., 1988; Schwartz, McFadyen-Ketchum, Dodge, Pettit & Bates, 1998) found that victimization is highly correlated with both internalizing and externalizing behavior. This externalizing behavior (characterized by aggression, disruptiveness, antisocial behavior) is more typical of *bully/victims* (or provocative victims), who act as both bullies and victims. They harass and threaten those who are weaker than themselves, but they are also the target of bullying by ringleader bullies, who can count on their power and strength. Bully/victims appear to be anxious, hyperactive and aggressive. They retaliate in the face of adversity and use aggression to defend themselves when frustrated, but their counter-aggression is usually ineffective (Egan & Perry, 1998; Pellegrini et al., 1999; Salmivalli, Karhunen, et al., 1996) and only results in making the bully even more ruthless. Rigby (1997) advanced the hypothesis that their behavior is due to the fact that they are unable or unwilling to retaliate directly against the bully, but the level of their anger and frustration is so high that they pick on someone else, usually a weaker child.

Because provocative victims possess characteristics both of bullies and victims, they share loneliness and rejection with the victims, and moral disengagement and lack of empathy with the bullies (Ciucci & Smorti, 1999). The sum of these characteristics makes them a group at risk of maladjustment which deserves particular attention, as illustrated in paragraph 1.5.2.

1.4 Gender differences

Almost all the studies on bullying considered gender as well and investigated whether boys and girls are differently involved. Many researchers (Boulton & Smith, 1994; Forero et al., 1999; Kochenderfer & Ladd, 1996b; Whitney & Smith, 1993) claimed that girls are bullied as often as boys, but that they are less often found in the role of bully. The general trend however is that boys seem to be more involved in bullying than girls either as bully or as victim (Boulton & Underwood, 1992; Borg, 1999; Espelage & Holt, 2002; Lagerspetz et al., 1982; Olweus, 1993). However, this might be only a first impression, since recent studies have found that the main difference between boys and girls is in bullying style (Crick & Grotpeter, 1995; Whitney & Smith, 1993). Boys use more physical aggression, while girls tend to be aggressive in a verbal, relational and indirect way (e.g. damaging someone's reputation, refusing friendship, isolating the victim) (Björkqvist et al., 1992; Crick et al., 1997; Crick, Werner, et al., 1999; McNeilly-Choque et al., 1996; Schäfer et al., 2002). Reasons may lie in social stigmas and expectancies (Salmivalli, Lagerspetz, et al., 1996). Boys use overt aggression to gain acceptance and such behavior is both more common and judged more positively than in girls. On the other hand, girls are

reared to be polite and nice and outbursts of direct aggression are unusual and judged negatively. Björkqvist et al. (1992) claimed that because girls develop social and verbal skills faster than boys, they are more skilled at indirect aggression. We could hypothesize that boys use direct aggression more often because their physical strength is greater than girls'. Because bullying among girls takes more subtle and often hidden forms, it is more difficult to detect and agreement among informants is more difficult to achieve, compared to more overt types of aggression (Crick & Bigbee, 1998; Crick, Werner, et al., 1999; Björkqvist et al., 1992; Olweus, 1993). Thus, it may appear that girls are less involved in bullying, but this may be the result of bias if bullying is seen as a direct and observable behavior. When indirect bullying is investigated, then girls may be expected to be involved too.

Boulton (1999) found that boys, but not girls, who spend much time in sedentary activities or who are often alone may be the target for other peers who are inclined to bully. This can be explained by social norms, since boys' friendships are usually based on strength, power and movement and it is quite uncommon for a boy to remain alone or not to join activities. Whereas boys' friendships are loose, girls prefer dyadic interactions and intimacy with friends, who often protect them from being victimized (Crick, Werner, et al., 1999).

The strategies used by boys and girls to cope with bullying seem to be different. Girls usually react with helplessness, while boys generally respond with counter-aggression (Kochenderfer & Ladd, 1997; Salmivalli, Karhunen, et al., 1996; Smith, Shu & Madsen, 2001). Kochenderfer-Ladd and Skinner (2002) claimed that while boys cope with conflict alone, girls prefer to seek external help.

It has also been found that girls are more worried and troubled by social and relational aggression (Crick, Werner, et al., 1999; Paquette & Underwood, 1999) and more upset by bullying than boys (Menesini et al., 1997). This emotional response, together with their empathic and pro-social attitudes, makes them more prone to intervene than boys (Rigby & Slee, 1991; Salmivalli, Lagerspetz, et al., 1996). Girls also talk with peers about being bullied twice as often as boys (Cowie, 2000; Junger-Tas & van Kesteren, 1999), maybe because of their close friendship ties or because boys think more often than girls that they have to cope with harassment alone and not show any weakness.

1.5 Stability of bullying and victimization and developmental paths

1.5.1 Stability across time

Bullying is not an isolated phenomenon, but is a sign of aggressive tendencies, which have been found to be stable with the passing of the time (Farrington, 1993; Olweus, 1978, 1979) and which can assume different forms (fighting, stealing, carrying weapons). Bullying and victimization among children have been also found to be stable through time (Boulton & Smith, 1994; Khatri, Kupersmidt & Patterson, 2000; Kochenderfer & Ladd, 1996a, 1997; Perry et al., 1988; Salmivalli, Lappalainen & Lagerspetz, 1998), and to lead to behavioral and psychological problems in adolescence and adult life.

Bullies persist in their behavior (Borg, 1999; Junger-Tas & van Kesteren, 1999; Olweus, 1991; Whitney & Smith, 1993): older children who bully remain more aggressive towards their younger peers within the same school (Boulton & Underwood, 1992; Kochenderfer & Ladd, 1996b; Olweus, 1993). However, it seems that there is a decrease in victimization with age. Smith, Madsen and Moody (1999) suggested the following reasons for this decrease. First, within the same school, younger children have more children who are older than they are by whom they can be bullied. Then, with the passing of time,

victims become more skillful in avoiding the aggression of the bully or in developing a kind of indifference. Finally, younger children may have a different definition of bullying and perceive and report any negative behavior (i.e. fighting) as bullying. A method bias may also occur (Junger-Tas & van Kesteren, 1999): older children do not talk much about being bullied in order to not lose face and could, therefore, deny victimization when asked to answer questions. This suggestion is consistent with the findings of Salmivalli (2001a), who found that a decrease in victimization with age did occur, but only in self-reports and not in peer and teacher reports. However, Boulton and Underwood (1992) pointed out that it is the relative age of children within a school which determines who the bullies and the victims are, which implies that bully-victim problems do not decrease with (absolute) age.

Although victimization and aggression (both physical and relational) are present even in preschool (Crick, Casas, et al., 1997; 1999), it has been found that they reach their peak and become stabilized in middle school, i.e. around 11 years old (Björkqvist et al., 1992; Eslea & Rees, 2001; Perry et al., 1988). Olweus (1978; 1979) showed that aggressive patterns observed between 8 and 12 years old correlate with similar patterns many years later. Furthermore, Pellegrini et al. (1999) found that in the period of early adolescence the incidence of bullying and victimization is higher than in other periods. Pellegrini (2002) suggests that this is due to the fact that bullies make use of dominance to get access to resources, and in this period of life an appealing resource is the opposite sex, opening up possibilities of romantic relationships and sexual activity. There is also evidence (Espelage & Holt, 2002) that it is in middle school that bullies define their role, after moving up from elementary school. The reasons might be that the oldest pupils in the middle school serve as a model for the youngest, who can learn and display bullying in order to be accepted (Espelage & Holt, 2002; Pellegrini et al., 1999).

The type of bullying changes with the passing of the time. Among primary school children direct and physical bullying is more common than among older children (Borg, 1999), perhaps because it is easier and it does not need any particular cognitive skill. But as children grow up, their verbal and social skills develop and they seem to prefer more refined bullying strategies, such as indirect methods (accusing, blackmailing, excluding) (Björkqvist et al., 1992; Rigby, 1997).

1.5.2 Consequences of bullying and victimization

It has been demonstrated that the consequences of bullying can be serious both for bullies and victims, who may develop relationship and behavioral problems in adult life (Gilmartin, 1987; Rigby, Whish & Black, 1994). Bullies often display antisocial behaviors, such as truancy, dropping out of school, delinquency, violence, alcohol abuse (see Loeber, 1990, and Loeber & Dishion, 1983, who studied aggressive and disruptive children), and are at risk for psychiatric disorders, such as attention deficit disorder and conduct disorder (Kumpulainen, Räsänen & Puura, 2001). Loeber and Le Blanc (1990) investigated the developmental paths of deviance and criminality. They found that there is a continuity between juvenile and adult offending and that almost all adult delinquents in their study had been antisocial in their childhood (see also Farrington, 1991; Pettit, 2000). Baldry and Farrington (2000) suggested that bullying may be an earlier stage in the development of delinquency, because bullies tend to be younger and delinquents older.

Victims, on the other hand, may develop short-term emotional consequences, such as lowered self-esteem, higher levels of depression, loneliness, anxiety and a negative appraisal of interpersonal competence (cf. Hawker and Boulton, 2000, for a review). Sometimes their fear increases so much that they tend to avoid areas in and around the school, depriving themselves of important social experiences (Ross, 1996). Furthermore,

fear, hate and a low perception of self-worth make victims lose interest in school and this may be an obstacle to reaching high levels of academic performance (Junger-Tas & van Kesteren, 1999; Rigby, 1997; Ross, 1996). Internalizing symptoms often occur in victims (Kumpulainen & Räsänen, 2000) and a connection between victimization and suicide has been found (Rigby, 1997). One of the long-term consequences for victims is the risk of social withdrawal in adulthood. Men and women who were victimized in their schooldays have problems in achieving intimate relationships with members of the opposite sex (Gilmartin, 1987). Olweus (1991) found that victims suffered from low self-esteem and depression as much as ten years after they had been bullied. However, there are also studies which indicate that being victimized in childhood results in becoming a bully later on, such as reports about former victims who abuse their wives in adult life (Rigby et al., 1994). We may assume that these victims were in fact bully/victims, who have often been found to be the group most at risk of social exclusion and low acceptance in the peer group (Andreou, 2000; Perry et al., 1988), of psychosocial, psychological and behavioral maladjustment (Glover et al., 2000; Haynie et al., 2001), of developing psychiatric symptoms (e.g. relationship difficulties, externalizing and internalizing behavior, Kumpulainen & Räsänen, 2000), psychosomatic symptoms and risk behaviors (e.g. smoking, Forero et al., 1999).

In short, social and personal maladjustment is common in everyone directly involved in bullying, either as a bully, a victim or a bully/victim, and the effects may be long-lasting.

1.6 Methods and instruments to detect bullying

Different measurement strategies are available for assessing behavior: direct observations, asking those involved (e.g. self-reports, diaries), or asking those who observe and are around (e.g. peer, teacher reports). These methods have also been used in the case of bullying and each of them has advantages and disadvantages (McNeilly-Choque et al., 1996; Pellegrini, 2001; Pellegrini & Bartini, 2000; Rigby, 1997; Wolke & Stanford, 1999). We now present an overview of the most common methods used in investigating bullying.

1.6.1 Direct observations and teacher reports

Direct observations of bullying (Atlas & Pepler, 1998; Craig & Pepler, 1997; Hawkins, Pepler & Craig, 2001) allow an objective view of the child which is not biased by the internal dynamics of the group. On the other hand, observations incur sampling problems, depend on available resources and may be limited because they might not uncover a long sequence of actions, failing in this way to reveal whether the behavior is repeated through time. Furthermore, it is very difficult to detect relational aggression by way of direct observation (Crick, Werner, et al., 1999). Teachers (Stephenson & Smith, 1989) have experience with children and are able to identify their behaviors and problems. Unfortunately, the way in which they perceive behavior may be different from the children's view. What is more, because bullying takes place when there are no adults around, it is likely that teachers underestimate its occurrence (Junger-Tas & van Kesteren, 1999).

1.6.2 Self-reports

The majority of studies on bullying have been based on self-reports or peer reports, so more attention will be given to these methods. Many studies of bullying used self-reports (Austin & Joseph, 1996; Borg, 1999; Boulton & Underwood, 1992; Craig, 1998;

Junger-Tas & van Kesteren, 1999; Pellegrini et al. 1999; TMR, n.d.), either as based on Olweus' questionnaire (1983) or as new instruments. Self-assessments provide an individual's perception of his/her own role, because each child is the best informant about him/herself. Anonymity and confidentiality enhance the reliability of the responses of victims (who could otherwise be afraid of retaliation from bullies) and bullies (otherwise afraid of social sanctions) (Pellegrini, 2001). Nevertheless, self-reports may be influenced by the social impression children want to give. Bullies tend to underestimate their own aggression (Österman et al., 1994; Rigby, 1997), because they fear social stigma and wish to be looked upon favorably. Self-reports for victimization have yielded controversial results. Österman et al. (1994) found that victims overestimated their role in comparison to peer reports, whereas according to Rigby (1997) and Salmivalli, Lagerspetz, et al (1996) it was the other way round, i.e. victims denied their status. Menesini and Gini (2000) and Sutton and Smith (1999), comparing peer nominations with self-reports, found that children attributed to themselves the most socially accepted roles (e.g. defender) more often than any other roles.

1.6.3 Peer reports

Recent studies have made use of peer reports (Boulton, 1999; Lagerspetz et al., 1982; Perry et al., 1988; Salmivalli, Lagerspetz, et al., 1996; Schwartz, McFadyen-Ketchum, et al., 1998) because these provide a large number of judgements, and therefore minimize bias due to individual raters, increasing the reliability of assessments (Perry et al., 1988). Children are the best informants about bullying episodes because they are directly involved or have the opportunity to observe bullying closely. As a result they can provide exact information about who the bullies and victims are. Furthermore, peers are not affected by the desire to provide a good social image of themselves, which may be the case for self-reports. Although peer reports also have disadvantages (e.g. children are often biased by peer reputation and friendships; their judgements can fluctuate on the basis of specific events or moods, cf. McNeilly-Choque et al., 1996), they have been found to be the only measure to which all the others (i.e. observations, diaries and self-reports) are related (Pellegrini, 2001; Pellegrini & Bartini, 2000).

1.7 Reactive and proactive aggression

Bullies and some victims (provocative victims) display aggression, but their reasons, the outcomes and the ways in which this aggression is enacted are different. In studying bullies' and victims' behavior, it is therefore important to distinguish between different forms of aggression. One of the most common distinctions is the one between reactive and proactive aggression, proposed by Dodge and Coie (1987) and used by Dodge and his colleagues later on, as well as by other researchers (Brendgen, Vitaro, Tremblay & Lavoie, 2001; Brown, Atkins, Osborne & Milnamow, 1996; Crick & Dodge, 1996; Dodge, 1991; Dodge, Lochman, Harnish, Bates & Pettit, 1997; Pellegrini et al., 1999; Price & Dodge, 1989; Pulkkinen, 1996; Salmivalli & Nieminen, 2002). The theoretical roots of the reactive and proactive aggression distinction lie in two older models. The frustration-aggression model (Berkowitz, 1962; Dollard, Doob, Miller, Mowrer & Sears, 1939) claimed that aggression is characterized by anger, hostility and frustration and is displayed as a defensive response to provocation. On the other hand, the social learning theory (Bandura, 1973) postulated that aggression is a learned behavior, reinforced by rewards and characterized by an unprovoked, goal-directed behavior. Thus, reactive aggression is a "hot-headed" type of aggression, defensive, retaliatory, characterized by outbursts of anger

and not effective in stopping the provocation, while proactive aggression is a "cold-blooded" type of aggression, goal-oriented and usually effective.

Proactive aggression may be subdivided into instrumental aggression (aimed at obtaining an object or privilege) and bullying (person-directed, with the aim of intimidating or dominating) (Brown et al., 1996; Price & Dodge, 1989). Although it might seem that the constructs of bullying and proactive aggression overlap, in fact proactive aggression refers to behavior enacted at a particular moment, whereas being a bully is a social role, which stretches out over time. Nevertheless, proactive aggressiveness as a characteristic of a child does include frequently engaging in bullying.

McNeilly-Choque et al. (1996) suggest a correspondence between reactive aggression and anger (cf. Hubbard et al., 2002) and proactive aggression and meanness. It has recently been found that reactive and proactive types of relational aggression also exist (Crick, Werner, et al., 1999).

Reactively and proactively aggressive children differ in their sociometric status (Dodge, 1991; Poulin & Boivin, 2000; Price & Dodge, 1989). The former have been found to suffer from low peer status, social withdrawal and rejection by their peers, while the latter are often viewed as having leadership capabilities and a good sense of humor. However the social acceptance of proactively aggressive children is often mixed with perceptions of being disruptive and disliked. Differences in reactive and proactive aggression have also been found in studies on social cognition (Crick & Dodge, 1996; Dodge, 1991; Dodge & Coie, 1987; Dodge et al., 1997; Schwartz, Dodge, et al., 1998). Reactively aggressive children seem to interpret social situations in an inaccurate way and to attribute hostile intent to others' ambiguous actions. These inaccurate interpretations make the child over-react with anger and counter-aggression, which seem inappropriate to others (Dodge & Coie, 1987). On the other hand, proactively aggressive children choose deliberately aggressive goals to harass others, evaluate outcomes of aggressive behaviors positively and feel self-confident in behaving aggressively, indicating that they view aggression as an effective and easy way to achieve their aims.

Dodge (1991) and Dodge et al. (1997) traced the developmental paths of these types of aggression, claiming that reactively aggressive children are characterized by insecure patterns of attachment to caregivers, lack of warmth, harsh discipline, violence and physical abuse. Proactive aggression, they suggested, develops from aggressive and violent models in the family, neighborhood and media and from a lack of parental discipline and control. Brendgen et al. (2001) found that high parental supervision moderated the likelihood that proactively aggressive adolescents embark upon a career of violence and delinquency, while high maternal warmth and caregiving reduced reactively aggressive adolescents' violence against the partner.

Some studies found that reactive and proactive aggression are highly correlated with each other and that most aggressive children display both types (Brendgen et al., 2001; Dodge & Coie, 1987; Dodge et al., 1997). However, other evidence shows that the distinction is valid and worthwhile. In fact, reactive and proactive aggression relate differently to other measures (e.g. sociometric status, social cognition, parenting behavior), which corroborates the idea that they tap different aspects of aggression. Furthermore, teacher ratings of reactive and proactive aggression correlated positively with direct observations of the corresponding behaviors (Dodge & Coie, 1987), and a two-factor model on both sets of items fitted the data better than a single-factor model (Brown et al. 1996; Poulin & Boivin, 2000).

Only a few studies aimed to find an empirical link between reactive and proactive aggression and involvement in bullying. However, according to the definitions of the two types of aggression, one could infer that bullies are more prone to display proactive

aggression, while victims would be mostly reactively aggressive. These hypotheses are based on the nature of the two types of aggression: bullying behavior is characterized by a cold-blooded aggressive behavior, goal-directed and aimed at coercion, while the aggression displayed by certain victims (bully-victims or provocative victims) is a response to frustration and is characterized by anger and loss of control (cf. Crick and Dodge, 1999, and Price and Dodge, 1989). The reactive nature of victims' aggression has been investigated in many studies, which claimed that victims display both internalizing problems and externalizing behaviors (Hodges et al., 1997; Hodges et al., 1999; Khatri et al., 2000; Kochenderfer & Ladd, 1997; Poulin & Boivin, 2000; Schwartz, Dodge, et al., 1998; Schwartz, McFadyen-Ketchum, et al., 1998). Similar evidence for the relationship between proactive aggression and bullying is more difficult to come by. In fact, those studies which tried to find empirical support for the association between the two types of aggression and role in bullying (Pellegrini et al., 1999; Roland & Idsøe, 2001; Salmivalli & Nieminen, 2002) all found that victims indeed showed only reactive aggression, but that bullies displayed both reactive and proactive aggression. The reasons may be that bullies have an aggressive personality and, therefore, use aggression on every occasion and with every purpose. They cannot bear being frustrated and respond with aggression to stress their dominance. Furthermore, both bullies and victims may express their emotions with high intensity and have problems in emotion regulation (Pellegrini et al., 1999), which can be a sign that both of them are reactively aggressive (cf. Lemerise and Arsenio, 2000, who claimed that reactive aggression is related to high emotionality and poor regulation skills).

1.8 Social information processing

From childhood onwards, social problems have to be faced and need to be solved in order to reach social goals. Social competence is "the ability to achieve personal goals in social interaction while simultaneously maintaining positive relationships with significant others" (Rubin, Bream & Rose-Krasnor, 1991, p. 222).

Among the models proposed to explain the way in which social competence is acquired in children, the *theory of mind* (ToM, Sutton et al., 1999a, 1999c, 2001) and the *social information processing* theory (SIP, Crick & Dodge, 1994; 1999) recently played a role in a debate on the causes of bullying. Crick and Dodge claimed that bullying behavior is the result of a processing bias and of deficits in some stages of social information processing. According to the theory of mind approach, on the other hand, some bullies at least may have good social skills, as long as they are able to manipulate their peers and accomplish their aims.

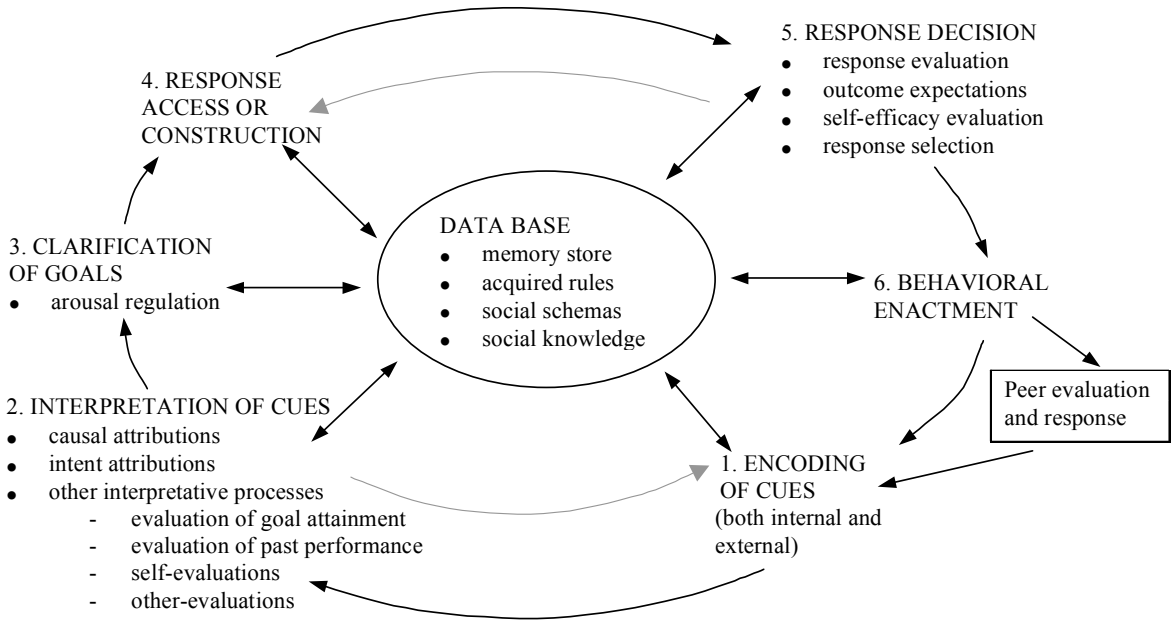
Taking the ToM approach, Sutton and his colleagues claimed that bullies are not limited in their intellectual capacities and do not have inadequate social skills. This might be especially true in the case of relational bullying, where social intelligence is required in order to manipulate victims' thinking by spreading rumors or gossiping (Kaukiainen et al., 1999). However, Arsenio and Lemerise (2001) pointed out that social competence should not only be seen in a narrow way as individual success or effectiveness in reaching one's goals. They suggest that assessments of social competence should also take into account the judgments of others and the shared values of the group, a viewpoint similar to the one formulated by Rubin et al. (1991).

We agree with Arsenio and Lemerise (2001) and chose the SIP framework, because we think that bullies' behavior, although effective for the bullies themselves, is not socially adequate as long as it does not take into account social norms and peers' well being. While ToM only tests the capacity of children to read social problems and behave accordingly, SIP is operationalized in steps and specific mental actions are defined. Therefore, studying

bullies' SIP may provide more detailed insight into potential deficits in their social competence. In addition, the SIP model also refers to emotions, although these were not part of the original model (Crick & Dodge, 1994; Dodge, 1986) but included later on (cf. Lemerise and Arsenio, 2000, paragraph 1.9). Furthermore, the cognitive processes suggested by the SIP framework have been studied in relation to aggressive behavior. This suggests that the framework could also benefit research into bullying.

The social information processing model was developed by Dodge (1986) and reformulated by Crick and Dodge (1994). It consists of six steps in a circular formula, as seen in Figure 1.1. Each step influences the following one; where feedback occurs (e.g. between step 2 and step 1, and between step 5 and step 4) the previous step can be revised. The SIP is influenced by past events and social experiences (e.g. attachment patterns, rejection), which are stored in the long-term memory in the form of social knowledge. The sum of all the memories generates the latent mental structures, which constitute a database (made up of schemata, scripts or working models). This, in its turn, guides children's social processing and consequently their social behavior. The representation of the final social behavior is stored in the memory and becomes part of children's social knowledge for future actions.

Figure 1.1. *Crick and Dodge's (1994) Social Information Processing Model*



Note. From "A review and reformulation of social information-processing mechanisms in children's social adjustment", by N. R. Crick and K. A. Dodge, 1994, *Psychological Bulletin, 115,* p. 76. Copyright 1994 by the American Psychological Association. Reprinted with permission.

The way in which children perform each step contributes to the final outcome of the whole process. Thus, biases in processing in any step may result in maladjusted behavior, and aggression in particular. Deficits in processing information and aggressive behaviors mutually influence each other: aggressive children perceive, interpret and choose responses in a way that increases their likelihood of engaging in aggressive acts (Crick & Dodge,

1994; Crick, Werner, et al., 1999). Many studies investigated the way in which children process social information and eventually whether biases at different stages may lead to (or be the cause of) aggression, depression or general maladjustment (Burks, Laird, Dodge, Pettit & Bates, 1999; Crick & Dodge, 1994; Crick, Werner, et al., 1999; Dodge, 1986; Dodge & Crick, 1990; Dodge et al., 1997; Orobio de Castro, 2000; Orobio de Castro, Veerman, Koops, Bosch, Monshouwer, 2002; Perry, Perry & Rasmussen, 1986; Pettit, Polaha & Mize, 2001; Quiggle, Garber, Panak & Dodge, 1992; Zelli, Dodge, Lochman, Laird, & Conduct Problems Prevention Research Group, 1999). In the following we will describe in more detail the first five steps of the SIP, which refer to mental processes (the sixth indicates the final behavioral enactment resulting from the whole cycle). We focus not only on the characteristics of each step, but also on the deficits which aggressive or maladjusted children may have in each step.

In *step 1* children focus on particular cues in the social situation (such as provocation by a peer or rough and tumble play), encode them, and select the most relevant ones. Maladjusted children focus only on aggressive cues and search for fewer social cues than well adjusted children. In *step 2* children interpret social cues, i.e. attribute causal reasons to events or attribute intentions to others' acts. Aggressive children attribute hostile intentions to the perpetrator in ambiguous situations, which is associated with behaving even more aggressively, because the peer is perceived as a threat. Wyatt and Haskett (2001) studied aggressive adolescents, who, compared to their nonaggressive peers, attributed more hostile intents to teachers' ambiguous behavior, were more likely to blame teachers for the outcome, and reported higher levels of anger.

In *step 3* children select a goal they want to achieve. This can be a prosocial, antisocial or neutral goal. Children who are positively socially adjusted usually formulate goals aimed at enhancing the relationship with others (e.g. playing together, cooperating) while maladjusted or aggressive children are more prone to choose goals that damage the relationship (e.g. retaliation, fighting).

In *step 4* children access responses from their long-term memory or create new responses if the situation is new. Children may differ from each other in the number of responses they can produce, in the response content and in the response order. Aggressive children access a smaller number of responses than their non-aggressive peers and these responses are usually unfriendly and aggressive.

Having a fair number of responses at their disposal, children evaluate them in order to choose the response they think is the best one in that situation (*step 5*). To select a response, children consider the content of each response, their own self-efficacy in performing it and the outcome they expect from it. Aggressive children evaluate aggressive responses more favorably than other children, they feel more self-confident in acting out aggressive responses and expect more positive outcomes from them. Finally, in *step 6*, the behavioral enactment takes place.

The whole process takes place in an automated way and children do not think constantly and consciously about each step before acting. In the model each step leads to the next one and is linked to the previous one. Thus, for instance, if a child attributes a hostile intention to a peer, he/she is likely to retaliate and will choose an antisocial goal. Consequently, he/she will create an aggressive response, will probably feel self-confident in using aggression and will evaluate the aggressive response as the most proper. As a consequence, he/she will indeed behave aggressively.

Some studies compared social information processing by reactively and proactively aggressive children (Crick & Dodge, 1996; Dodge & Coie, 1987; Dodge et al., 1997; Loeber & Coie, 2001; Pettit et al., 2001) and found that different biases occurred. In particular, reactively aggressive children presented deficits in the first steps of SIP: they

encoded fewer cues in a less accurate way (step 1) and, overall, they attributed more hostile intents to their peers in ambiguous situations (step 2) compared to non-aggressive children and to proactively aggressive children. On the other hand, proactively aggressive children were more prone to choose antisocial goals (step 3), to construct aggressive and antisocial responses (step 4), to evaluate aggression as a valid means to reach goals and to feel self-confident in behaving aggressively (step 5). Thus, proactive aggression was associated with different cognitive patterns in the final steps of SIP.

If the associations between bullying and proactive aggression and between victimization and reactive aggression (see previous paragraph) had been confirmed, we could surmise that bullies most often present deficits in the last steps of SIP, but victims in the first steps. However, if bullies, as already suggested, are both reactively and proactively aggressive, it can be that their way of processing social information is biased from the beginning.

1.9 Emotional biases

Children's social competence is influenced by emotions (Graham & Hoehn, 1995; Loeber & Coie, 2001; Weiner, 1995), in particular by the intensity with which they express and experience emotions and by their capacity to regulate them (Lemerise & Arsenio, 2000). It has been found that high intensity and low regulation of emotions are predictive of problem behaviors and social maladjustment (Eisenberg & Fabes, 1992; Loeber & Coie, 2001; Murphy & Eisenberg, 1997; Pakaslahti, 2000; Pettit, et al., 2001).

Lemerise and Arsenio (2000) integrated emotions into every step of the social information processing model of Crick and Dodge (1994). The emotions expressed by other peers, for instance, may influence the encoding and interpretation of social cues (step 1 and 2 of SIP), as well as mood, which also influences the other steps. High intensity of emotions and difficulty in regulating them may lead a child to choose goals (step 3) which are avoidant or aggressive in order to reduce the emotion arousal. Constructing, selecting and enacting a response (steps 4, 5 and 6) may be influenced again by intensity of emotions and control over them, and by the capacity to read and communicate emotions and to experience empathy.

Empathy influences all steps of SIP and it has often been stated that a lack of empathy is a characteristic of bullies (Arsenio & Lemerise, 2001; Kaukiainen et al., 1999; Sutton et al., 1999a), who inflict pain probably because they cannot imagine what the victim is experiencing. Antisocial adolescents have been found to report that their victims do not suffer as a consequence of being harassed (Slaby & Guerra, 1988). Menesini (1999) reported that bullies feel no guilt on account of their actions, which is linked to a lack of empathy, and that they often experience pride in front of their admiring peers.

Anger is one of the emotions which has often been linked to aggressive behavior. The distinction between reactive and proactive aggression suggests that only the former is associated with a high level of anger (Dodge & Coie, 1987). In the social information processing model it was found that anger causes (or comes from) attribution of hostile intent and, consequently, affects also the final behavior (Crick & Dodge, 1994; Graham, Hudley & Williams, 1992; Hubbard et al., 2002). While bullies use anger to intimidate and dominate, victims get angry as an attempt to defend themselves, although this is usually ineffective (Mahady Wilton, Craig & Pepler, 2000).

Sadness and depression are more typical of victimized children (Björkqvist et al., 1982). Rigby (1997) claimed that when children are bothered by bullying, they express anger or sadness. More specifically, boys express more anger than girls, whose most common reaction is sadness. Shame seems to be also a characteristic of victims, who feel

responsible for their sufferings, which increases their helplessness and sense of inadequacy (Menesini, 1999).

1.10 Conclusions and research questions

In the previous paragraphs we presented an overview of some theoretical points in bullying research. Even though not all the arguments described in this chapter will be the subject of further investigation in the empirical parts of the thesis, we considered it worthwhile for the reader to have background information about bullying and its characteristics. We also introduced reactive and proactive aggression, social information processing and emotional biases, because they will be investigated in the thesis.

As already pointed out, we will only focus on bullying in the school context among children between 7 and 12 years old, taking into account the class as a whole and the roles children play in the bullying situation. Before describing the research issues, we will explain our decision to use peer reports to detect the different roles in the bullying situation.

Based on the considerations about different methods to detect bullies, victims and other children presented in paragraph 1.6, we chose peer reports in the present work, aiming at obtaining a better level of reliability and validity of the outcomes, in comparison to the use of other informants. The children were old enough to allow for the use of this method, and the dearth of Dutch studies into bullying employing peer-reports was a further reason for using this method (Junger-Tas and van Kesteren, 1999, and Bokhorst et al., 2000, both used self-reports). What is more, because our main aim was to study bullying and victimization in the social context, we focused on the perception peers have about their classmates and on group dynamics, and not on subjects' self-evaluations, which are more proper to investigate how each subject views at him/herself or to detect psychological distress. Peer reports test social reputation, while self-reports test personal experiences (Juvonen, Nishina & Graham, 2001; Pellegrini, 2001). Juvonen et al. (2001, p. 106) claim that while "self-assessments are made from the child's private frame of reference […] reputational assessment reflects agreement or consensus among group members".

We now present the specific aims of the present study and the particular research questions which led our work.

1) Are bullying and victimization stable through time?

According to Loeber and Le Blanc (1990), only those children who are permanently considered bullies (persisters) are likely to get involved in other negative actions, whereas the unstable bullies (desisters) are more likely to follow a normal developmental pathway. The same pattern might exist also for persisting and desisting victims. Thus, because an increasing or a stable involvement in active bullying is more serious than incidental involvement, a longitudinal design was chosen for our research to study the persistence of the bullies' and victims' behaviors. Knowing whether bullies and victims continue to behave in the same way with the passing of time is also important in order to develop intervention programs which cover long periods.

Furthermore, other reasons to investigate stability in the bullying roles are that no longitudinal research on the topic has been conducted in the Netherlands up to now and that previous studies usually employed other informant reports than peer reports (except the studies by Salmivalli et al., 1998, and Salmivalli, 2001a), as it is the case in this study.

In the present thesis a study on stability of bullying and victimization is reported in Chapter 2. The age range of the children included in our study is the one at which bullying and victimization reach their peak and tend to stabilize, as previously illustrated.

2) Which type of aggression do bullies and victims display?

In the present study we aimed at integrating the reactive and proactive aggression model into the bullying phenomenon. We want to investigate whether bullies display only proactive aggression and victims only reactive aggression, as their definitions suggest, or whether victims are only reactively aggressive and bullies both reactively and proactively aggressive, as past studies on the topic showed (Pellegrini et al., 1999; Roland & Idsøe, 2001; Salmivalli & Nieminen, 2002). Finding a link between these two variables (i.e. bullying and type of aggression) would also mean that studies on bullying (social cognition, behavior, consequences in life, etc.) could be informed by studies based on the reactive and proactive aggression theory and be included into another theoretical framework which involves these types of aggression. This aim is investigated in Chapters 2 and 3.

3) How do bullies, victims and children not directly involved in bullying process social information?

So far, research did not focus on the social information processing of children involved in bullying. Although Crick and Dodge (1999) suggested that the SIP model could be useful to investigations of bullying, direct empirical support for the link between bullying and SIP is still lacking. Therefore, the present work is an attempt to apply the SIP model to the bullying realm, in order to investigate whether bullies and victims present deficits in encoding and interpretation of social cues, selection of goals and response finding and decision. Uncovering bullies' and victims' cognition would certainly increase our knowledge on their way of thinking, and, consequently, behaving. Therefore, this could be useful not only to provide a more theoretical approach to the issue, but also to develop proper intervention programs.

In Chapter 4 we use ambiguous situations to uncover attribution of intentions and goal selection; we use provocative situations to investigate which responses children produce after being provoked. Furthermore, children are requested to evaluate the responses after reflecting on them. In Chapter 5, all the five mental steps of SIP, except the fourth, are investigated. We employ ambiguous situations to study step 1, 2 and 3, and two questionnaires about perception of self-efficay and expected outcomes to study step 5.

4) How do bullies, victims and children not directly involved in bullying express emotions?

Since emotion and cognition are related to each other, we thought it worthwhile to combine them in the present study, in order to investigate whether there is a reciprocal influence in processing social information steps. Furthermore, because both bullies and victims have been found to experience increased levels of negative emotions in comparison to children not involved in bullying (Karatzias, Power & Swanson, 2002), investigating this suffering and the way in which bullies and victims express and experience emotions is highly important. Although only the emotions of anger and sadness have been taken into account, still they may be a good point to start investigation into bullying emotions. Moreover, they are simple and common emotions and are easily recognized and experienced by young children. Studies including anger are in Chapters 4 and 5, while only Chapter 5 presents outcomes about sadness. Again, ambiguous situations were used as stimuli.

5) Which are the most effective ways of intervening against bullying, according to children?

In Chapter 7 we present a study about how children themselves evaluate intervention actions against bullying, and which are the most effective ways to cope with

this problem. Although several studies have been carried out to propose interventions (Limper, 2000; Olweus, 1993; Rigby, 1997; Salmivalli, Kaukiainen, Voeten & Mäntycorpi, in press; Sharp & Smith, 1994), none of them directly asked children about their opinion. Therefore, in this work we try to investigate whether being a bully or a victim, in relation to different types of bullying and to different bullying situations, makes a difference for the type of intervention proposed.

To conclude

In general, the present work is aimed at investigating bullying as a group phenomenon in the classroom, focusing our attention mainly on its stability, on the type of aggression that children directly or indirectly involved in bullying display, on children's cognitive processes and on the emotions children express when they feel provoked.

2

Bullying and victimization among school-age children: Stability and links to proactive and reactive aggression*

In quella scuola esistevano le caste chiuse […]. I poveracci. I normali. E i fighi. Ma se il primo giorno di scuola ti prendevano la cartella e te la buttavano fuori dalla finestra e ti nascondevano i gessetti nel panino allora eri un poveraccio […], lì dovevi rimanerci per i successivi tre anni (e se non stavi attento per i successivi sessanta).

[In that school there were closed castes. The losers, the normal kids and the cool kids. But if on the first day of school they took your bag and threw it out of the window and put chalk in your sandwich, you were a loser […], you had to stay there for the next three years (and if you weren't careful, for the next sixty)].

Niccolò Ammaniti, "Ti prendo e ti porto via"

2.1 Abstract

The main aim of the study relates to the links between bullying and victimization on the one hand and reactive and proactive aggression on the other. In addition, we also investigated stability and incidence of bullying and victimization. At age seven, 236 children were rated on bullying and victimization using peer reports. At age eight, 242 children were rated again. 215 children (114 girls and 101 boys) were present at both time points. Reactive and proactive aggression was assessed by teachers. The results showed that bullies and bully/victims were both reactively and proactively aggressive, while victims were only reactively aggressive. A moderate degree of stability of bullying and victimization was found, with bullying being more stable than victimization. Boys were more often bullies than girls and more stable than girls in victimization. Stable victims and stable bully/victims were more reactively aggressive than their unstable counterparts. The relevance of the outcomes to preventing future maladjustment and suggestions for further research are discussed.

2.2. Introduction

One of the first authors to define bullying was Olweus, who wrote that "a person is being bullied when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other persons" (Olweus, 1991, p. 413). Such negative actions may

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be physical, verbal or psychological, they are intentional in nature, and usually involve a real or perceived imbalance in strength/power. Bullying is a social phenomenon and takes place in a relatively permanent group (such as a class), in which victims have few opportunities to avoid their tormentors and the bully often gets support from other group members. In other words, their roles become defined (Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996).

It has been demonstrated that involvement in bullying is associated with social maladjustment in both victims and bullies. The former may suffer short-term emotional imbalances, such as lower self-esteem, higher levels of depression and negative appraisal of interpersonal competence (Hawker & Boulton, 2000). In the longer term, there is a risk of social withdrawal in adulthood. Bullies, on the other hand, have been found to have behavior problems of an externalizing nature, such as truancy, dropping out of school, delinquency, violence or alcohol abuse (Loeber & Dishion, 1983). Both bullying and victimization have been linked to relationship problems in adult life (Gilmartin, 1987; Rigby, Whish & Black, 1994). In short, social maladjustment is common in both bullies and victims.

The main aim of the present study was to examine the classification of children as bullies, victims, or bully/victims and to determine whether two types of aggression (reactive and proactive) were differentially related to children's role in bullying. *Reactive aggression* is a defensive response to provocation or trouble and is accompanied by anger, while *proactive aggression* is a goal-directed, deliberate and cold-blooded action, which does not need any stimulus (Crick & Dodge, 1996; Dodge, 1991; Dodge & Coie, 1987). This may take the form of instrumental aggression ("object-oriented", aimed at obtaining an object or a privilege) or of bullying ("person-directed", used to intimidate or dominate a peer; Price & Dodge, 1989). Crick and Dodge (1999) and Price and Dodge (1989) advanced the hypothesis that bullies would be more likely to demonstrate proactive aggression, while Pellegrini, Bartini and Brooks (1999) and Pulkkinen (1996) claimed that bullies may display both types of aggression. Thus, according to the latter authors, bullies are more likely to be pervasively aggressive. Kochenderfer and Ladd (1997) found their stable victims to be characterized by reactive aggression (see also Olweus, 1993; Schwartz, McFayden-Ketchum, Dodge, Pettit & Bates, 1998). Recently, Salmivalli and Nieminen (2002) have found that bully/victims are the most proactively and reactively aggressive group, followed by bullies. Victims were more reactively aggressive than those uninvolved.

Although reactive and proactive aggression have been found to be strongly linked in almost all the studies on the topic, the distinction between them appears to be both reliable and valid. We explored whether being bullies, bully/victims or victims was linked to different types of aggression. Bullies and bully/victims were expected to be both proactively and reactively aggressive whereas victims were expected to be only reactively aggressive.

A longitudinal test-retest design was used. In this way, stable bullies, stable bully/victims and stable victims could be compared with the unstable ones, in terms of reactive and proactive aggression. The reason for this comparison is that in the literature we find that those who "desist" in bullying or in being bullied show better adjustment than those who "persist" (Loeber & Le Blanc, 1990). Thus, the desisters may not have the same characteristics as the persisters. Kochenderfer and Ladd (1997) found that stable victims (boys) were more reactively aggressive than the unstable ones. Our purpose was to verify their findings in our sample, using different measures, and including bullies and bully/victims. Stable bullies and bully/victims were expected to be more proactively and

reactively aggressive than those who were unstable, while stable victims were expected to be more reactively aggressive than the unstable ones.

A second goal was to investigate the stability of involvement in bullying (either as a bully, victim or bully/victim) over a period of one year. Gender differences were also explored. Olweus (1979) in his review of 16 studies found aggressive behavior to be very stable, especially over short intervals and when the participants were older. The short-term stability of victimization and bullying, within and across the school year, was also found by Kochenderfer and Ladd (1996a, 1997) and Boulton and Smith (1994). A fairly high stability also emerged from studies employing a longer period between assessments (Kumpulainen, Räsänen & Henttonen, 1999; Perry, Kusel & Perry, 1988; Pulkkinen, & Pitkänen, 1993; Salmivalli, Lappalainen & Lagerspetz, 1998; Sourander, Helstelä, Helenius & Piha , 2000). These results are all the more impressive if we take into consideration the fact that in the different studies a variety of measures (self-reports, peer reports and teacher reports) have been employed, and that stability has been found for subjects of different ages, irrespective of the period between assessments, which in one case was 8 years (Sourander et al., 2000). Two other issues arise here. The first is whether bullying is more stable than victimization, and the second whether the stability of involvement in bullying is higher for boys than for girls. On both these issues the results have been inconsistent, with some authors finding that victimization is more stable (Sourander et al., 2000), some that bullying and victimization are equally stable (Boulton and Smith, 1994), and some that bullying is more stable (Salmivalli et al., 1998). As to gender differences, the results are somewhat more consistent, with most studies indicating that the stability of involvement in bullying is greater for boys than for girls (Boulton & Smith, 1994; Kumpulainen et al., 1999; Salmivalli et al., 1998; Sourander et al., 2000). However, while Sourander et al. (2000) claimed this greater stability for boys both for bullying and victimization, Boulton and Smith (1994) reported this only for victimization, and Salmivalli et al. (1998) reported this only for bullying. Pulkkinen and Pitkänen (1993) did not find any sex differences in relation to stability of aggression. In the present study, involvement in bullying was expected to be stable, although no hypotheses were made as to whether this stability was the same for bullying and victimization. Boys were expected to be more stably involved than girls.

Finally, the last aim of this study was to estimate the incidence of bullying and victimization among school-age children with reference to gender. Although there have been some studies into the prevalence of bullying in the Netherlands (Bokhorst, Goossens, Dekker & De Ruyter, 2000; Haselager, 1997; Mooij, 1992), neither the age of the samples employed nor the measures used to assess prevalence were comparable to our study. All of the above mentioned Dutch studies have relied on Olweus' (1983) self-report Bully/Victim Questionnaire. The sample of Bokhorst et al. (2000) was roughly of the same age as the children in our study, but those of Haselager and Mooij were both older, and bullying usually decreases with age (Boulton & Underwood, 1992; Olweus, 1991; Smith, Madsen & Moody, 1999; Whitney & Smith, 1993). In addition to age effects, gender differences have been found (Boulton & Underwood, 1992; Kochenderfer & Ladd, 1996b; Lagerspetz, Björkqvist, Berts & King, 1982; Olweus, 1993; Whitney & Smith, 1993). Boys have more often been found to be bullies than girls, although the more subtle ways of bullying employed by girls (damaging someone's reputation, refusing friendship, isolating the victim, instead of direct physical and verbal aggression) may be more difficult to detect (Björkqvist, Lagerspetz & Kaukiainen, 1992; Crick & Bigbee, 1998; Crick & Grotpeter, 1995; Olweus, 1993). In this study, too, boys were expected to be more often involved as bullies. No hypotheses were formulated regarding sex differences in victimization.

To sum up, the main interest was the relationship between bullying and victimization on the one hand and reactive and proactive aggression on the other. By collecting data at two points in time, it was also possible to compare the proactive and reactive aggression of stable bullies, stable victims and stable bully/victims with those who were not stably involved. Also the stability of involvement in bullying across a one-year period was investigated, and some data on the prevalence of bullying were supplied.

2.3 Method

2.3.1 Sample

The present work is part of a longitudinal study carried out in four schools in the Netherlands. It was conducted over an interval of one year with measurements at two points in time (T1 and T2). At T1 236 pupils (126 girls and 110 boys), from ten classes, took part. They attended third and fourth grade. In the following year there were 242 children (126 girls and 116 boys), from nine classes, attending fourth and fifth grade. Two classes from T1 merged into one at T2. The average age of the children ranged from 91.4 months (*SD* = 9.0) at T1 to 105 months (*SD* = 8.3) at T2.

Two hundred and fifteen children (91.1%, 47% boys and 53% girls) remained in the study from the beginning to the end. Two of them changed classes due to grade retention; all the others remained in the same class. The composition of the classes changed only a little, either because children moved away or because new children moved into the vicinity of one of the participating schools. All the schools served a population of widely varying socioeconomic backgrounds, but predominantly of middle socioeconomic status. In order to enlist participants, all parents received a letter explaining the purpose of the study, the procedures involved and the longitudinal nature of the project. Parental consent was obtained for more than 90% of the pupils approached and parents agreed in 100% of the cases that their children –even if not participating– would be allowed to serve as informants to answer questions about bullying in the classroom. This relatively high rate of consent may have been prompted by the support given by the school principals to the study.

2.3.2 Procedure

Data were collected in the spring of 1998 and 1999. Pupils were requested to answer the Aggression and Victimization Scale at T1 and T2, while teachers filled in the Proactive and Reactive Scale only at T2. The analyses concerning stability were based on the 215 children present at both points in time, while the link between involvement in bullying and two types of aggression, being tested only at T2, was investigated for the whole sample present at T2.

Testing of the pupils took place individually in a quiet room in the school. Children were told it was best not to discuss what had been said, and that the information they supplied would be treated as confidential.

2.3.3 Measures

The Aggression and Victimization Scale (AVS)

The Aggression and Victimization Scale was developed by Perry et al. (1988). The original version consists of 26 items: 7 aggression items (originally in the Peer Nomination

Inventory by Wiggins and Winder, 1961), 7 victimization items (composed by the authors) and 12 filler items. Pupils were requested to nominate same-sex peers who fitted the behavior described in each item, excluding themselves from the list. Peers were chosen because they have access to group dynamics and rumors, which is often denied to teachers. Moreover, peer estimates are based on the judgements of a greater number of children and thus make possible aggregated measurement, which is not influenced by social desirability as self-reports may be.

The original version of the AVS was reduced by removing 6 of the 12 filler items and two aggression items which pointed more to aggression in general rather than to bullying or harassing others. Thus, an item like "When he doesn't get his way he gets really mad" was removed, while an item like "He makes fun of people" was kept. (An example of a victimization item is: "Kids do mean things to him"). We factor-analyzed (PCA) the 12 items for bullying and victimization and, after a varimax rotation, obtained the following psychometric figures: the loadings ranged from .77 to .87 (bullying at T1), from .60 to .85 (victimization at T1), from .74 to .91 (bullying at T2), from .68 to .89 (victimization at T2), while the total variance explained by the two factors was 66.8 at T1 and 75.6 at T2. The reliabilities were high at both points in time: at T1 alpha coefficients were .90 for bullying and .89 for victimization. At T2 the Cronbach's alphas were .93 and .92 for the two scales respectively.

We divided the scores by *n*-1, where *n* is the number of same-sex children in each class: it is diminished by one because children did not nominate themselves. Although these scores are based only on nominations from same-sex peers, this is justified because boys and girls have been found to be in agreement about who the bullies and victims are (Boulton, 1999).

At both T1 and at T2, children were divided into four categories in order to have nominal scores. The 85th percentile of the bullying and victimization scales at T1 (.93 and 1.27, respectively) was chosen as a cutoff point both for T1 and for T2 data, in order to avoid biases due to different distributions. Thus, we created the following categories: *bully* (scoring above .93 on the bullying scale and below 1.27 on the victimization scale), *victim* (scoring above 1.27 on the victimization scale and below .93 on the bullying scale), *bully/victim* (scoring above .93 and 1.27 on bullying and victimization scales, respectively) and *not involved* (all the rest). We also found prevalence figures for the 70th, 75th and 80th percentile, as there is as yet no "gold standard" for assigning the subjects. The results were comparable, with one notable exception: the number of bully/victims increased considerably with the lowering of the cutoff score, while the differences for bullies and victims were quite small. Thus, our method selects bullies and victims who answer to strict criteria and who are better differentiated from the bully/victims. Moreover, the 85th percentile score is in line with the cutoff score used by Perry et al. (1988) when they linked aggression and victimization (at the nominal level) to rejection.

The Reactive and Proactive Questionnaire (RePro)

The RePro was developed by Dodge and Coie (1987). The original questionnaire consists of 12 aggressive behavior items for reactive (e.g. "When teased, strikes back") and proactive (e.g. "Threatens and bullies others") aggression, plus 12 filler items.

It was completed by teachers, who are usually well trained in assessing the behavior of the children in their care. Moreover, they spend a lot of time with children and they are likely to be objective. It was administered only at T2 and 11 of the original 12 items were employed. The answer modality was a 7-point scale, instead of a 5-point scale as in the original version. The factor analysis (PCA with varimax rotation) yielded two factors, as expected, which explained 81.1% of the total variance. One item was deleted

because of low loading. The loadings of the remaining items ranged from .62 to .87 for reactive aggression (4 items) and from .65 to .87 for proactive aggression (6 items). The reliabilities of the two scales were .93 and .95 respectively. We made use of standardized scores within each class. The correlation between reactive and proactive aggression was .87 ($p < .01$).

In order to check the incidence of the two types of aggression in the whole sample, the classification procedure employed by Dodge, Lochman, Harnish, Bates and Pettit (1997) was used. *Reactively aggressive* children scored more than 1 *SD* above the mean on the respective scale and below 1 *SD* above the mean on the proactive aggression scale. *Proactively aggressive* children received a proactive aggression score higher than 1 *SD* above the mean and a reactive aggression score lower than 1 *SD* above the mean. Children who received a reactive and a proactive aggression score higher than 1 *SD* above the mean on both scales were considered *pervasively aggressive*. All the others were classified as *nonaggressive*. We found 11 reactively aggressive children (4.5%) and 10 proactively aggressive children (4.1%). The pervasively aggressive children were more frequent (33, 13.6%). There were 188 (77.7%) nonaggressive children.

2.4 Results

2.4.1 Incidence of bullying and victimization

Table 2.1 shows the percentages and the frequencies of the children in each role played at T1 and T2 (nominal scores).

Table 2.1
Percentages and Raw Frequencies (Between Parentheses) of the Participants in Each Role of the AVS at T1 and T2: Whole Sample and Subjects Present at Both Points in Time

	Whole sample		Stable participants	
	T1	T2	T1	T2
	% (*n*)	% (*n*)	% (*n*)	% (*n*)
Bully	9.7 (23)	7.4 (18)	9.3 (20)	7.4 (16)
Victim	8.5 (20)	5.4 (13)	8.4 (18)	5.1 (11)
Bully/victim	7.6 (18)	2.9 (7)	5.1 (11)	2.8 (6)
Not involved	74.2 (175)	84.3 (204)	77.2 (166)	84.7 (182)
Total	100 (236)	100 (242)	100 (215)	

At T1, a total of 25.8% children were classified as bullies, bully/victims or victims. At T2 these figures were 15.7%, which points to a decrease from T1 to T2 (McNemar's $\chi^2 = 5.11$; $p < .05$). The means and the standard deviations (among parentheses) of the raw scores of the continuous bullying and victimization scales were 5.76 (7.38) and 7.83 (7.76) at T1, and 4.91 (9.75) and 5.84 (10.69) at T2 respectively. These continuous scale scores

also indicate a decrease, but a t-test for paired samples showed that only victimization decreased significantly (t (214) = 3.08; $p < .01$).

We also checked whether our measures were related to gender. The t-test for independent variables showed that boys had higher scores on bullying, both at T1 (t = -2.11; $p < .05$) and at T2 (t = -2.00; $p < .05$). No significant results were found for the victimization scales.

2.4.2 Stability of bullying and victimization

The stability of bullying and victimization between T1 and T2 was investigated by means of correlations and crosstabulations. Only the children present at both points in time were used. Table 2.2 shows the correlations and the coefficients in italics indicate a moderate degree of stability of bullying and victimization over a period of one year. The comparison between the coefficient for bullying with that for victimization (Fisher's Z transformation) showed bullying being more stable than victimization ($Z = 2.99$; $p < .01$).

Bullying and victimization were also related to each other. This indicates that these roles are not yet clearly defined, and that some of those who bully are sometimes also victims.

Crosstabulations employed nominal scores (Kappa = .36; $p < .001$). Results showed that 40% ($n = 8$) of the children who were labeled as bullies at T1 were still bullies at T2 (50% of the bullies at T2 were also bullies at T1). Among the victims, 16.7% ($n = 3$) were still victims at T2 (27.3% were already victims at T1), while 54.5% ($n = 6$) of bully/victims remained in this role from T1 to T2 (100% of the bully/victims at T2 were bully/victims at T1). These figures pointed to considerable stability particularly in the bully role and the bully/victim role over a period of one year. Among those children who changed their role, 30 (68.2%) improved their status –from being involved they became uninvolved– while 14 (31.8%) were uninvolved at T1, but became involved at T2. Only two children remained involved at both points in time, and switched from the status of bully/victim to those of bully and victim.

In order to investigate if boys and girls differed in stability of involvement, the correlations were run for the two sexes separately. Boys had higher coefficients than girls, both in bullying ($r = .72$ for the boys versus $r = .63$ for the girls) and victimization ($r = .72$ for the boys versus $r = .41$ for the girls). The difference between the sexes (Fisher's Z transformation) was significant only for victimization ($t = 3.42$; $p < .001$).

Table 2.2
Correlations of Bullying and Victimization at Two Points in Time

	Bully T1	Victim T1	Bully T2
Victim T1	.56**		
Bully T2	*.69***	.35**	
Victim T2	.42**	*.54***	.59**

Note. N =215.
** Correlation is significant at the 0.01 level (2-tailed)

2.4.3 Relationship of bullying and victimization to different types of aggression

Two hierarchical regression analyses were run to investigate the link between bullying and victimization and reactive and proactive aggression (as the RePro was only available at T2, only data collected at this point in time were analysed). Gender was entered in the first step, the two scores for reactive and proactive aggression in the second, and the interactions between these and gender in the third (the last two entered with the stepwise method). Dependent variables were the bullying and victimization continuous scales of the AVS.

Since reactive and proactive aggression were highly correlated ($r > .80$), we had to cope with collinearity problems. Tabachnick and Fidell (1996, p. 87) fixed the criteria for multicollinearity in a "conditioning index greater than 30 and at least two variance proportions higher than .50 for a given root number". Although in our results two variance proportions were greater than .50, the conditioning index was much lower than 30. Thus, even if the risk of collinearity was pretty high, we cannot demonstrate that this was the case in our sample.

The scores of the dependent variables revealed some extreme cases. Thus, we ran our regression analyses on both the untreated scores and the scores after they had been normalized with the SPSS ranking program. We obtained similar results with both methods, except that when we used the untreated scores, victimization was more strongly linked to proactive aggression (not expected), while with the ranking procedure it was linked to reactive aggression (as expected). Table 2.3 shows the results of the regressions obtained with the ranking procedure (in order to center the variable gender as well, it was recoded into the values of –1 and +1 for boys and girls, respectively).

In general, the results support the expectation that proactive and reactive aggression are both associated with bullying, while reactive aggression is associated with victimization. An interaction effect of gender and reactive aggression revealed that reactively aggressive boys were more often bullies, but reactively aggressive girls were not. No other interaction effects involving gender were found. However, a t-test on the reactive and proactive aggression scales with gender as a factor showed that boys obtained higher scores than girls (both p's $< .001$) on both scales.

The link between type of aggression and involvement in bullying was also demonstrated by means of crosstabulation (4 x 4), employing the nominal scores of the AVS (bully, victim, bully/victim and not involved) and the RePro (proactively aggressive, reactively aggressive, pervasively aggressive and nonaggressive). The Fisher's exact test ($F = 51.36$; $p < .001$) showed the link to be statistically significant. Table 2.4 shows the observed and expected cell frequencies and the significant differences among them. Bullies were slightly more proactively aggressive than expected by chance, while both bullies and bully/victims were overrepresented in the pervasively aggressive group, meaning that they were both reactively and proactively aggressive. Victims scored high only on reactive aggression. Nonaggressive children were underrepresented among the bullies and the bully/victims, while those not involved in the bullying situation were definitely nonaggressive.

Table 2.3
Hierarchical Regression Analyses of the RePro on the AVS

Dep. Var.	Predictors	*B*	β	*R*	R^2	R^2_{change}	*F* (*df*)
Bully							
	I step			.16	.03		4.85 (1)*
	Gender	-.14	-.16*				
	II step			.57	.32	.29	37.22 (3)***
	Gender	.00	.03				
	Reactive	.29	.33**				
	Proactive	.24	.27*				
	III step			.58	.33	.01	29.58 (4)***
	Gender	.00	.02				
	Reactive	.27	.30**				
	Proactive	.24	.27**				
	Gender*Reactive	-.11	-.12*				
Victim							
	I step			.11	.01		*ns*
	Gender	-.10	-.11				
	II step			.42	.17	.16	24.97 (2)***
	Gender	.00	.03				
	Reactive	.39	.42***				

Note. N =242.
ns = not significant. *p < .05. **p < .01. ***p < .001.

Table 2.4
Crosstabulation Between Type of Aggression and Involvement in Bullying: Observed and (Between Parentheses) Expected Frequencies

	Proactive	Reactive	Proactive-reactive	Nonaggressive
Bully	2 (.7)†	1 (.8)	9 (2.5)***	6 (14.0)***
Victim	0 (.5)	2 (.6)*	2 (1.8)	9 (10.1)
Bully/victim	1 (.3)†	1 (.3)†	5 (1.0)***	0 (5.4)***
Not involved	7 (8.4)†	7 (9.3)*	17 (27.8)***	173 (158.5)***

Note. N =242.
† p < .10. *p < .05. ***p < .001.

In order to investigate whether stability of involvement in bullying was linked to different types of aggression, again we selected the 215 children stably present throughout the study. Thus, stable bullies (n = 8), stable victims (n = 3) and stable bully/victims (n = 6) were compared with the unstable ones (20 one-time bullies, 23 one-time victims, 5 one-time bully/victims) by means of t-tests. No significant results were found when stable bullies were compared with unstable bullies, although the former scored higher on both reactive and proactive aggression. Stable victims were both more reactively and proactively aggressive than unstable victims (t = 3.58; $p < .01$ and t = 3.47; $p < .01$, respectively). Finally, stable bully/victims turned out to be more reactively aggressive (t = 2.53; $p < .05$) than the unstable ones.

2.5 Discussion

The outcomes of the study met our expectations. In fact, bullying was positively linked with both reactive and proactive aggression, while victimization was only associated with reactive aggression. This was borne out using both continuous scale scores and nominal classifications. Bully/victims scored high on both types of aggression. The outcomes of the comparisons between the stable bullies, victims, bully/victims and the unstable ones were less supportive of our hypothesis. There may be a number of reasons for this. First, the number of participants involved is small, making the power of the comparisons low. Secondly, stability was based on playing the same role at only two points in time versus one point in time (unstable). It is still possible that those involved in one specific role at two points in time change status as they grow older and develop. Thus, more measurements during a longer period may be required to assess stability.

We would surmise that proactive aggression in particular is responsible for bullying behavior, as bullies must expect advantages from it. They have their role to defend and they use it to dominate the others. Then, once they are labeled as aggressive, it may be difficult to change their behavior. Pulkkinen (1996) claims that both types of aggression may be present in bullies. According to her, there are individuals who act proactively and defend themselves if provoked and there are those who react aggressively if attacked, but who never attack first. Thus, we might expect that exclusively proactively aggressive children are rare, while those who are both are more common. There is in fact some support for this interpretation in our data, as we found that children who displayed both types of aggression were definitely more numerous than the others. Similar outcomes have also been found by Dodge and Coie (1987) and by Dodge et al. (1997). Also bully/victims display both types of aggression, because, being both the target and the perpetrators of the bullying, they are reactively aggressive in response to attack by others, but also proactively aggressive in initiating bullying. This group has been often reported as hostile and extremely aggressive, in many different ways (Olweus, 1993; Pellegrini et al.,1999; Salmivalli & Nieminen, 2002). Victims, on the other hand, may be exasperated by continuous harassment and tend to show their anger and aggressivity. Most of the time, this fails to stop others' bullying, and it may even have the effect of making the bully more ruthless.

As such, the finding that bullies and bully/victims are both reactively and proactively aggressive and that victims are reactively aggressive would appear to be a robust result. Moreover, it has repeatedly been found in the literature that correlations tend to be higher when the same source has been used to collect data on two issues. Here, we used two different sources (i.e. teachers on type of aggression, and pupils on involvement in bullying) and the use of different informants usually leads to lower bound estimates of the real correlation. Unfortunately, our data also show –as has been shown on many other

occasions (Dodge & Coie, 1987; Dodge et al., 1997; Pulkkinen, 1996)– that reactive and proactive aggression are highly correlated. One reason may be that in order to become proactively aggressive a child must already have developed a tendency to respond with reactive aggression. In other words, proactive aggression could be a type of aggression that only develops in addition to reactive aggression. Dodge and Coie (1987) also suggested that a measurement bias might play a role, as teachers may have difficulties in distinguishing the two behaviors. In fact, they often observe the final part of the aggressive interactions and not all the sequences that lead up to them. Thus, they may merge all aggression episodes into one broader category. The authors believe that teachers could be trained in observing and reporting such differences between types of aggression. The teachers in our study did not receive any training to assess the two types of aggression. It might also be feasible to develop such a measure for children, who presumably will often be witnesses to the full sequence of aggressive interactions between peers. However, Salmivalli and Nieminen (2002), found that the association between reactive and proactive aggression did not depend on informants.

As to stability of involvement, both bullying and victimization were stable, although the general involvement in bullying decreased with age. Tremblay (2000) suggested that parallel to the developmental decrease in aggression, direct bullying may also decrease, perhaps giving way to more indirect forms of bullying. In our sample bullying turned out to be more persistent than victimization, which significantly decreased (Boulton & Underwood, 1992; Olweus, 1991; Salmivalli et al., 1998). A number of explanations can be offered. Bullies may persist in their role because they obtain advantage from it, or because they are reinforced in that role by the expectations of their peers and by the reputation they have built up. Moreover, being victimized is likely to be accompanied by strong, unpleasant feelings, and these may powerfully motivate victims to change their ways. Smith, Madsen, et al. (1999) suggested the following reasons for the decrease in victimization. First, younger children have more children older than them who can bully them. Second, younger children are less socially competent. Third, younger children use a different (wider) definition of bullying. However, there are still pupils who remain in their victim role, at least over a one-year interval. As time passes they are increasingly victimized, once they have been labeled a scapegoat.

Boys were more stable than girls in victimization, presumably because these boys tended to respond with reactive aggression to provocation (Kochenderfer & Ladd, 1997). Girls are usually protected more than boys by their exclusive friends (Boulton & Smith, 1994) or by teachers (Kumpulainen et al., 1999).

Finally, the study provides for an omission. There is a dearth of prevalence figures in the Netherlands based on data other than self-reports. The AVS is a reliable peer report measure. The results indicated that the frequency of bullying was about the same as reported by Bokhorst et al. (2000), but that the frequency of victimization was lower. These differences could have come about because bully/victims reported themselves as victims and not as bullies, which they also were. Haselager (1997) and Mooij (1992), whose subjects were older, found percentages very much like ours. Boys tend more often to be bullies. Similar results have been reported by Bokhorst et al. (2000) and throughout the literature (Boulton & Underwood, 1992; Kochenderfer & Ladd, 1996b; Lagerspetz, et al., 1982; Olweus, 1993; Whitney & Smith, 1993). It may be that bullying has a higher social status among boys, because it is considered as a way of proving themselves in the eyes of others ("tough boys"). Boys are expected to behave in a rough way in order to be accepted by the peer group (Salmivalli, Lagerspetz, et al., 1996). Girls, on the other hand, are usually brought up to be polite, obedient and nice; they also develop an empathic ability (Erwin, 1993). Moreover, girls prefer dyadic interactions based on intimacy, while

boys' friendships tend to be more concerned with power and excitement (Boulton, 1999). Alternatively, the operationalizations used in this study asked for direct ways of bullying, and this may not be the best instrument to unearth bullying by girls, which is assumed to be more indirect (Crick & Bigbee, 1998). No gender differences were found for victimization.

This study is limited because it only concerns a one-year period with two measurements across separate school years. The moderate stabilities found in this study and the meaningful differences between children stably and unstably involved in bullying suggest that longitudinal studies with more than two measurement points may be fruitfully used to investigate developmental pathways of involvement in bullying (cf. Loeber & Le Blanc, 1990).

Nevertheless, we believe that finding a link between bullying and proactive aggression may be very important, because it is at the very least possible that both phenomena derive from similar underlying processes (e.g. deficits in social information processing; Crick & Dodge, 1994, 1996). If this is the case, programs to intervene in proactive aggression problems might be used for a double purpose: reducing aggression as well as reducing bullying at schools. Dodge et al. (1997) claimed that reactive aggression may be more resistant to treatment than proactive aggression, but recently programs have been developed to deal specifically with reactive aggression as well (Hudley & Graham, 1993; Graham, Hudley & Williams, 1992). Studies of underlying processes as well as intervention studies will be informative about the causal nature of the links between types of involvement in bullying and types of aggression.

3

Children's participant roles in bullying and teacher assessments of reactive and proactive aggression

The possibilities are numerous once we decide to act and not react

Gloria Anzaldua

3.1 Abstract

The aim of this study was to establish links between bullying and victimization on the one hand, and reactive and proactive aggression on the other. The sample consisted of 242 (120 girls and 122 boys) Dutch children (mean age: 9 years and 9 months), who were interviewed on bullying and victimization. We used peer report measures to assess involvement in bullying by means of the Participant Role Scale. Children were categorized as bullies, victims, followers of the bully, defenders of the victim, outsiders and those not involved. With respect to gender, boys turned out to be more often bullies and followers, while girls were usually victims, defenders or outsiders. Reactive and proactive aggression was assessed by teachers by means of a questionnaire. Bullies and followers turned out to be both reactively and proactively aggressive, while victims showed only reactive aggression. Outsiders, defenders and children not involved were low on both types of aggression. The relevance of the outcomes for preventing future maladjustment and suggestions for further research are discussed.

3.2 Introduction

Dan Olweus was one of the first authors to define bullying. He wrote that "a person is being bullied when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other persons" (Olweus, 1991, p. 413). Such negative actions assume an imbalance in strength/power, are intentional in nature and may be physical, verbal or psychological (Olweus, 1993; Kaukiainen, et al., 1999; Wolke, Woods, Bloomfield & Karstadt, 2000). Although bullying can be carried out by either a single individual or by a group, it is now widely accepted that bullying is a social phenomenon. It usually takes place in a relatively permanent group (such as a class), where each child plays his/her own role (Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996).

Among the typical features of bullies, aggression is the most manifest and evident. In fact, bullies have been labeled as aggressive and dominant (Björkqvist, Ekman & Lagerspetz, 1982; Olweus, 1993; Wolke & Stanford, 1999); they consider aggression as a means to obtain their own goals and enjoy inflicting suffering. As ringleaders, they have been found to be "socially skilled" (Sutton, 2001; Sutton, Smith & Swettenham, 1999b)

because they are able to manipulate at least some of their peers in order to establish their leadership. Two types of victim have been distinguished: passive victims usually show depression, anxiety, insecurity and low self-esteem (Boulton & Smith, 1994; Olweus, 1993), while provocative victims (or bully/victims) show aggression and anger (Olweus, 1993; Schwartz, McFayden-Ketchum, Dodge, Pettit & Bates, 1998). The latter indeed provoke aggression and fights, are impulsive, hyperactive, and unpopular. They are considered to be the group most at risk of rejection and social maladjustment (Ciucci & Smorti, 1999; Wolke & Stanford, 1999).

Thus, it seems that the type of aggression used by bullies to get their own goals and the one used by victims is different. One of the most accepted distinctions between different types of aggression is the one between reactive and proactive aggression (Dodge & Coie, 1987; Dodge, 1991; Price & Dodge, 1989; Salmivalli & Nieminen, 2002; Pellegrini, Bartini & Brooks, 1999; Pulkkinen, 1996). Reactive aggression is a defensive response to provocation or trouble and is accompanied by anger, while proactive aggression is goal-directed, deliberate and cold-blooded, does not need any stimulus and may be characterized by pleasure or satisfaction (Boulton & Smith, 1994; Crick & Dodge, 1996; Roland & Idsøe, 2001). This may take the form of instrumental aggression ("object-oriented", aimed at obtaining an object or a privilege) or of bullying ("person-directed", used to intimidate or dominate a peer; Price & Dodge, 1989). Reactive aggression is a primary type of aggression in reaction to a provocative stimulus and might be viewed as justified by the need to defend oneself and to retaliate against abuse (Pellegrini et al., 1999; Pulkkinen, 1996; Schwartz, McFadyen-Ketchum, et al., 1998). Proactive aggression is built up through incentives and reinforcements, is useful to achieve goals and is offensive and provocative. Dodge, Lochman, Harnish, Bates and Pettit (1997), in a longitudinal study of children from kindergarten to the third grade, have traced these differences in type of aggression to differences in developmental histories, in social and emotional adjustment and in social information-processing patterns. As to differences in developmental histories, reactively aggressive children often show a history of physical abuse, harsh discipline, deprivation and insecure attachment patterns, while proactively aggressive children may have been exposed to aggressive models –on television or within the family– reinforced and endorsed by the environment. Although Pulkkinen (1996) claims that reactive aggression is socially more accepted, reactively aggressive children seem to be more often rejected by their peers than proactively aggressive children, who usually have a higher social status, at least until the end of kindergarten (Price & Dodge, 1989). Presumably, this is because reactively aggressive children present difficulties in social and emotional adjustment, such as hyperactivity, personality disorders and somatization. As to differences in social information processing, Crick and Dodge (1996) reported that reactively aggressive children attribute hostile intent to their peers and respond in an aggressive way. Thus, they present deficits in interpreting social cues. Proactively aggressive children evaluate aggression in a more positive way and as a valid means to reach goals. They differ from the others in goal clarification. Similar outcomes have been reported by Dodge and Coie (1987) and Dodge (1991).

In the present study, we investigated whether being bully or victim is linked to different types of aggression. Kochenderfer and Ladd (1997) reported that victims display reactive aggression and Schwartz, McFadyen-Ketchum, et al. (1998) that victims are characterized by externalizing behavior and counteraggression. Crick and Dodge (1999) and Price and Dodge (1989) advanced the hypothesis that bullies are proactively aggressive, which has been supported by some researchers (Boulton and Smith, 1994; Olweus, 1993; Pellegrini & Long, 2002). However, recent studies have found that bullies show both reactive and proactive aggressive behavior, while victims only show reactive

aggression (Camodeca, Goossens, Meerum Terwogt & Schuengel, 2002; Pellegrini et al., 1999; Roland & Idsøe, 2001; Salmivalli & Nieminen, 2002). These studies are characterized by different methodological approaches and data were collected across a wide range of subjects, differing both in age and cultural backgrounds. Pellegrini et al. (1999) employed 11-year old American children; they used self-reports (Olweus, 1983) for detecting bullies and victims and teacher reports (Dodge & Coie, 1987) for assessing reactive and proactive aggression. The sample employed by Salmivalli and Nieminen (2002) was 10-13 years old. The authors used the Participant Role Scale, although they recoded it in order to consider only the roles of bully, victims, bully/victim and those not involved. Reactive and proactive aggression was assessed by both peers and teachers, who were more in agreement about children's reactive aggression than about their proactive aggression. However, teachers as well as peers found the bullies to be reactively and proactively aggressive, the victims only reactively aggressive, and the bully/victims pervasively aggressive, i.e. they scored high on a combination of the two types of aggression. Roland and Idsøe (2001) studied a large sample of 3884 children in grades five and eight (11 and 14 years old). They used self-report measures both for reactive and proactive aggression and for bullying. They found that in younger children reactive aggression was related to bullying and to victimization, and that proactive aggression was a better predictor of bullying than of victimization, although it was linked to both. With the passing of time there was a strong relationship between bullying and proactive aggression, while victimization was only weakly related to proactive and reactive aggression.

In a previous study (Camodeca et al., 2002), we employed the same sample as in the present investigation, but one year younger (8-9 years old). We used peer nominations for detecting bullies, victims and bully/victims and teacher reports to assess reactive and proactive aggression. Outcomes indeed showed that bullies were proactively and reactively aggressive, victims only reactively aggressive and bully/victims pervasively aggressive. The aim of the present study was to find evidence that these links are also valid with older children and when using a different instrument to assess involvement in bullying. In fact, other roles besides those of bully and victim were detected in this study. Children were grouped into bullies, victims, followers of the bully, defenders of the victim, outsiders and not involved (Salmivalli, Lagerspetz, et al., 1996). We supposed that those children who assist and reinforce the bully are similar to the bully (Sutton & Smith, 1999) and can therefore be both reactively and proactively aggressive. On the other hand, those children who defend the victim may have developed characteristics of assertiveness and popularity which exclude aggression. Outsiders and uninvolved children may be able to remain outside the bullying just because they are non-aggressive and have the capacity to withdraw from threatening situations. As far as we know, no other studies investigated the associations between these two types of aggression and the different roles in bullying. Thus, the novelty of the present study is that the instrument used is an improvement on the one used in the previous study (Camodeca et al., 2002), since it assesses more roles than merely those of bully and victim. Furthermore, finding once again a link between reactive and proactive aggression on one hand and bullying on the other one year later gives a longitudinal perspective to such associations.

The effect exerted by gender was also taken into account, as it has been found to affect outcomes about bullying (Boulton & Underwood, 1992; Camodeca et al., 2002; Lagerspetz, Björkqvist, Berts & King, 1982; Olweus, 1993; Whitney & Smith, 1993). In the present study general bullying was analyzed and we expected the same outcomes found by Salmivalli, Lagerspetz, et al. (1996). They reported not only that boys were more often bullies than girls and that no differences existed for victimization, but also that boys were more often involved in aggressive acts (also as followers of the bully), while girls played

the roles of defender and outsider more often than boys. Girls are usually reared to be nice, empathic and sensitive, while aggression among boys receives more approval and is used to dominate and to show power. For these reasons too we expected boys to be more aggressive than girls both reactively and proactively.

We think that the relationship between reactive and proactive aggression and bully-victim problems may be useful in order to develop new intervention programs against bullying. In fact, while the interventions for reactively aggressive children are based on anger control, role-taking and correctness of attributions (Hudley & Graham, 1993), those for proactively aggressive children propose punishing aggressive behaviors and teaching assertive behaviors (Salmivalli & Nieminen, 2002). If a link between these types of aggression and the role in bullying is found, we may be able to take advantage of these interventions by applying them to bullies and victims.

In brief, the aim of the present study, whose approach sees the class as a whole as being involved in the bullying situation, is to test whether, in comparison with the other children, bullies and followers are more often proactively and reactively aggressive and victims are more often reactively aggressive. We also expected that defenders, outsiders and those not involved would be low in both types of aggression.

3.3 Method

3.3.1 Sample

The present work is part of a longitudinal study, carried out in four schools in the Netherlands (cf. Camodeca et al., 2002). In the present study 242 children (120 girls and 122 boys) participated, in fifth (49.6%; mean age: 9 years and 3 months) and sixth grade (50.4%; mean age: 10 years and 4 months) in nine classes. Their average age was 9 years and 9 months (M = 117.2 months; SD = 8.4).

All the schools served a population of widely varying socioeconomic backgrounds, but predominantly of middle socioeconomic status. Less than 5% of participants were of non-Dutch origin. In order to enlist subjects, all parents received a letter explaining the purpose of the study, the procedures involved and the longitudinal nature of the project. Parental consent was obtained for more than 90% of the subjects approached.

The same sample was employed in a previous study (Camodeca et al., 2002), one year before, when we asked 242 children (126 girls and 116 boys) to nominate bullies and victims by means of the Aggression and Victimization Scale (Perry, Kusel & Perry, 1988). At that time teachers filled out the same questionnaire about reactive and proactive aggression used in the present study.

3.3.2 Procedure

In the spring of 2000, pupils were asked to answer the Participant Role Scales (Salmivalli, Lagerspetz, et al., 1996). Pupils were tested in a quiet room in the school and always in private by trained master students. Children were told it was best not to discuss what had been said, and that the information they supplied would be treated as confidential. To assess reactive and proactive aggression, we made use of an instrument developed by Dodge and Coie (1987), the Reactive and Proactive Aggression Scale (RePro), completed by teachers.

3.3.3 Measures

The Participant Role Scales (PRS)

These scales were designed by Salmivalli, Lagerspetz, et al. (1996) to assess children's roles in the bullying situation. The authors assumed that almost all the pupils in a class are aware or involved in the bullying situation and that it is possible to assign every child a role. Thus, besides the classical roles of victim and bully, the classmates play other roles: on one hand, they may help the bully (assistants) or support him by laughing or inciting (reinforcers), and on the other hand, they may aid or console the victim (defenders). They may also remain outside the situation, sometimes pretending not to be involved (outsiders). The original PRS consisted of 50 descriptors of behavior according to which the children were asked to evaluate on a three-point scale each of their peers and themselves. In order to identify the victims the authors used nominations.

Oude Nijhuis (2001) validated the PRS in the Netherlands. Instead of the original rating procedure used by Salmivalli, Lagerspetz, et al. (1996), she employed a nomination procedure. In this way children could nominate one or more classmates for each descriptor, which was found to enhance the data collection, in accordance with the findings of Sutton and Smith (1999) and Sutton et al. (1999b). Further, Oude Nijhuis (2001) added seven victimization items taken from the Aggression and Victimization Scale (Perry et al., 1988). In this way a new scale for victims was created. Using this format, Oude Nijhuis (2001) found that defenders were the most popular, bullies turned out to be rejected or controversial, while victims were mostly neglected. Outsiders predominantly had average status.

We kept the changes made to the PRS by Oude Nijhuis (nomination procedure and victimization items) and in addition we deleted those items with the lowest loadings on the factors. The new PRS now consisted of 32 items, which were subjected to a Principal Component Analysis (PCA) with varimax rotation, which yielded four factors. The total variance explained was 74.6%. Four items were deleted because of low loadings (< .50) or cross-loadings; the remaining items loaded .50 or higher on one dimension. All the bullying items (bully, assistant and reinforcer) loaded on the first factor, which was also found by Salmivalli, Lappalainen and Lagerspetz (1998) and by Sutton and Smith (1999). But, despite the high correlation among the items for bully, assistant and reinforcer, these authors kept these roles separate, on the basis of their content. In the present study, we created a scale for pure bully and a scale for follower, merging the items for assistant and reinforcer (cf. Sutton et al., 1999b). The items for defender, outsider and victim loaded on three separate factors, which were kept on separate scales. The number of items and the reliability coefficients for the five scales were as follows: bully (6 items, $\alpha = .97$), follower of the bully (reinforcers plus assistants; 8 items, $\alpha = .93$), outsider (6 items, $\alpha = .91$), defender (4 items, $\alpha = .85$), victim (4 items, $\alpha = .91$). The scores were standardized by class using z-scores. We used the procedure employed by Salmivalli, Lagerspetz, et al. (1996) to assign a role to each child. A child was assigned a role if the score on the scale designed to assess that role was above the mean and if the difference between this scale score and the next highest scale score was at least 0.1. In the case of the scales for bully and follower alone, we assigned the role in which the score was highest, even when the difference between the two scores was smaller than 0.1. Pupils who received almost equal scores on two or more scales ($n = 15$; 6.2%) were considered as not having a clear role and were not included in the analyses. Thus, the final sample employed in the analyses consisted of 227 children (108 girls and 119 boys). Of these, 22 (9.7%) pupils were assigned the role of *bully*, 38 (16.7%) the role of *follower*, 52 (22.9%) the role of *outsider*, 48 (21.1%) the role of *defender* and 35 (15.4%) the role of *victim*. Unlike Salmivalli,

Lagerspetz, et al. (1996), who also labeled those who scored below zero as not having a clear role, we considered these children as *not involved* (n = 32; 14.1%) in the bullying situation.

The Reactive and Proactive Aggression Questionnaire (RePro)

The RePro was developed by Dodge and Coie (1987). The original questionnaire consisted of 12 aggressive behavior items for reactive (e.g. "When teased, strikes back") and proactive aggression (e.g. "Uses physical violence to dominate"), plus 12 filler items. Later the authors decided to limit the two scales to three items each, choosing only the items which loaded highest on the factor analysis.

We used 9 of the original 12 aggression items (four for reactive aggression and five for proactive aggression), plus 4 filler items (which were excluded from the analysis). The answer modality was a 7-point scale, instead of a 5-point scale, as in the original version. Cronbach's alphas were .90 for the reactive aggression scale and .93 for the proactive aggression scale. We made use of standardized scores within each class, in order to minimize the effect of the raters.

The correlation between reactive and proactive aggression was .81 ($p < .01$). This high correlation coefficient might give rise to a multicollinearity problem when regression analysis is used (cf. Camodeca et al., 2002). Tabachnick and Fidell (1996, p. 87) fixed the criteria for multicollinearity in a "conditioning index greater than 30 and at least two variance proportions higher than .50 for a given root number". In our analysis the conditioning index was much lower than 30 and thus, although two variance proportions were greater than .50, multicollinearity did not seem to be a problem. We surmise that the distinction between reactive and proactive aggression is reliable and valid.

In order to check the incidence of the two types of aggression in the whole sample, we decided to use the classification employed by Dodge et al. (1997): *reactively aggressive* children were those who scored more than 1 *SD* above the mean on the respective scale and less than 1 *SD* on the proactive aggression scale, while *proactively aggressive* children were those who scored more than 1 *SD* above the mean on the proactive aggression scale and less than 1 *SD* on the reactive aggression scale. Children who received a reactive and a proactive aggression score higher than 1 *SD* over the mean on both scales were considered *pervasively aggressive*. All the others (scoring less than 1 *SD* on both scales) were classified as *non-aggressive*. In this way, we found 12 (5.3%) reactively aggressive children, 11 (4.8%) proactively aggressive children, 28 (12.3%) pervasively aggressive children, and 176 (77.5%) non-aggressive children. (Data were missing for 15 subjects).

Reactive and proactive aggression turned out to be relatively stable over time, at least with a one-year interval between one measurement and the following. Test-retest correlations with scores collected one year earlier (Camodeca et al., 2002) were r = .71 and r = .63 for the reactive and proactive aggression scales respectively, while, at the nominal level, crosstabulation yielded Kappa = .42 ($p < .001$, exact significance).

3.4 Results

We investigated the link between involvement in bullying on the one hand and reactive and proactive aggression on the other by means of regressions and crosstabulations. A number of hierarchical regression analyses were run on involvement in bullying as a dependent variable. Since we did not find any effect due to difference in grade, we excluded age from the analyses. Gender was entered in the first step, the two scores for reactive and proactive aggression in the second step, and the interactions between these and gender in the third (the latter two steps entered with the stepwise

method). As the scores of the dependent variables revealed some extreme cases, we ran the regression analyses on the scores after they had been normalized with the SPSS ranking program, which centers the means. The variable gender was also centered (it was recoded into the values of -1 and +1 for boys and girls respectively).

Table 3.1
Regression of the RePro on the PRS

Variable		Predictors	β	*R*	R^2	R^2 change	*F (df)*
Bully	*I step*			.45	.20		58.06 (1)***
		Gender	-.45***				
	II step			.71	.50	.30	75.42 (3)***
		Gender	-.28***				
		Proactive	.37***				
		Reactive	.22*				
Follower	*I step*			.49	.24		70.89 (1)***
		Gender	-.49***				
	II step			.72	.52	.28	80.21 (3)***
		Gender	-.32***				
		Proactive	.34***				
		Reactive	.24*				
Victim	*I step*			.02	.00		.10 (1)
		Gender	.02				
	II step			.41	.17	.17	22.66 (2)***
		Gender	.18**				
		Reactive	.44***				
Defender	*I step*		.	.43	.18		49.67 (1)***
		Gender	.43***				
	II step			.54	.29	.11	46.78 (2)***
		Gender	.29***				
		Reactive	-.36***				
Outsider	*I step*			.41	.16		44.49 (1)***
		Gender	.41***				
	II step			.66	.43	.27	56.75 (3)***
		Gender	.24***				
		Proactive	-.28**				
		Reactive	-.28**				

*$p < .05$. **$p < .01$. ***$p < .001$.

The interaction between gender and type of aggression did not yield any significant results and was therefore removed from the analyses, which were rerun without the interaction effect. Table 3.1 shows the results of the regressions obtained with the ranking procedure.

The results support our expectation that bullying would be associated with both proactive and reactive aggression, while victimization is only associated with reactive aggression. Being a follower showed the same pattern as being a bully (it was related to both types of aggression), while being a defender was negatively related to reactive aggression and being an outsider was negatively related to both types of aggression. Bullies and followers were more often boys, while defenders, outsiders and victims were more often girls.

When crosstabulations were used with the nominal scores (Table 3.2), we again found that bullies were pervasively aggressive, followers reactively and pervasively aggressive and victims solely reactively aggressive. All of them were more aggressive than could be expected by chance. On the other hand, defenders, outsiders and those not involved were less aggressive than expected by chance.

The link between type of aggression and gender was investigated by means of a t-test. Boys turned out to be both more reactively (t = -5.95; p < .001) and proactively (t = -3.68; p < .001) aggressive than girls.

Table 3.2
Crosstabulation Between Type of Aggression and Involvement in Bullying: Observed and (Between Parentheses) Expected Frequencies

	Proactive	Reactive	Pervasive	Nonaggressive
Bully	2 (1.1)	2 (1.2)	10 (2.9)***	8 (16.8)***
Follower	2 (1.8)	5 (2.0)**	12 (4.7)***	17 (27.5)***
Victim	3 (1.6)	5 (1.8)**	4 (4.2)	20 (24.4)*
Defender	2 (2.3)	0 (2.5)*	1 (5.9)**	42 (34.3)**
Outsider	2 (2.6)	0 (2.8)*	0 (6.5)***	48 (38.1)***
Not involved	0 (1.5)†	0 (1.7)†	1 (3.9)*	29 (22.9)**

Note. N =215, because of missing values in either the PRS or the RePro. χ^2 = 78.38; p < .001.
† p < .10. *p < .05. **p < .01. ***p < .001.

3.5 Discussion

The results clearly supported the hypotheses. Bullying was positively linked with reactive and proactive aggression, while victimization was only associated with reactive aggression. Only bullies and followers demonstrated proactive aggression, which is the typical behavior to obtain goals through coercion, threats and harassment. It is a behavior that is usually successful in terms of certain benefits (Sutton, 2001; Sutton, et al., 1999b) and dominance (Pellegrini & Long, 2002) and that is why bullies persist in bullying. They may also continue their aggression because they have to defend their role among their

classmates. Then, once they are labeled as aggressive by their peers, it might be difficult to change their behavior, as studies on stability claim (Camodeca et al., 2002; Boulton & Smith, 1994; Olweus, 1979; Salmivalli et al., 1998). Bullies are also reactively aggressive, i.e. they defend themselves with counter-aggression because they tend to perceive threats in every situation and therefore to respond with anger and retaliation (Crick & Dodge, 1994; Graham & Juvonen, 1998). In this way bullies and followers resemble victims, although their reactive aggression may have different causes. In fact, bullies and followers may react with aggression either because it is the only way they know to interact with peers, or in order to intimidate others and regain or keep their dominant position. Victims, on the other hand, are reactively aggressive when they feel harassed and provoked, they are exasperated and tend to show their anger and aggression. They may think this is the best way to cope with their tormentors, but usually reactive aggression is ineffective in gaining desired outcomes (Pellegrini et al., 1999; Salmivalli, Karhunen & Lagerspetz, 1996; Schwartz, McFadyen-Ketchum, et al., 1998) and could indeed even have the effect of making the bully more ruthless.

Followers presented the same pattern as bullies. However, the crosstabulations showed that they were over-represented in the reactive group, which was not the case for bullies. This outcome stresses the difference between the two roles, although it is very slight. In fact, followers may react to frustration with more anger than bullies; they do not have the same power and status as the bullies (Salmivalli, Lagerspetz, et al., 1996) and so they may lose their temper more easily. It is possible that followers are similar to or indeed are bully/victims, or provocative victims. In fact, followers are around the ringleader bully, they support him/her and stand for him/her. Since they are unable or unwilling to retaliate towards the bully, they pick on someone else, usually weaker (Rigby, 1997). On the other hand, followers may bully incidentally or in a minor way and we may suppose that they could be harassed by the bully himself, who also threatens and teases his/her own supporters. Followers are used to obeying their leader and sometimes this makes them play the role of victim. If this is the case, the results are consistent with those found in previous studies for bully/victims, who have been found to be both reactively and proactively aggressive, but may show more reactive aggression than pure bullies (Camodeca et al., 2002; Olweus, 1993; Pellegrini et al., 1999).

Defenders, outsiders and those not involved were all low on aggression. They did not meet aggression with aggression and did not use aggression to achieve their aims. Certain characteristics may be necessary for becoming a defender: they need to be competent at exercising assertive strategies, they must be highly prosocial and empathic. It is likely that they are good at regulating their emotions, a characteristic which is usually missing in reactively aggressive children. However, outsiders and children not involved also seem to be good at regulating emotions and at using assertive strategies which do not include aggression. But, by definition, what distinguishes them from the defenders is that although they do not take part in the bullying, they do not stand up for the victims in an active way either. They thus avoid harassment for themselves, but they are of no help to the others. It might nevertheless be worthwhile studying them more closely, as they apparently have a talent for withdrawing from trouble and such a talent would be useful to victims.

With respect to gender, boys were more often labeled as bullies and followers, while girls were more often found to be defenders, outsiders and victims. Boys also scored higher on reactive and proactive aggression. Such gender differences have been consistently reported in the literature (Lagerspetz et al., 1982; Olweus, 1993; Salmivalli, Lagerspetz, et al., 1996; Whitney & Smith, 1993). Two reasons may be advanced. It may be that there is more acceptance of aggression among boys, both as a reaction to

harassment and as a means to reach goals. On the other hand, girls are usually expected to be polite, obedient and nice, and these are highly valued characteristics for them. Girls also develop more of an empathic ability (Erwin, 1993) and usually show more sympathy for victims (Menesini et al., 1997). The second reason why boys and girls differ might be found in a bias due to the type of questionnaire used. This study asked for general bullying, which may be confused with direct and physical bullying, more characteristic of boys, whereas girls can be aggressive in indirect and relational ways and use more subtle forms (damaging someone's reputation, refusing friendship, isolating the victim) (Björkqvist, Lagerspetz & Kaukiainen, 1992; Crick & Bigbee, 1998; Crick & Grotpeter, 1995). Since the PRS does not assess the different types of bullying (physical, verbal, relational), it might be interesting to investigate whether reactive and proactive aggression relate differently to direct and indirect bullying.

The results found with the PRS are fairly similar to those found in the same sample using another instrument (the Aggression and Victimization Scale by Perry et al., 1988), as shown in a previous paper (Camodeca et al., 2002). It is a confirmation that the distinction between these two types of aggression may be useful to distinguish between bullies and followers on the one hand and victims on the other, either when children are 7 or 10 years old. In addition, since reactive and proactive aggression as well as involvement in bullying seem to be stable with the passing of time, it is very important to find effective ways of stopping this self-maintaining behavior.

Proactive aggression can be treated by teaching children more assertive strategies and different ways to reach their own goals, and by destroying the image of the bully as a "tough boy". Once this aim has been reached it is likely that followers will also reduce their aggressive behavior since they no longer have the ringleader bully to assist, reinforce or imitate. On the other hand, special programs dealing with reactive aggression may try to teach children non-aggressive ways to cope with frustration and to control anger (Hudley & Graham, 1993). Since the majority of pupils have been classified as defenders, outsiders or not involved, it might be useful to employ these children for treatment programs, training them to become supportive, assertive and empathic (by means of role-playing, for example). But more research is needed in this direction as it may be not always advisable to treat children in different ways and to give them more responsibilities than others (which they are perhaps too young to bear). It might also be interesting to train outsiders to become defenders, although this may be risky, since the reason they avoid threatening situations may in fact be that they are incapable of coping with them.

4

Links between social information processing in middle childhood and involvement in bullying*

We got one of the small ones; we held him hostage.
We made him climb up on the saddle, onto the roof. We sorrounded him.
We held him over the side of the roof. We kicked him. I gave him a dead leg.

Roddy Doyle, "Paddy Clarke Ha Ha Ha"

4.1 Abstract

The aim of this study was to investigate the way in which bullies, victims, bully/victims and those not involved process social information. A peer nomination measure of bullying and victimization was administered twice over an interval of one year. The sample consisted of 236 (126 girls and 110 boys) children at the beginning of the study (T1) and 242 children one year later (T2) (mean age: 8 years). To test how children responded when provoked, both spontaneously and after prompting, we used provocation scenarios, and to test their attributional interpretations we used ambiguous scenarios. The results showed that children not involved in bullying responded in an assertive way to provocation more often than bullies and victims, but not more than bully/victims. In general, aggressive answers diminished after prompting and irrelevant answers increased. Appealing for the help of an adult or a peer was the strategy most often chosen. When the intent of the perpetrator was ambiguous, bully/victims attributed more blame, were angrier and would retaliate more than those not involved. Partly similar results were obtained when stably involved children were compared with those unstably involved. Suggestions for intervention are presented.

4.2 Introduction

The subject of bullying has become a focus of attention for researchers all over the world. Bullying is a negative, intentional behavior (physical, verbal or psychological harassment) displayed by children towards their peers. It is repeated over time and implies an imbalance of power. Olweus (1978, 1993), who may be considered a pioneer in this field, was the first to devote scientific attention to this type of aggression and to demonstrate the consequences for both bullies and victims. His example has since been followed by numerous researchers from different countries and continents (cf. Juvonen &

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Graham, 2001; Smith and Brain, 2000; Smith, Morita, et al., 1999). Initial interest focused on the incidence of bullying, but this soon gave way to a variety of other approaches. New instruments based on peer reporting instead of self-reporting for assessing bullying and victimization have been devised and studied (Pellegrini, 2001; Perry, Kusel & Perry, 1988; Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukianen, 1996). Studies have been carried out into the backgrounds and characteristics of children involved in bullying (Boulton & Smith, 1994; Hawker & Boulton, 2000; Pellegrini, Bartini, Brooks, 1999) and a fair amount of work has been done on ways of developing intervention programs in order to stop this behavior (Olweus, 1993; Salmivalli, 1999; Smith, Ananiadou & Fernandez, 2001). More recently, investigators have begun to focus on social knowledge and social cognitions of children involved in bullying. These studies are based on one of the two important theories on the topic: theory of mind (Sutton, Smith & Swettenham, 1999a, 1999c, 2001) and social information processing (Crick & Dodge, 1994; Dodge, 1986).

In the present study the issue of bullying was investigated from the perspective of social information processing. There is still a dearth of studies that approach the topic from this point of view (Almeida et al., 2001; Lo Feudo et al., 2001), even though this approach is considered to be among the most important heuristic perspectives on aggression (Pettit, Polaha & Mize, 2001). It was originally developed by Dodge (1986) and reformulated by Crick and Dodge (1994). Their new model consists of six stages, depicting a sequential series of steps in a circular formula, from the encoding of cues to behavioral enactment. At step 1 the child encodes sensory input in a given social situation into information bits. These need to be interpreted (step 2). The child needs to clarify and select his goals (step 3). At this point, the child has to look for a response or construct one, on the basis of its presumed efficacy and evaluation of the available means (step 4). Then the child can decide which response is the best one (step 5). Finally, at step 6, he enacts the behavioral response.

Other explanatory models, like Salmivalli's systematic description of different social roles and their interactive characteristics (Salmivalli, Lagerspetz, et al., 1996) or Sutton's focus on the Theory of Mind as a prerequisite of social competence (Sutton et al., 1999a, 2001), might in some ways complement the systemic social information processing approach. However, we opted for the social information processing framework since it offers a heuristic approach to decomposing complex processes in specific classes of cognitions which may be relatively easy to assess. Moreover, the success of the framework has amply been demonstrated with aggressive children. Theory, and the authors themselves suggested it as a useful tool for research on bullying.

The general ideas behind this approach are that children (and people in general) differ in the extent to which they understand and interpret social situations, and that – together with past experiences and biological capabilities– these differences influence their behaviors (Lemerise & Arsenio, 2000). In fact, past experiences and biological capabilities may be reflected in latent cognitive structures which are thought to affect processing of social information. Relationships with parents and peers, attachment working models, education, temperament and social learning are all examples of what may be stored in a database constituting one's social knowledge and providing interpretative information about the outside world and ways to respond to this world (Crick & Dodge, 1994; Pakaslahti, 2000; Pettit et al., 2001).

Many studies have focused on the social skills of aggressive children and the reasons why they respond aggressively (Cairns & Cairns, 1991; Dodge & Crick, 1990; Pakaslahti, 2000; Sutton et al., 1999a). Aggressive children generate only few alternative solutions when facing a social problem (Guerra & Slaby, 1989) and tend not to have nonaggressive solutions in their repertoire (Crick & Dodge, 1994). Rudolph and Heller

(1997) have suggested that these children respond aggressively because they either do not know any prosocial responses or because their response is more emotionally tinged and less deliberate. These authors demonstrated that the number of socially competent responses increased after reflection, suggesting that aggressive children might have social knowledge, but have difficulty in using that knowledge spontaneously.

Dodge (1991) and Dodge and Coie (1987) hypothesized that there were two different types of aggression, namely reactive and proactive aggression. Reactive aggression is characterized by an angry and defensive reaction to frustration, while proactive aggression is goal-directed, cold-blooded, dominant and coercive. Some authors (Crick & Dodge, 1996; Dodge & Coie, 1987; Loeber & Coie, 2001; Pettit et al., 2001) have claimed that the two types of aggression are characterized by different mistakes (or deficits) in the processing of social information. In fact, they based their claim on the finding that reactively aggressive children attributed hostile intentions to their peers and responded in an aggressive way, thus showing deficits in interpreting social cues (step 2 of the SIP model). Reactively aggressive children did not show aggression in response to consequences of an act, but to their perception of the intentions of the target (Arsenio & Lemerise, 2001). Proactively aggressive children, on the other hand, evaluated aggression in a more positive way and as a valid means to reach goals. This points to different cognitive patterns in goal selection, response construction and behavioral decision (steps 3, 4 and 5 of the SIP model). These proactively aggressive children acted aggressively only in order to attain their goals at the expense of others (Arsenio & Lemerise, 2001).

Applying the reactive and proactive aggression distinction to the domain of bullying, some researchers (Crick & Dodge, 1999; Kochenderfer & Ladd, 1997; Price & Dodge, 1989) suggested that bullies are characterized by proactive aggression and victims by reactive aggression. Recent studies (Camodeca, Goossens, Meerum Terwogt & Schuengel, 2002; Pulkkinen, 1996; Salmivalli & Nieminen, 2002) partly supported this view, showing that victims were indeed reactively aggressive, while bullies and bully/victims displayed both types of aggression.

In this study two types of hypothetical scenarios were used to investigate social information processing: provocation scenarios (in which the children were the victim of an act that was deliberately directed against them) and ambiguous scenarios (in which the intention of the child responsible for the negative action was not clear). When the provocation situations were used, the children were asked not only how they would respond, but also what else they could do and what would be the best thing to do. Thus, it was possible to test their social knowledge in both a spontaneous response and after prompting. The procedure was derived from Rudolph and Heller (1997). Since the situations were provocations, and the children were asked to choose a strategy spontaneously, no differences were expected in terms of aggression between bullies, victims and bully/victims, as all of them were supposed to respond with reactive aggression to provocation. But children not involved in bullying were expected to show more social competence in the face of provocation, by being less aggressive and more assertive than those who were involved.

We expected that after prompting, the number of aggressive responses would diminish (as was also found by Rudoph and Heller, 1997). Moreover, in line with Pakaslahti (2000), we expected that those not involved would give more alternative problem-solving solutions, while children involved in bullying would generate fewer solutions.

In order to test whether bullies, victims, bully/victims and those not involved also differed from each other in the domain of interpretation, ambiguous scenarios were used. When the intent of the others is ambiguous, reactively aggressive children in particular

attribute hostile intents to their peers more than nonaggressive or proactively aggressive children do (Crick & Dodge, 1996; Dodge, 1991; Dodge & Coie, 1987). Victims and bully/victims were expected to be like reactively aggressive children and to have deficits in making attributions of intent more often than bullies and those not involved, and, consequently, to favor a retaliatory response, namely aggression. We also expected victims and bully/victims to express more anger, which is usually linked to attributions of hostile intent to others (Graham, Hudley & Williams, 1992).

The design of this study is longitudinal with assessments at two points in time, with a year between the first and the second measurement. This longitudinal design enabled us to distinguish between those children stably involved in bullying (either as bullies, victims, or bully/victims) and those children who were only involved in one year and not in the other year. Incidental involvement in bullying may have other correlates than stable involvement. For example, incidental involvement may be associated more strongly with group processes (which may have indirect links to social information processing, but which may also be determined by random factors such as composition of the group), while stable involvement may be associated more strongly with social information processing.

In sum, this study investigated: 1) whether bullies, victims, bully/victims and children not involved in bullying differed in the way they responded to provocation; 2) whether they provided different responses in the spontaneous and the prompting situations; 3) whether bully/victims and victims were more prone to interpret ambiguous situations as hostile and to favor retaliatory response; 4) whether children stably involved in bullying showed these differences more than those unstably involved.

4.3 Method

4.3.1 Procedure

Data were collected in the spring of 1998 (T1) and 1999 (T2). Bullying and victimization were assessed at both points of time by means of the Aggression and Victimization Scale. Social information processing was also investigated twice, by means of provocation scenarios, at T1, and ambiguous scenarios, at T2. Children were taken into a quiet room and were tested in private. The interviewers asked them not to discuss the questions with their peers and told them that the information supplied would be treated as confidential.

4.3.2 Sample

The sample employed in this study has also been tested at other points in time and using several instruments (Camodeca et al., 2002). At T1, 236 children (126 girls and 110 boys) took part. They were attending third and fourth grade in four schools in the Netherlands. At T2, 242 children (126 girls and 116 boys) were tested. Their age ranged from 91.4 months at T1 (*SD* = 9.1) to 105.1 months at T2 (*SD* = 8.4). Some children left the study after T1, while others entered at T2. This was because their families either moved away from or moved to the school's catchment area. In fact, 215 children (91.1%, 47% boys and 53% girls) were in the study at both points in time, but we always made use of all the pupils present at a particular point in time (except for the comparison between stably involved subjects and incidentally involved subjects, for which we employed the 215 participants present on both occasions). The consent of the parents had been obtained by way of a letter describing the purpose of the study, the procedures involved and the longitudinal nature of the project. Copies of this letter had been handed out by the teachers

to the children. More than 90% of parents consented to their children's participation in the study. In those cases where the parents did not agree, we asked for permission to use their child as an informant on the bullying and victimization of other pupils and this was always given. This relatively high rate of consent may have been prompted by the support given by the school principals to the study. In socioeconomic terms, the families were predominantly from middle-class backgrounds.

4.3.3 Measures

Bullying and victimization measure

In order to assess bullying and victimization at T1 and T2, we used the Aggression and Victimization Scale (AVS, Perry et al., 1988; Camodeca et al., 2002), translated into Dutch. The original version consists of 7 aggression items, 7 victimization items and 12 filler items. Pupils were requested to nominate same-sex peers who fitted the behavior described in each item, excluding themselves from the list.

We shortened the questionnaire by removing 6 of the 12 filler items and two aggression items which pointed more to aggression in general rather than to bullying or harassing others (for examples and psychometric properties, cf. Camodeca et al., 2002). The reliabilities (Cronbach's alphas) were high at both points in time: at T1 $\alpha = .90$ for bullying and $\alpha = .89$ for victimization, and at T2 $\alpha = .93$ and $\alpha = .92$ for the two scales respectively. We divided the scale by n-1, where n is the number of same sex peers.

Besides the continuous scales for bullying and victimization, we also computed nominal scores. The T1 85th percentile of the two scales (.93 and 1.27, respectively) was chosen as a cutoff point for both points in time in order to avoid biases due to different distributions. In this way we obtained, for T1 and T2, the following categories: *bully* (scoring above .93 on the bullying scale and below 1.27 on the victimization scale; $n = 23$ at T1 and $n = 18$ at T2), *victim* (scoring above 1.27 on the victimization scale and below .93 on the bullying scale; $n = 20$ at T1 and $n = 13$ at T2), *bully/victim* (scoring above the cutoff points on both scales; $n = 18$ at T1 and $n = 7$ at T2) and *not involved* (all the rest; $n = 175$ at T1 and $n = 204$ at T2).

We also found prevalence figures for the 70th, 75th and 80th percentile for assigning the subjects to the categories. The results were comparable, except for the fact that the number of bully/victims increased considerably with the reduction in the cutoff score, while the number of bullies and victims remained similar. Thus, we preferred to select bullies and victims who conformed to a stricter criterion and who were better differentiated from the bully/victims. Moreover, the 85th percentile score is in line with the cutoff score used by Perry et al. (1988) when they linked aggression and victimization (at the nominal level) to peer rejection.

Social information processing measures

Different instruments for assessing social skills at T1 and T2 were employed. At T1, we used six provocation scenarios in which children had to provide solutions to various bullying situations. At T2, we used a set of four ambiguous scenarios for the attributions of intentions and emotions. In both cases, the stories were told in such a way that the subjects imagined themselves being the victim of some mishap. One example of a provocation scenario used at T1 is: "You are talking with a friend when another classmate walks past and starts calling you names. He/she has recently started doing this". We asked three questions for each scenario: "Suppose this happens to you: a) What would you do? b) What else could you do? c) What do you think is the best thing to do?". Each question was asked after children had answered the previous one. The answers were written down

verbatim by the interviewer and then coded into one of the following five categories: 1) aggression, which included both physical aggression and verbal aggression; 2) assertiveness (e.g. "I'd ask for an explanation"); 3) asking for help both from an adult and a peer; 4) avoidance (e.g. "I'd do something else"); 5) irrelevance (the answer did not fit the question, or the child did not answer at all). The categories were totaled for each of the questions (a, b and c) separately over all scenarios. Thus, subjects could get a maximum of 6 and a minimum of 0 for each category and for each type of question. A 6 would indicate that they had given that type of answer six times, one for each provocation situation. To establish the agreement between raters, 40 (16.5%) random cases were coded by two different experimenters independently. The mean intercoder percentage of agreement was 85.6%, with a range of 75%-95%.

At T2, four brief stories were employed, in two versions, one for boys and one for girls. Each of them described a situation in which the intent of the perpetrator was ambiguous. An example is: "You are on your way to school when you see that your shoe laces are untied. You leave your bag on the ground while you tie them. Your favorite book falls out of the bag. At that moment another child passes by and steps on your book. Now there are footmarks on it. You look up and see this child looking at your book and then at you". For each story children answered six questions: 1) whether they considered the perpetrator as mean, 2) whether they thought that he/she had done it on purpose, 3) whether they thought that he/she was happy with the outcome, 4) how much they thought him/her guilty, 5) how angry they were with him/her, 6) how much they felt like doing something back. For the first three questions, subjects had to choose on a 3-point scale: *No* (0), *I don't know* (1), *Yes* (2), while for the other three questions the answer modality was on a 5-point scale (*not at all* (1) to *very much* (5)). Six factor analyses (PCA) were run with each question per four scenarios to see whether scales could be formed on the basis of the same type of answer. Two questions ((2) on purpose and (3) happy) were deleted because of loadings lower than the other scales (which ranged from .62 to .84) and because of low reliabilities and item-total correlations. Alpha coefficients for the four other scales were as follows: *meanness* ($\alpha = .60$), *blame* ($\alpha = .74$), *anger* ($\alpha = .81$), and *retaliation* ($\alpha = .79$). We totaled the scores for each question separately, across the four scenarios. Totaled scores ranged from 0 to 8 for question (1) (meanness) and from 4 to 20 for the other three.

4.4 Results

4.4.1 Provocation situations and involvement in bullying

On data collected at T1 we ran a 4 (role in the bullying situation) by 2 (sex) mixed-model MANOVA, testing for both between and within-effects. As sex did not appear to have any effect at all, the analysis was rerun without this variable. Dependent variables were the five types of answers totaled through the three situations.

A significant between-subjects effect was found (Pillai's Trace = .10; F (12, 693) = 1.94; $p < .05$). The univariate test between subjects showed a significant result only for assertiveness (F (3) = 5.91; $p < .01$). Post hoc test (Bonferroni) showed that children not involved in bullying reported more assertive responses than bullies and victims, but not more than bully/victims. Means and standard deviations (in parentheses) were as follows: bully: 1.43 (1.34); victim: 1.85 (1.79); bully/victim: 3.06 (2.24); not involved: 3.16 (2.28). The three situations (spontaneous, first and second prompt) were also explored separately and again those not involved reported more assertive responses than bullies and victims in the spontaneous situation (Pillai's Trace = .10; F (12, 693) = 1.95; $p < .05$; univariate test:

F (3) = 5.33; $p < .01$). No significant between-subject effects were found in the two prompt situations.

The within-subjects effect was also significant (Pillai's Trace = .46; F (8, 225) = 23.52; $p < 001$). Table 4.1 shows the univariate test (Huynh-Feldt), means and standard deviations for differences across the three situations. As expected, the number of aggressive answers diminished from the spontaneous situation to the first prompt and again to the second prompt, when very few aggressive responses were given. With respect to the other types of answers, asking for the help of someone else (teacher, parent, friend) was most frequent in the spontaneous situation and was also produced most often as the best solution to cope with provocation. The number of answers for avoidance was higher after the first than after the second prompt. After the first prompt, irrelevant answers (or no answer at all) were more frequent than the other categories and, although this type of answer diminished somewhat after the second prompt, more irrelevant answers were still given than initially in the spontaneous situation. The number of assertive answers did not change from one situation to the next.

Table 4.1
Means, Standard Deviations (Between Parentheses) and Test of Group Differences of the Three Different Answers at T1

	(a)	(b)	(c)	*F (df)*
Aggression	1.07 (1.22)^{a†}	.81 (1.03)^{b†}	.45 (.78)^{c}	19.55 (1.87)***
Assertiveness	1.08 (1.02)	.82 (.96)	.98 (1.04)	.22 (1.82)
Help	2.43 (1.41)^{ab}	1.44 (1.18)^{c}	2.39 (1.61)^{b}	34.01 (1.92)***
Avoidance	1.06 (1.03)^{ab}	1.18 (1.11)^{a}	.86 (1.04)^{b}	7.18 (1.81)**
Irrelevance	.36 (.60)^{a}	1.74 (1.49)^{b}	1.32 (1.56)^{c}	49.39 (1.74)***

Note. (a) = "What would you do?"; (b) = "What else could you do?"; (c) = "What do you think is the best thing to do?" Means in the same row with different superscripts (a-c) differ significantly at $p < .05$, two-tailed ($^{\dagger}p < .10$) by the Bonferroni test.
$^{**}p < .01$. $^{***}p < .001$.

4.4.2 Ambiguous situations and involvement in bullying

On T2 data a multivariate analysis of variance with a 4 (role) by 2 (sex) design was run. Gender was again not significant, so we reran the analysis with just the four roles for involvement in bullying as independent factors and the answers to the four questions (meanness, blame, anger and retaliation) as dependent variables. The multivariate test was significant (Pillai's Trace = .11; F (12, 660) = 2.03; $p < .05$). The univariate test, means and standard deviations are shown in Table 4.2. Bully/victims had higher scores than children not involved on blame, anger and retaliation. In the case of blame, bully/victims also scored higher than bullies. Victims followed, although differences were not significant. The groups did not significantly differ in their interpretation of the behavior of the child in the ambiguous situation as mean.

Table 4.2
Means, Standard Deviations (Between Parentheses) and Test of Group Differences of the Three Significant Variables at T2 (Blame, Anger and Retaliation)

	Bully	Victim	Bully/victim	Not involved	*F (df)*
Blame	10.76 (3.38)^{b†}	10.92 (3.82)^{ab}	14.83 (5.49)^{a†}	9.91 (3.35)^{b}	4.41 (3)**
Anger	12.88 (4.34)^{ab}	13.42 (3.65)^{ab}	16.17 (4.45)^{a}	11.64 (3.60)^{b}	4.06 (3)**
Retaliation	8.71 (4.52)^{ab}	8.75 (5.01)^{ab}	11.50 (5.54)^{a}	7.08 (3.55)^{b}	4.03 (3)**

Note. Means in the same row with different superscripts (a-b) differ significantly at $p < .05$, two-tailed ($^{\dagger}p < .10$) by the Bonferroni test.
**$p < .01$.

4.4.3 Social information processing and stability of involvement in bullying

In order to compare those children who were involved in bullying at both times (8 bullies, 3 victims, 6 bully/victims) with those who were involved at one time only (20 bullies, 23 victims, 3 bully/victims), we constructed a variable including all the groups (stable bullies, unstable bullies, stable victims, unstable victims, stable bully/victims, unstable bully/victims and not involved), which served as a factor. A MANOVA with contrasts was run, where the variables at T1 (five categories after each of three questions) and those at T2 were the dependent variables (Pillai's Trace = .56; F (96, 1182) = 1.26; $p < .05$). The univariate analysis showed that stable bullies gave more irrelevant answers in the spontaneous situation (T1) in comparison to unstable bullies (F (6) = 2.51; $p < .05$) and that stable bully/victims blamed the perpetrator (T2) more than their unstable counterparts (F (6) = 2.34; $p < .05$).

4.5 Discussion

The results of this study support the recommendation of Crick and Dodge (1999) to approach the subject of bullying from the perspective of social information processing. Bullies as well as victims reported less assertive strategies in reaction to provocation – suggesting lower social competence– than not involved children. Surprisingly, we did not find a significant difference in terms of assertiveness between those not involved and the bully/victims. In fact, bully/victims are usually described as extremely impulsive and hyperactive, with difficulties in modulating their behavior (Schwartz, Proctor & Chien, 2001). However, our procedure failed to reveal this characteristic. The reason for that may be (partly) found in the use of judgements based on scenarios, which might have elicited little emotional involvement. Other types of measures (self-reports for instance; O'Moore & Kirkham, 2001) as well as the use of different criteria for dividing children into each role could have yielded different results.

Apart from assertiveness, no other response selection differences were found, indicating that the other four strategies studied (aggression, help, avoidance and irrelevance) were chosen in equal measure by those involved and those not involved in bullying. Furthermore, the assertiveness differences between bullies and victims and those

not involved were less clear after reflection, suggesting that the necessary social knowledge may be present in bullies or victims, but may not always be applied.

As suggested by Rudolph and Heller (1997), children supplied different answers when given the opportunity to reflect. Although three categories (help, assertiveness and avoidance) did not differ between the spontaneous situation, the first prompt and the best solution, the categories aggression and irrelevance did differ. Aggression decreased and was mentioned less often as best strategy. This confirms that more nonaggressive solutions are provided if children ponder alternatives and do not act on the basis of their first idea. Unfortunately, many answers given after reflection were irrelevant, indicating that children did not answer properly or did not answer at all. This may be partly due to the relatively young age of the participants. But it also suggests that, at least at this age, children find it difficult to consider alternative options; that is, to act as social strategists. However, a positive interpretation of this finding would be that there is still room for teaching alternative solutions, especially assertive responses, in order to avoid the development of chronic aggressive behavior (Keltikangas-Järvinen & Pakaslahti, 1999).

The fact that the children in most cases (spontaneous reactions as well as after reflection) expressed that they would seek help also suggests that at this age they have difficulties in dealing with provocation situations (Rogers & Tisak, 1996). Given the power imbalance between bullies and victims which characterizes the bullying situation, other people (adults and peers) can be useful to re-establish the balance. The practical application is that it may be advisable to improve this source of help. In fact, it has been found that bullying usually takes place when adults are absent (Olweus, 1993) and that children often report feeling uncomfortable talking to adults about bullying and failing to obtain much support from teachers and peers (Whitney & Smith, 1993). Peers as natural helpers might be useful against bullying (Salmivalli, 1999) and intervention programs may be developed using, for example, mediation, conflict resolution or group discussions.

When children were asked to attribute intent in ambiguous situations, the results partly supported our hypotheses. Contrary to expectations, the most direct hostility indication (meanness) showed no difference between groups. However, bully/victims attributed more blame to the perpetrators, were angrier with them and would have retaliated more than those not involved, suggesting that they did not consider the possibility that the perpetrator meant no harm. Thus, they show deficits in the second step of social information processing (interpretation of social cues) and in the fifth step (response decision), as has often been suggested with respect to both reactively and proactively aggressive children (Crick & Dodge, 1996; Dodge & Coie, 1987). These responses may occur as a chain of events: thinking the perpetrator is blameworthy heightens the emotion of anger (or the other way around: anger leads to blame), which, in its turn, may lead to retaliation through aggressive behavior (Crick & Dodge, 1994; Loeber & Coie, 2001). Another interesting outcome is that bully/victims more often think the perpetrator is to blame than bullies. This supports the notion that bullies do not necessarily make wrong attributions in ambiguous situations (Crick & Dodge, 1996; Pettit et al., 2001).

Victims did not show a clear tendency to attribute hostile intent, contrary to our expectation. Waldman (1996) claimed that isolated children (a group which may overlap with victims of bullying) do not differ from control children in terms of attributions of intent. If victimized children are also depressed, we might also explain the lack of hostile attributions in victims as a sign of their internal locus of control, i.e. depressed children attribute others' negative intentions and actions to their own fault (Quiggle, Garber, Panak & Dodge, 1992).

The results on stability yielded some interesting outcomes. In fact, stably involved bullies provided more irrelevant answers than their unstable counterparts even in the spontaneous situation, when the frequency of such answers was generally quite low. This finding is in line with the studies claiming that socially maladjusted children show a deficit in generating any kind of solution (Pakaslahti, 2000; Spivack & Shure, 1982). This can be due to the fact that aggressive children have difficulties in memory-search processes (Huesmann, 1988). We may surmise that stable bullies run the risk of developing insufficient socially competent strategies. In ambiguous situations, children stably involved as bully/victim blamed others more than those who were unstably involved. This result supports our finding that bully/victims' deficits in step 2 of social information processing become more and more severe once the role becomes firmly established.

Although the stability results suggest that chronic involvement is a stronger risk factor for development than incidental involvement (Loeber & Le Blanc, 1990), we think that the stability outcomes merit further investigation. In fact, our stably involved group consisted of only a small number of subjects and we only investigated data at two points in time. Another limitation of this study was that the use of provocation situations at T1 and of ambiguous situations at T2 did not allow us to investigate whether these two aspects of the social information processing of bullies, victims and bully/victims change with the passing of time.

A suggestion for future research would be to focus on a longitudinal study of children involved in bullying. Moreover, more research is needed to find out whether there is a causal link between involvement in bullying and social information processing. In fact, we do not know what comes first: whether assertiveness prevents involvement in bullying or the other way around, or whether there is another cause. Finally, further research is needed to investigate the role of gender in social information processing and bullying. In fact, there is evidence that boys and girls differ in the way in which they process information, reason or take decisions (Crick & Dodge, 1994; Pakaslahti, 2000). In our study we did not find gender differences. This may be because we assigned the roles in the bullying situation only on the basis of open aggression, while girls are known to use this form of aggression less often and to prefer more relational ways of harassing others (Björkqvist, Lagerspetz & Kaukiainen, 1992; Crick & Bigbee, 1998). An interesting suggestion for further research would be to investigate the distinction between assertiveness and proactive aggression, as in our study we excluded proactive aggression from the assertiveness construct.

In sum, we think that our results echo the findings with respect to reactively and proactively aggressive children (Crick & Dodge, 1996; Loeber & Coie, 2001; Pettit et al., 2001; Rudolph & Heller, 1997). Our study has the novelty of combining bullying and social information processing. The importance of detecting the ways in which children involved in bullying read social situations is that it can provide a basis for intervention programs which enable children to reflect before acting, to make use of socially competent responses, and, basically, to process social information in a more competent way (Pakaslahti, 2000). Interventions can also teach children that aggression is neither legitimate nor useful for obtaining power or reaching goals, and that it is always possible to find less hostile, more assertive solutions than aggression.

5

Social cognitions, anger and sadness in bullies and victims*

When angry, count to ten before you speak; when very angry, a hundred.

Thomas Jefferson

5.1 Abstract

Background: The present study aimed to investigate the social information processing and emotions of children involved and not involved in the bullying situation. More specifically, it investigates the way in which these children interpret social information, which goals they select, how they evaluate their responses and which emotions they express when harassed. *Method:* The participants comprised 242 Dutch children (120 girls and 122 boys; mean age: 117.2 months), who were assigned by means of peer nominations one of the following roles: bully, follower of the bully, victim, defender of the victim, outsider and not involved. Children were presented with ambiguous scenarios and responded to questions about attribution of intents, goal selection and emotions (anger and sadness). In addition, two questionnaires were administered to children in order to assess self-perceived efficacy for aggression and assertiveness, and expected outcomes from behaving aggressively or prosocially. *Results:* Results showed that both bullies and victims presented more deficits than the other children: they scored higher on hostile interpretation, anger, antisocial goals and self-efficacy for aggression. Bullies were the most self-confident group in behaving assertively and victims were the saddest group. All children, irrespective of their role in the peer group, thought that aggressive as well as prosocial behaviour was more likely to produce desired results from a friendly peer than from an aggressive one. *Conclusions:* Bullies and victims seem to be similar in social information processing and in the expression of anger, but the motivations which lead their behavior may be different, as well as the final outcomes of their acts. Suggestions for intervention are discussed. *Keywords:* Bullying, victimization, social information processing, emotions. *Abbreviations:* Participant Role Scale (PRS).

5.2 Introduction

Bullying is a phenomenon characterized by negative actions towards a peer, with the intention to hurt (Olweus, 1991, 1993). The actions of the bully are repeated over time and may include physical or verbal aggression (Olweus, 1993; Boulton & Underwood, 1992), and also relational harassment (Björkqvist, Lagerspetz & Kaukiainen, 1992; Crick & Grotpeter, 1995; Wolke, Woods, Bloomfield & Karstadt, 2000), which harms others by

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means of social manipulation, social exclusion, and malicious rumors. There is usually an imbalance of power between the bullies and their victims. Bullying takes place within relatively small and stable settings (like classes), which are characterized by the presence of the same people (e.g. children). Generally, children other than the bullies and their victims are also involved in the bullying process and may actually maintain the bullying by supporting the bully or failing to defend the victim. Salmivalli, Lagerspetz, Björkqvist, Österman and Kaukiainen (1996) suggested that all the children in particular class play a role in bullying and that only few of them may be considered to be uninvolved.

Many studies have investigated the characteristics of children involved in bullying (Boulton & Smith, 1994; Hawker & Boulton, 2000; Pellegrini, Bartini, Brooks, 1999; Smith & Brain, 2000; Smith, Morita, et al., 1999), but not much is known about the social cognitions and emotions of bullies and victims. How do bullies and victims encode and interpret social cues? How do they respond to them? And how do they react to harassment? Are they really all that different? The general goal of this study was to apply the social information processing approach (Crick & Dodge, 1994; Dodge, 1986) to the bullying phenomenon in order to investigate how bullies and victims read social information and how they react to it. In addition, the role of emotion was investigated.

5.2.1 Social Information Processing

The social information processing theory was reformulated by Crick and Dodge (1994), after being initially presented by Dodge (1986). It is supposed to take place in five mental steps, in a circular formula, leading to a final behavioral enactment (step 6). In step 1, children (or people in general) code social cues from the environment and focus on those that are more important through selective attention. These cues are then given meaning (step 2) through interpretation of others' intents and causal attributions. In step 3, children clarify their goals, i.e. what they want to achieve in order to produce particular outcomes. In step 4 children search for possible responses from long-term memory and are influenced by the attributions they have made and by the goals they want to achieve. In step 5 children choose one of these responses by considering the content of the response itself, the outcome they expect from it, and their self-efficacy in performing it. Finally, in step 6, they enact the behavior chosen. This, in its turn, requires monitoring, during which attention to new cues to be encoded is employed. After step 6 the cycle starts again (Dodge & Crick, 1990), because although individuals are engaged in parallel processes at the same time, the single stimulus follows a linear sequence in which feedback loops are possible across the steps (Crick & Dodge, 1994; Pakaslahti, 2000).

Processing the whole cycle in a skillful way leads to social competence, while biased processing may lead to aggression and social deviance (Crick & Dodge, 1996; Dodge, Lochman, Harnish, Bates & Pettit, 1997; Pettit, Polaha & Mize, 2001; Zelli, Dodge, Lochman, Laird, & Conduct Problems Prevention Research Group, 1999). Aggressive children encode fewer and less benign social cues, because of memory deficits or selective attention (step 1), attribute more hostile intents (step 2), select goals which damage the relationship (step 3), generate fewer prosocial responses (step 4), evaluate aggressive responses more favorably, expect positive outcomes from aggressive behavior, and feel more self-confident in performing it (step 5). Finally, this process leads to the enacting of aggressive behavior (step 6) (Dodge & Crick, 1990; Quiggle, Garber, Panak & Dodge, 1992).

We used the social information processing approach for several reasons. First of all, it has been applied very successfully to explain the thinking of aggressive children (Crick & Dodge, 1999; Pakaslahti, 2000; Pettit et al., 2001). Second, it makes it possible to study

different aspects (steps) of social processing as well as the links between early deficits and later performance. Third, on the basis of social information processing research, a set of tested materials have become available for measuring the various steps (Camodeca, Goossens, Schuengel & Meerum Terwogt, in press; Crick & Dodge, 1994; Orobio de Castro, 2000; Quiggle et al., 1992; Perry, Perry & Rasmussen, 1986) and these can be applied in research on bullying.

5.2.2 Emotion

Crick and Dodge (1994, 1999) have indicated that the social information processing framework would be enhanced by considering the role of emotion as well. Lemerise and Arsenio (2000) integrated emotions and cognitions in the model and claimed that all the steps in the process are affected by emotion. Encoding and interpretation of social cues (steps 1 and 2 of social information processing) can be influenced by anger, mood or type of relationship with the perpetrator; selection of goals (step 3) by anger or empathy with the victim; response generation and decision (steps 4 and 5) by pre-existing emotions, representation of past experiences, or capacity to regulate emotions; final enactment (step 6) by emotion control or capacity to read and convey emotions.

Behavior is influenced by emotion, which may arise from thoughts (Graham & Hoehn, 1995; Weiner, 1995): "cognitive and emotional factors are (…) interrelated dimensions of the same reaction or process" (Loeber & Coie, 2001, p. 395). Children who are extremely intense in their experience and expression of emotion (emotionality) and who present poor emotion regulation skills have been found to be at risk of problem behaviors and social maladjustment (Eisenberg & Fabes, 1992; Loeber & Coie, 2001; Murphy & Eisenberg, 1997; Pakaslahti, 2000; Pettit, et al., 2001). Negative emotions, which were found in bullies and victims (Karatzias, Power & Swanson, 2002), decrease the likelihood of behavioral responses and restrict cognitive capacity to solve problems (Pakaslahti, 2000). Anger is a characteristic of reactively and proactively aggressive children (Dodge, et al., 1997; Dodge & Coie, 1987), but depressed children also seem to be angrier and sadder than non-depressed children (Quiggle et al., 1992). Orobio de Castro (2000) found that antisocial boys said they became angrier and less sad when provoked, and mentioned fewer adaptive emotion regulation strategies than the control group. Thus, since emotions and cognitions are so close, we considered it worthwhile to investigate them in relation to bullying and victimization.

5.2.3 Research questions and hypotheses

The present work was aimed at investigating differences and similarities among bullies, victims and the other children in processing social information and in regulating emotions. Recently, Karatzias et al. (2002) advanced the hypothesis that when treated as a single group, bullies and victims differ from those not involved in respect to well-being, quality of school life and certain personality factors, and were thus more similar than is usually thought. Furthermore, other authors (Camodeca, Goossens, Meerum Terwogt & Schuengel, 2002; Pellegrini et al., 1999; Roland & Idsøe, 2001; Salmivalli & Nieminen, 2002) found bullies and victims to be similar in respect to aggression. More specifically, both bullies and victims are reactively aggressive, i.e. they respond with anger to provocation and use aggression to defend themselves. We surmise that if a child is reactively aggressive and shows deficits at the beginning of social information processing (as Crick and Dodge, 1996, claimed), these deficits continue throughout the whole process and influence every step. If this is the case, we may suppose that bullies and victims encode, interpret and react to social cues in a similar way and that they express the same

emotions. In a previous work, Camodeca et al. (in press) claimed that it was bully/victims who, compared to uninvolved children, attributed more hostile intents in ambiguous situations, expressed more anger and wished to retaliate. Thus, in their sample they did not find differences between bullies and victims. But since bullies are also proactively aggressive (i.e. they display a kind of aggression which is cold-blooded and aimed at reaching goals; Camodeca et al., 2002; Pellegrini, et al., 1999; Roland & Idsøe, 2001; Salmivalli & Nieminen, 2002), they may present more deficits in the final steps of social information processing (Crick & Dodge, 1996) and their motivation for behaving aggressively may be different from that of the victims. For this reason differences between bullies and victims can still be found.

More specifically, in this study we expected both bullies and victims to encode cues (step 1) in a biased way, to misinterpret ambiguous situations (step 2) and to consider them as hostile (Menesini, 1999; Quiggle et al., 1992). As a consequence of this, they may select antisocial goals (step 3) and respond with counter-aggression. This expectation is based on the finding that it is the perception of the intention which determines the behavioral response rather than the intention itself (Dodge, Murphy & Buchsbaum, 1984). For this reason, we expected both bullies and victims to perceive themselves as more self-confident (step 5) in reacting aggressively, but only bullies to perceive themselves as self-confident in displaying assertive behavior (Egan & Perry, 1998; Perry et al., 1986), since victims lack the self-esteem necessary for assertiveness (Graham & Juvonen, 1998; Quiggle et al., 1992; Salmivalli, Kaukiainen, Kaistaniemi & Lagerspetz, 1999). Bullies were expected to think that aggression would produce tangible rewards and reduce aversive treatment more often than all the other children (Crick & Dodge, 1994; Dodge et al., 1997; Perry et al., 1986). The peer who was the target of the behavior was also taken into consideration, as it was found that less favorable outcomes were expected when interacting with an aggressive peer than with a nonaggressive one (Perry, et al., 1986). We did not investigate step 4 for practical reasons, as we considered it too time-consuming to interview these relatively young children about how they thought they would respond, as they already had to answer so many questions. We did not investigate step 6 either, since we were interested in the mental process and not in the ultimate behavior.

As for emotions, we expected both bullies and victims to respond with anger in the face of adversity, as do maladjusted (Orobio de Castro, 2000) and reactively aggressive children (Arsenio & Lemerise, 2001; Dodge & Coie, 1987; Dodge et al., 1997). Moreover, we expected victims to show more sadness when they perceived the negative influence of others (Boulton & Underwood, 1992; Quiggle et al. 1992).

To sum up, the purpose of the present study was to investigate similarities and differences between bullies and victims in social information processing and in the emotions of sadness and anger. The present work is an extension of a previous study by the authors (Camodeca et al., in press) and investigates a greater number of steps in the social information processing of bullies and victims (a year older than in the previous sample), taking into account different measures and the role of emotion.

5.3 Method

5.3.1.Sample

The subjects were 242 Dutch children (120 girls and 122 boys) with a mean age of 117.2 months (*SD* = 8.4), from the fifth (49.6%) and sixth grade (50.4%) of four elementary schools in the Netherlands. The pupils came from various socioeconomic backgrounds, but the majority were from middle class families. Fewer than 5% were of

non-Dutch origin. Parents were asked by letter to consent to their children's participation in the study. The response rate was high (more than 90%). And even when parents did not agree to full participation in the study, they gave permission for their child to act as an informant with regard to bullying and victimization of classmates. The pupils involved in this work are part of a longitudinal study and were also tested using other measures at different points in time (Camodeca et al., 2002, in press).

5.3.2 Procedure

Bullying and victimization were operationalized through a peer report measure, the Participant Role Scales (Salmivalli, Lagerspetz, et al., 1996), as children are the best informants about bullying. Another reason for choosing this instrument was that it has been developed to assess the different roles children may play in the bullying process, and not only those of bully and victim. Pupils were tested individually by trained students in a separate room. They were told that all information would be treated as confidential and that it was better not to discuss what they had said with their peers.

Four scenarios were administered individually to test the processing of social information from the first to the third step of the model, and to test the emotions of anger and sadness. We also used a questionnaire to assess self-efficacy and one to assess expected outcomes. These were both administered to the group in the classroom and tapped the fifth step in social information processing.

5.3.3 Measures

The Participant Role Scales (PRS)

The PRS was designed by Salmivalli, Lagerspetz, et al. (1996) to assess roles in the bullying situation. The original questionnaire consisted of 50 descriptors of behavior according to which the children were asked to rate each of their peers and themselves on a 3-point scale. Five scales were constructed: *bully*, *reinforcer of the bully*, *assistant of the bully*, *defender of the victim* and *outsider*. In order to identify the victims the authors used nominations.

Oude Nijhuis (2001) validated the PRS in the Netherlands. Instead of the original rating procedure used by Salmivalli, Lagerspetz, et al. (1996), she employed a nomination procedure in which children nominated one or more classmates for each descriptor. This was found to enhance data collection, according to the findings of Sutton and Smith (1999) and Sutton, Smith and Swettenham (1999b). Further, Oude Nijhuis (2001) added seven victimization items taken from the Aggression and Victimization Scale (Perry, Kusel & Perry, 1988). In this way a new scale for victims was created and used instead of the original nomination procedure. Using this format, Oude Nijhuis (2001) found that defenders were the most popular, bullies turned out to be rejected or controversial, while victims were mostly neglected. Outsiders predominantly had average status.

We kept the changes made to the PRS by Oude Nijhuis (nomination procedure and victimization items) and in addition we deleted items with the lowest loadings on the factors. The new PRS now consisted of 32 items, which were subjected to a Principal Component Analysis (PCA) with varimax rotation, yielding four factors. The total variance explained was 74.6%. Four items were deleted because of low loadings (< .50) or cross-loadings; the remaining items loaded .50 or higher on one dimension. All the bullying items (bully, assistant and reinforcer) loaded on the first factor, which was also found by Salmivalli, Lappalainen and Lagerspetz (1998) and by Sutton and Smith (1999). But, despite the high correlation among the items for bully, assistant and reinforcer, these

authors kept these roles separate on the basis of their content. In the present study, we created a scale for bully and a scale for follower, merging the items for assistant and reinforcer (cf. Sutton et al., 1999b). The items for defender, outsider and victim loaded on three separate factors, which were kept on separate scales. The number of items and the reliability coefficients for the five scales were as follows: bully (6 items, $\alpha = .97$), follower of the bully (reinforcers plus assistants; 8 items, $\alpha = .93$), outsider (6 items, $\alpha = .91$), defender (4 items, $\alpha = .85$), victim (4 items, $\alpha = .91$). The scores were standardized by class using z-scores. We used the procedure employed by Salmivalli, Lagerspetz, et al. (1996) to assign each child a role. A child was assigned a role if the score on the scale designed to assess that role was above the mean and if the difference between this scale score and the next highest scale score was at least 0.1. Only in the case of the scales for bully and follower did we assign the role in which the score was highest, even when the difference between the two scores was smaller than 0.1. Pupils who received almost equal scores on two or more scales ($n = 15$; 6.2%) were considered as not having a clear role and were not included in the analyses. Thus, the final sample employed in the analyses consisted of 227 children (108 girls and 119 boys). Of these, 22 (9.7%) pupils were assigned the role of bully, 38 (16.7%) the role of follower, 52 (22.9%) the role of outsider, 48 (21.1%) the role of defender and 35 (15.4%) the role of victim. Contrary to Salmivalli, Lagerspetz, et al. (1996), who also labeled those who scored below zero as not having a clear role, we considered these children as not involved ($n = 32$; 14.1%) in the bullying situation.

Scenarios assessing steps 1, 2 and 3 of social information processing and emotions

Four stories (Orobio de Castro, 2000) were presented to the children, in four different orders and in gender-appropriate versions, to investigate the first three steps of social information processing (encoding of cues, interpretation of cues and clarification of goals), and the emotions of anger and sadness. In these stories a child is interacting with a peer when an unpleasant occurrence is caused by the peer. Whether this is intentional or not remains ambiguous. An example is: “Imagine you are taking turns on a computer game with a classmate. When one is finished, it’s the other’s turn. Now it’s your turn and you are doing well. You have already reached the highest level, but you only have one life left. You have never gotten as far as this, so you really give it your best effort. The other boy/girl is looking over your shoulders. He/she sees how far you have got. Then he/she says: ‘Watch out! You have to be quick!’ and pushes a button. But it was the wrong one, and now you’re dead”.

In order to assess encoding of cues (step 1), children were requested to tell the story again. The number of essential elements (4 per scenario: an outline of the story, a report on the importance of the participant’s goals, a description of the provocateur’s behavior and a description of its outcome) was counted to build the variable *encoding*. Intercoder agreement among four different raters (trained students) ranged from .66 to .94. Differences in coding were solved by discussion.

To assess attribution of intents (step 2), children had to answer to the following questions: “Do you think the other child is mean? Do you think that he/she did it on purpose? Do you think he/she is happy with what he/she did?” (Answers on a 3-point scale: *No*, *I don’t know* and *Yes*); “How guilty do you think he/she is?” (Answers on a 5-point scale from *Not at all* to *Very much*). These questions, totaled across four scenarios, were submitted to PCA, and one factor (*hostility*) was extracted (16 items; 31.2% of variance explained; loadings higher than .44; $\alpha = .85$).

At this point, interrupting the questions on the social information processing steps, we asked children three questions about emotions: one for *sadness* (“How sad would you

feel?") and two for *anger* ("How angry would you feel if this happened to you?" and "How angry are you with him/her?"). All answers were on a 5-point scale (from *Not at all* to *Very much*). We ran separate PCA on sadness and anger questions per four scenarios (57.0% and 49.2% of variance explained for sadness and anger, loadings higher than .70 and .60, respectively). Cronbach α's were .75 for sadness (4 items) and .85 for anger (8 items).

In order to assess children's goals (step 3), we asked pupils: "How important is it for you… 1) that you can play the game again right now? 2) to forget as soon as possible? 3) to feel less angry? 4) to let him/her know that he/she should not do it anymore? 5) to retaliate for what he/she did? 6) to have a nice time together? 7) that the other child does not feel guilty about what he/she did?". Answers were on a 5-point scale, with higher scores indicating more importance given. Factor analysis (PCA with varimax rotation, 41.1% of variance explained) revealed two factors: *antisocial goals* (items 1, 4 and 5 per four stories = 12 items; loadings higher than .52; α = .88) and *prosocial goals* (items 2, 3, 6 and 7 per four stories = 16 items; loadings higher than .48; α = .89).

Self-efficacy questionnaire assessing step 5 of social information processing

This questionnaire was used to assess response decision by means of perceived self-efficacy for aggression, inhibition of aggression, and assertive behavior. It is a shorter version (24 4-points items describing social situations) of the questionnaire developed by Perry et al. (1986). High scores indicate high self-confidence. Two versions, one for boys and one for girls, were employed. Examples of items covering the different components are as follows: *Aggression*: "In the playground another child bumps into you. Calling him/her bad names is ___ for you". *Inhibition of aggression*: "One of your classmates invites everyone to his/her party. You are not invited. You would like to say something mean to him/her, but decide not to. Not saying mean things to that child is ___ for you". *Assertiveness*: "Some children want to play a game you do not like. Proposing another game that you like more is ___ for you". In the blanks children had to indicate on a 4-point scale how easy it was for them to perform the specified behavior in that situation by circling one of the following possible answers:

DIFFICULT difficult easy EASY

The item scores were submitted to a PCA with varimax rotation (50.4% of variance explained). Four items were deleted because they showed cross-loadings. All the others loaded above .50 on one of the three expected dimensions. Eight items loaded on aggression (α = .90), five on inhibition of aggression (α = .79) and seven on assertiveness (α = .80).

Expected outcomes questionnaire assessing step 5 of social information processing

The expected outcome questionnaire was also developed by Perry et al. (1986) and measures the degree to which children are confident a certain outcome will occur if they behave in a particular way in a given situation. It was used to investigate the way in which children decide upon their responses. We presented 16 situations to the children, 12 of which anticipated the consequences of aggressive behavior and 4 of prosocial behavior. These situations involved two different types of target children, who were of the same sex as the subjects. In eight situations (6 for aggressive behavior and 2 for prosocial behavior) the target child was described in advance as aggressive and mean ("bossy, always wants to have his/her way, gets angry very easily, hits people and calls them names"), while in the other eight (again, 6 and 2 for the two behaviors) the target child was described as friendly and nice ("always friendly, helpful, always knows nice things to do, everyone wants to play with him/her"). In this way we could investigate whether the target's characteristics

influenced the children's expected outcomes. The two types of target children were presented in a different order, to minimize the effect of priming.

Examples of the situations are the following: *Aggression*: "(Target child) bullies you at school and calls you names. You call him/her names too, in the hope he/she will stop. What will he/she do now?" *Prosocial behavior*: "One day you come to school with a packet of crisps. (Target child) sees this packet of crisps and tries to grab it from you. You want to push him/her away, but decide to share the crisps with him/her. Do you think (target child) will still try to get the crisps from you?". Children had to indicate how sure they were that their behavior would succeed in stopping the other's behavior. Ratings were on a 4-point scale, with 1 meaning that the child was very sure that the consequence would occur and 4 meaning that the child was very sure that the consequence would not occur. A factor analysis (PCA, varimax rotation; 34.0% of variance explained) pointed to the existence of two factors with item loadings higher than .40. Alpha coefficients were computed for the expected outcomes scales for aggression ($\alpha = .79$) and prosocial behavior ($\alpha = .52$). Then each factor was split into two according to the items which were coupled to the aggressive target or to the friendly target. In this way, each child had two scores per scale: one for the expected outcomes with an aggressive target ($\alpha = .72$ for aggression and $\alpha = .54$ for prosocial behavior) and another for the expected outcomes with a friendly target ($\alpha = .65$ for aggression and $\alpha = .25$ for prosocial behavior).

5.4 Results

5.4.1 Preliminary analysis

First, the effects of the order in which the scenarios and the expected outcome situations were presented were analysed. A slight effect for order was found in the scenarios, indicating that the score for antisocial goals was influenced by the first story presented. However, since the distribution of roles in each order was random, no significant relationship was found between order and assigned role. Thus, it is unlikely that order affected the final analyses. For the expected outcomes questionnaire, there seemed to be an effect due to priming: children who answered first with the aggressive target in mind and then with the friendly one in mind were more prone to respond to the latter with aggression. But in this case too we found that the role distribution was random and it did not affect the order of presentation.

Multivariate analyses of variance were run with the scenarios, the self-efficacy questionnaire and the expected outcomes questionnaire as dependent variables. In all cases gender, grade and role in the bullying situation served as independent variables. These were submitted to a hierarchical approach, which allowed for the stepwise removal of non-significant interactions.

5.4.2 Scenarios: steps 1, 2 and 3 of social information processing and emotions

The three-way analysis of variance with the six scales of the scenarios as dependent variables showed a significant effect for grade (Pillai's Trace = .08; F (7, 204) = 2.66; $p < .05$), for role (Pillai's Trace = .26; F (35, 1040) = 1.64; $p < .05$), for the interaction between grade and gender (Pillai's Trace = .08; F (7, 204) = 2.44; $p < .05$) and for the interaction between role and grade (Pillai's Trace = .24; F (35, 1040) = 1.47; $p < .05$). Univariate tests, means and standard deviations for the effect of role are shown in Table 5.1.

Table 5.1
Means, Standard Deviations (Among Parentheses) and Tests of Group Differences of the Raw Scores of Ambiguous Scenarios as a Function of Role in the Bullying Situation

	Bully (n = 22)	Follower (n = 38)	Victim (n = 35)	Defender (n = 48)	Outsider (n = 52)	Not involv. (n = 32)	F (df = 5)
Step 1							
Encoding	12.9 (2.0)	13.1 (1.9)	13.2 (1.4)	13.7 (1.4)	12.9 (1.8)	13.2 (2.0)	*ns*
Step 2							
Hostility	$19.0\ (9.3)_{a}^{\dagger}$	$15.3\ (8.6)_{b}^{\dagger}$	$19.3\ (7.5)_{a}$	$14.7\ (8.0)_{b}$	$15.7\ (7.1)_{b}^{\dagger}$	$13.8\ (7.1)_{b}$	3.11**
Emotions							
Anger	$21.0\ (7.9)_{a}^{\dagger}$	$16.8\ (6.5)_{b}$	$20.3\ (6.2)_{a}^{\dagger}$	$17.0\ (6.3)_{b}$	$17.8\ (6.8)_{b}^{\dagger}$	$16.1\ (6.0)_{b}$	3.95**
Sadness	$7.8\ (4.2)_{bc}$	$6.7\ (3.6)_{b}^{\dagger}$	$9.8\ (3.4)_{a}$	$7.9\ (3.2)_{bc}$	$8.2\ (3.9)_{c}^{\dagger}$	$7.3\ (3.5)_{bc}$	2.75*
Step 3							
Antisocial	$25.5\ (10.5)_{a}^{\dagger}$	$20.6\ (10.3)_{b}^{\dagger}$	$25.0\ (11.9)_{a}^{\dagger}$	$18.8\ (9.1)_{b}$	$19.8\ (10.8)_{b}$	$19.7\ (7.9)_{b}$	2.78*
Prosocial	41.9 (12.9)	37.9 (13.0)	40.7 (11.0)	41.4 (12.5)	41.8 (12.4)	38.9 (11.7)	*ns*

Note. Means in the same row with different subscripts (a-c) differ significantly at $p < .05$, two-tailed ($^{\dagger}p < .10$) by the least significant difference test.
ns = not significant. *$p < .05$. ** $p < .01$.

As for grade, the univariate test was significant for sadness (F (1) = 4.71; $p < .05$), indicating that younger children (fifth grade) were sadder than older children (sixth grade) when a peer annoyed them. The interaction between sex and grade was significant for anger (F (1) = 6.79; $p < .01$) and indicated that while at grade five girls were angrier than boys, at grade six boys were angrier than girls. The interaction between role and grade yielded only a trend ($p < .10$) in the univariate test for encoding, anger and antisocial goals. In absence of specific hypotheses, we did not explore these differences any further.

Roles did not differ from each other in encoding. As for the second step of social information processing, both bullies and victims attributed more hostile intents to the perpetrator. They were angrier than the other children, while victims turned out to be the saddest of the whole sample (a slight difference was also found between outsiders and followers, with the first being sadder). Bullies and victims chose antisocial goals more often than their classmates did. No differences were found for selecting prosocial goals.

5.4.3 Self-efficacy questionnaire: step 5 of social information processing

Three effects attained significance when the MANOVA with the self-efficacy questionnaire as dependent variable was used. These were the main effects of gender (Pillai's Trace = .13; F (3, 214) = 11.04; $p < .001$), grade (Pillai's Trace = .06; F (3, 214) = 4.82; $p < .01$) and role (Pillai's Trace = .13; F (15, 648) = 2.02; $p < .05$). Boys thought more often than girls that it was easy to behave both aggressively (F (1) = 32.20; $p < .001$)

and assertively (F (1) = 9.64; $p < .01$). Older children (sixth grade) were more self-confident regarding assertiveness than the younger ones (F (1) = 9.55; $p < .01$). Univariate tests, means and standard deviations for the effect of role are shown in Table 5.2. Bullies, victims and followers seemed to be more self-confident in behaving aggressively than the other children. Bullies and followers also showed greater confidence than defenders and outsiders (bullies also greater than victims and children not involved) in their own assertive capacities. No role differences were found for self-efficacy in inhibiting aggression.

Table 5.2
Means, Standard Deviations (Among Parentheses) and Tests of Group Differences of the Self-efficacy Questionnaire Raw Scores as a Function of Role in the Bullying Situation

	Bully (n = 22)	Follower (n = 38)	Victim (n = 35)	Defender (n = 48)	Outsider (n = 52)	Not involv. (n = 32)	F (df = 5)
Aggression	23.0 (6.4)$_{ab}$	24.2 (6.5)$_{a}^{\dagger}$	21.8 (6.9)$_{bd}^{\dagger}$	18.0 (5.3)$_{c}$	18.7 (6.0)$_{c}$	19.6 (6.0)$_{cd}$	2.30*
Assertiveness	25.0 (2.1)$_{a}$	23.4 (3.6)$_{ac}$	21.9 (4.2)$_{bc}$	21.6 (4.9)$_{b}$	21.0 (4.9)$_{b}$	22.6 (3.7)$_{bc}$	2.10†
Inhibition	11.5 (3.6)	13.1 (4.0)	12.3 (3.6)	11.5 (3.6)	12.7 (4.0)	11.4 (3.7)	*ns*

Note: Means in the same row with different subscripts (a-c) differ significantly at $p < .05$, two-tailed ($^{\dagger}p < .10$) by the least significant difference test.
ns = not significant. $^{\dagger}p < .10$. * $p < .05$.

5.4.4 Expected outcomes questionnaire: step 5 of social information processing

A multivariate analysis of variance was performed on the scale scores, with three between-subjects factors (role in bullying, gender and grade) and one within-subjects factor (target: aggressive or friendly peer). Two effects were significant. The first was the main effect of grade (Pillai's Trace = .09; F (2, 214) = 9.98; $p < .001$; univariate test: F (1) = 17.87; $p < .001$ for aggression and F (1) = 5.00; $p < .05$ for prosocial behavior). Children in fifth grade were less sure than those in the sixth grade that both aggressive and prosocial behavior would be successful in reducing attacks from the perpetrator or in obtaining rewards. The second significant effect was the within-subjects effect (Pillai's Trace = .75; F (2, 214) = 319.83; $p < .001$). The univariate test of significance (Huynh-Feldt), means and standard deviations for the effect of target are shown in Table 5.3.

Table 5.3
Means, Standard Deviations (Among Parentheses) and Tests of Group Differences on the Expected Outcomes Questionnaire Raw Scores as a Function of the Target Type

	Aggressive target	Nonaggressive target	F (df)
Aggressive behavior	19.6 (3.1)	14.5 (3.0)	634.41 (1)***
Prosocial behavior	4.7 (1.6)	4.1 (1.2)	30.03 (1)***

***$p < .001$.

Children thought that their behavior (either aggressive or prosocial) would be less successful if they were interacting with an aggressive child than if they were interacting with a nonaggressive child.

5.5 Discussion

The results show that bullies and victims display more deficits in processing social information than other children in the class, and that they respond more emotionally to harassment (Lemerise & Arsenio, 2000; Pellegrini et al., 1999). We may surmise that this similarity is due to their common reactive aggression. However, although the way in which bullies and victims process social information produces similar outcomes, we suggest that their motivations and the final behaviors may be different.

Bullies and victims interpret ambiguous situations as hostile, failing in the second step of social information processing. As a consequence of their continued exposure to bullying, victims do not trust others (Champion, 2001; Smith, 1991), while bullies are so used to harassing others on purpose that may think that everyone who behaves aggressively does so on purpose. They also were similar in anger. Anger is a typical emotion of reactively aggressive children (Dodge, 1991; Dodge & Coie, 1987; Loeber & Coie, 2001), which follows from holding others responsible for negative actions against them (Camodeca et al., in press; Graham, Hudley & Williams, 1992; Weiner, 1995) and could therefore be considered an experience factor. But it also seems possible that bullies and victims express anger as a consequence of their hotheaded temperament (in this case it would be anger to lead to blame). The data do seem to support Arsenio and Lemerise's (2001) thesis that reactively aggressive children are easily aroused and more likely to behave aggressively as a result of outbursts of anger. As a consequence, hostile attributions and anger may lead to retaliation through the choice of aggressive goals (Crick & Dodge, 1994; Graham & Juvonen, 1998; Loeber & Coie, 2001). In fact, another point of similarity between bullies and victims turned out to be their choice of antisocial goals. However, their motives may be different. Being also proactive, bullies may use aggressive goals to obtain an object or to achieve higher status in the peer group. In fact, they may bully because they find it easy and useful for their purpose (Sutton, 2001; Sutton , Smith & Swettenham, 1999a). On the other hand, victims may resolve to select goals which destroy the relationship either as a result of frustration, or because they are not capable of behaving prosocially, or because they think that this is indeed a successful way of defending themselves from the bullies' attacks.

Another similarity between bullies and victims is that both of them seemed self-confident about behaving aggressively. This may be influenced by anger, which could increase confidence in their capacity to retaliate aggressively. It can also be a consequence of the previous social information processing step: if one selects antisocial goals, it is likely that he/she feels confident of achieving them. Feeling self-confident in using aggression is in line with the role of bullies (Perry et al., 1986), because, in order to obtain their goals, they need to feel capable of displaying aggression. On the other hand, although victims may think it is easy to behave aggressively, they are unlikely to be able to defend themselves from attack in an effective way (Egan & Perry, 1998; Salmivalli, Karhunen & Lagerspetz, 1996). According to Paladino and Kochenderfer-Ladd (2001), victims have higher self-esteem than non-victimized children when seeking revenge and need to feel active and able enough to cope with provocation situations. No differences among roles were found for self-confidence in inhibiting aggression, perhaps because there were only a few items in the scale, or because these were young children who are not yet mature enough to inhibit their natural reactions.

Those variables in which bullies and victims differ from each other are self-confidence for assertiveness, and sadness. Only bullies claimed it was easy to behave assertively, meaning that they feel socially competent. However, studies by Salmivalli (2001b) and Salmivalli et al. (1999) found that bullies' self-esteem is not genuine, as bullies have a narcissistic view of themselves, characterized by self-aggrandizing tendencies, arrogance and dominance. Also Schippell and Vasey (2001) found that inflated ratings of self-competence were related to proactive aggression, which is typical only of bullies, and not to reactive aggression.

Victims were characterized by a tendency to feel sad when something disagreeable happened. As many studies have pointed out, victims are the group most exposed to depression (which is usually linked to sadness) and are often oversensitive (Björkqvist, Ekman & Lagerspetz, 1982; Olweus, 1991, 1993; Quiggle et al., 1992). They feel unable to cope with unpleasant situations, which may make them even sadder. What is more, the fact that they can count on only a few friends, if any (Hodges, Malone & Perry, 1997; Pellegrini et al., 1999) may increase their feeling of sadness. However, what we do not know is whether victims are more easily saddened than others, and therefore more likely to be victimized, or whether the fact that they are victims makes them more prone to sadness. It may be that for victims sadness is a secondary emotion which follows from their vulnerability, helplessness and incapacity to deal properly with others' aggression.

Encoding social cues did not confirm the hypotheses, since no differences were found between groups. We think that a bias could be caused by the fact that we recorded only the quantity of the misunderstandings, and not their quality. Furthermore, the simplicity of the stories may have allowed all the children to report each particular in the correct way. The hypothesis that bullies would expect more positive outcomes from aggression did not receive support either. One reason may be that the low reliability of the prosocial behavior scale affected the results. It may also be that the behavior of the fictional targets was too extreme so that all the children expected the same responses. However, although no differences among roles were found, the characteristics of the target were important. Children thought that both aggressive and prosocial behavior would further their aims more often when the target was friendly than when he/she was aggressive. This outcome may reveal a common tendency to consider aggressive children as very difficult peers with whom to interact, independent of the type of interaction (i.e. aggressive or prosocial).

Our data support the idea of keeping the roles of bully and follower apart, despite the high factorial similarity of the scales used to distinguish them. Followers do not behave aggressively in the second and third steps of social information processing, as bullies do. It is possible that they have been assigned the role of follower by their peers because of the way in which they behave when the bullying starts, but that they do not display any aggression outside the realm of bullying initiated by others. However, followers do not differ from bullies in self-efficacy for aggression and assertiveness. Defenders, outsiders and children not involved process social information in every step without using aggression. They do not make hostile attributions and, probably as a consequence of this, do not select antisocial goals, nor do they express anger or sadness. Defenders are active children who stand up for those who are weaker and victimized; they are likely to be well adjusted and popular in the peer group (Salmivalli, Lagerspetz, et al., 1996). What is more, outsiders seem to have a capacity to avoid harassment and to develop an adjusted cognitive and emotional path. Further research is needed to uncover the characteristics which enable outsiders and children who are not involved to remain detached from the bullying situation. It would be useful for the victims to learn such features.

To summarize, we indeed found a similarity between bullies and victims in their cognitions and emotions (Camodeca et al., in press; Karatzias et al., 2002), which may be due to their common reactive aggression and which is in line with those studies claiming that victimization is more closely related to externalizing problems and to aggression than to internalizing problems (Khatri, Kupersmidt & Patterson, 2000; Kochenderfer & Ladd, 1997; Schwartz, McFayden-Ketchum, Dodge, Pettit, & Bates, 1998).

Results concerning gender suggested that boys perceived themselves as more self-confident than girls in behaving with assertiveness and aggression. Two different explanations are possible. Björkqvist et al. (1982) suggested that boys feel that they always have to appear tough and able to do everything, while girls might have lower self-esteem or might be more modest. The second explanation is methodological and is based on the use of self-reports, instead of peer reports: girls tend to underestimate their self-confidence and boys to overestimate it in comparison with judgements given by their peers (Salmivalli et al., 1999). Age too had an effect on our results. Younger children were found to be sadder and less self-confident about behaving assertively than older children (cf. Egan & Perry, 1998). Moreover, they also expected less success from reacting aggressively as well as prosocially when provoked, compared to their older peers. These results are consistent with the fact that younger children are more emotional, physically weaker and insecure, which may increase the likelihood of their being bullied (Smith, Madsen & Moody, 1999).

Some limitations to this study can be identified. A bigger sample would detect more bullies and more victims and thus increase the power of the analyses. Since this study was cross-sectional, it would be advisable to investigate whether the associations found are also valid for other age groups and whether they can be causally interpreted. However, the incidence of children in each role is comparable to other studies which used the same measurement (Salmivalli et al., 1998; Salmivalli, Huttunen & Lagerspetz, 1997; Salmivalli, Lagerspetz, et al., 1996); differences may be due to the different procedure used in our study (use of nominations, victimization items, and one scale for reinforcers and assistants).

We think the results of the present study contribute to the research into bullying, since new perspectives on cognitions and emotions have been advanced. The use of social information processing proved to be a reliable theoretical model to explain deficits in bullies and victims and, through its circular formula, to describe the influence of early deficits on later steps. However, further research would be useful to generalize the results and to go deeper into certain steps and emotions which were not investigated in this study.

Intervention programs could be based on the outcomes. Both bullies and victims could be helped to recognize ambiguous actions as nonhostile and to react nonaggressively and even assertively (for example through role-playing or reflection). Peer-led interventions (Salmivalli, 1999) and peer-tutoring may be useful, since the majority of the children are not directly involved in bullying and could thus help bullies, victims and followers. Interventions could also teach children how to control their own emotions, especially anger, which seems to play an essential role in attribution of intents and consequent behavior.

6

What do children think about interventions against bullying?*

Education is the most powerful weapon which you can use to change the world

Nelson Mandela

6.1 Abstract

In order to find out what children would suggest as useful interventions to stop bullying, we designed a questionnaire which was administered to 309 children (154 boys and 155 girls; mean age = 11 years). The items were presented for three types of bullying (physical, verbal and relational) and three different perspectives (imagine you are the victim, the bully, or a witness). The responses were on a 4-point scale and grouped, after a factor analysis, into three variables: punishment, retaliation, and mediation/assertivity. We used peer reports to assess children's role in bullying. Children were grouped into bullies, followers of the bully, defenders of the victims, outsiders, victims, and those not involved. The most frequently chosen strategy by all children was for the perpetrator to be punished by a more powerful person. A MANOVA showed that bullies considered retaliation effective when they imagined being the victim or the witness. These findings stress the aggressive tendencies of bullies and their belief that nothing can effectively stop them. All other children thought more often than bullies that mediation/assertivity and punishment were the most effective strategies when they imagined being the bully. Relational bullying called for more retaliation than the other types of bullying. Girls chose retaliation and punishment more often in verbal bullying than in physical bullying, while the other way around was true for boys. Implications for intervention are suggested.

6.2 Introduction

As a research issue, bullying among young children has expanded considerably over the last few decades and is now recognised worldwide as a problem. Although intervention programs have had some success (Olweus, 1993; Rigby, 1997; Salmivalli, Kaukiainen, Voeten & Mäntycorpi, in press; Smith & Sharp, 1994), bullying still seems to be a prevalent and significant problem at school. There may be bullies who think that bullying is an easy and effective way to accomplish their aims (Sutton, Smith & Swettenham, 1999) and who are therefore not amenable to our interventions. It may be that some interventions demand too much from teachers. It is also possible that the right interventions with long-lasting effects have not yet been designed, or that current interventions do not address all potential bullying situations. A possible explanation for

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these deficits is that these interventions have been designed by adults without an explicit endorsement from children. One way to find out more about interventions and how children perceive them is to take children seriously and to interview them directly.

Some studies asked children what they would do if they were victimized. The strategies most often selected were to seek help (Camodeca, Goossens, Schuengel & Meerum Terwogt, in press; Cowie, 2000), or to feign nonchalance and ignore the behaviour (Salmivalli, Karhunen & Lagerspetz, 1996; Smith, Shu & Madsen, 2001). Cowie (2000) claimed that a gender difference existed: girls were more likely than boys to report being bullied, while boys more often chose to ignore the bullying. All these strategies were found to be effective in decreasing harassment, while counter-aggression or helplessness were less successful (Kochenderfer & Ladd, 1997; Salmivalli, Karhunen, et al., 1996; Smith, Shu, et al., 2001).

Other studies asked children who should stop the bullying. Only half of the bullied children reported it to adults (Boulton & Underwood, 1992). When they did, they preferred talking to teachers instead of to parents, with the consequence that parents often remained unaware of their children's suffering. Junger-Tas & van Kesteren (1999) reported that some children thought it should be the teachers who played an active role, and only a few children proposed that parents or friends should be active helpers against bullying. Thus, it seems that teachers are perceived as capable of intervening to stop the bullying more often than peers, as was also found by Menesini et al. (1997) and by Whitney and Smith (1993). Furthermore, children anticipated that, as a consequence of telling teachers, the bully would be punished or excluded, and that parents would be told. Although many children said they thought bullying was wrong and claimed that they would like to do something to help their victimized peers (Boulton & Underwood, 1992; Whitney & Smith, 1993), they often did not take any action, thus perpetuating the bullying situation (O'Connell, Pepler & Craig, 1999; Salmivalli, 1999). In observational studies (Hawkins, Pepler & Craig, 2001; O'Connell et al., 1999) it was found that less than a quarter of children intervened against bullies in the playground (cf. Salmivalli, Lagerspetz, Björkqvist, Österman & Kaukiainen, 1996, who found a similar percentage of defender children).

Up to now, no studies have tried to shed light on what children see as the most effective ways to stop bullying. In fact, all of the above mentioned studies only investigated a "reaction" to bullying on behalf of the victim or someone else. What we need is more detailed knowledge about which interventions children consider effective, based on a wide range of options. For instance, if teachers intervene, is it better that they mediate the conflict than punish the bully? Or is it better that victims themselves retaliate? What should be the role of classmates?

The general aim of the present study was to discover more about children's views on intervention, that is, to investigate what children themselves think is the best way to stop bullying. As the subjects who are involved in or at least witness the bullying are important informants, they deserve to be heard. Furthermore, we did not find any study in the literature that investigated whether children's preference for intervention is different depending on their role. Do bullies, victims and the other children propose the same or different strategies as effective for stopping bullying? So far all studies have simply looked at the strategies proposed for the whole group. Yet there is no reason to assume that children with different roles in the bullying situations think the same. Why should a bully suggest that bullying needs to be punished or reported to the teacher, if he knows that he is the one who will be punished or reported if his advice is followed?

Another issue concerns the type of bullying. Ever since Crick and colleagues (Crick & Bigbee, 1988; Crick, Casas & Mosher, 1997; Crick & Grotpeter, 1995) published their work on relational aggression, it has been acknowledged that there are different types of

bullying, i.e. direct bullying (both verbal and physical) and indirect (relational) bullying. Examples of the latter are damaging someone's reputation by gossiping or isolating someone from the peer group. It may well be that what is needed to stop one type of bullying is not effective in stopping another type of bullying. It is likely that we need several strategies or interventions to put an end to all types of bullying. In this study, we interviewed children on different situations involving both physical, verbal, and relational bullying.

Finally, when interviewing children about measures to be taken to curb bullying, most researchers simply put to them one stimulus situation in which they had to imagine they were the victim of bullying. However, other perspectives may be closer to the subject's actual experience. For instance, the interviewed child may have been a witness to some form of bullying or may have been the perpetrator of bullying. In other words, most of the research done in this area suffers from low content validity. We therefore propose not only to look at three different types of bullying, but also at three different perspectives, that is when one is supposedly the perpetrator, the witness and the victim. Such an approach allows for a more extensive assessment of children's opinions, because we not only have variation in actual roles played, but we also have variation in types of bullying and types of situations.

We expected that, when thinking from the bullies' perspective, bullies would more often choose responses aimed at maintaining their role. When in the role of victim, bullies were expected to choose responses in which the victim him/herself retaliates against the bully. We based these hypotheses on the fact that bullies believe in their aggression and think that it is the only way to reach their goals (Camodeca & Goossens, 2002; Olweus, 1993; Sutton, 2001). Furthermore, being both reactively and proactively aggressive (Camodeca, Goossens, Meerum Terwogt & Schuengel, 2002; Pellegrini, Bartini & Brooks, 1999; Salmivalli & Nieminen, 2002), they do not tolerate being bullied and would retaliate in that situation.

We expected the victims to answer in a helpless way overall when responding from the victim's perspective. They are used to being in that role and know they are weaker than the bully. Although previous findings claimed that victims did try to retaliate (Camodeca & Goossens, 2002; cf. Salmivalli, Karhunen, et al., 1996, and Kochenderfer & Ladd, 1997, who found similar results for boys), we still hypothesized that when victims are presented with several choices, they opt for those that are more effective than retaliation.

Outsiders, defenders and children not involved were expected to select positive and really effective responses (e.g. asking for help, assertive responses on behalf of the victim) either when imagining they were the victim, the witness or the bully.

Finally, differences in gender were also investigated. We expected girls to be more assertive than boys, who would more often choose retaliation as effective means. Girls were also expected to choose punishment more often than boys when imagining they were the bully. We based our hypotheses on the fact that girls condemn bullying and feel upset by it more often than boys (Menesini et al., 1997); it is therefore possible that their solutions are stricter vis-à-vis the bully.

In sum, the general purpose of this work was to investigate what children themselves thought to be the best intervention proposals to stop bullying. More particularly, this study had a threefold aim. 1) Do proposed interventions vary according to the actual role played in bullying? 2) Do children propose different interventions for three different types of bullying? 3) Do proposed interventions vary according to the perspective on the bullying situation (e.g. when children imagine themselves to be the bully, the victim or the witness)?

6.3 Method

6.3.1 Sample

The participants were 309 children (154 boys and 155 girls). Pupils came from six primary schools in the Netherlands, mostly in grades seven (35.7%) and eight (53.7%), but a few (10.6%) attended a mixed class of seventh and eighth graders. Pupils' mean age was 11 years (M = 142.77 months; SD = 8.31).

Families were sent a letter via the schools asking for their consent, which was given for almost all the children (only 2 children were not allowed to participate). Information on the participants' socioeconomic background was provided by the teachers in the form of details of parents' current jobs. About 22% of the mothers and 20% of the fathers had jobs for which little or no vocational training was needed; the remaining parents had jobs for which a medium to very high level of education was needed. Family socioeconomic status was not related to the children's bullying status. However, teachers did not always know all the required details of the parents (30% of socioeconomic data were missing for the mothers and 17% for the fathers).

6.3.2 Procedure

In order to assign every child a role in bullying, the Participant Role Scale (Salmivalli, Lagerspetz, et al., 1996) was administered to the peers of the study subjects. Pupils were tested individually by trained students in a separate room. The Effective Interventions Questionnaire (a self-report measure) was administered to the group in the classroom. Children were told that all information would be treated as confidential and that it was better not to discuss with their peers what they had written or said.

6.3.3 Measures

Participant Role Scale

The Participant Role Scale (PRS) was designed by Salmivalli, Lagerspetz, et al. (1996) in order to assign every child a role in the bullying situation. The original questionnaire consisted of 50 items, describing different behaviors. Children were asked to nominate those peers in the classroom who fitted each behavior. On the basis of the nominations received by each child, roles were attributed to each group member. The authors found the following roles: bully, assistant of the bully, reinforcer of the bully, victim, defender of the victim and outsider. We changed the original procedure slightly, reducing the number of items to 32, using nominations instead of ratings and four items instead of one single nomination for victimization (cf. Camodeca & Goossens, 2002).

A factor analysis was conducted with the 32 PRS items (PCA with varimax rotation). Four items were deleted because of low loadings (< .50) or cross-loadings, and for consistency reasons, as those items had also been deleted in a previous study (Camodeca & Goossens, 2002). Thus, we reran the factor analysis with 28 items. Four factors were found (eigenvalue > 1), which explained 79.77% of the total variance (loadings > .72). All the "pro-bully" items (bully, assistant and reinforcer) loaded on one factor (total variance explained = 38.24%), but on the basis of their content and according to the suggestions made by Salmivalli, Lappalainen and Lagerspetz (1998) and Sutton and Smith (1999) these roles were kept separate. We created a scale for bully and a scale for follower, merging the items for assistant and reinforcer (cf. Sutton, Smith & Swettenham, 1999). The items for defender, outsider and victim loaded on three separate factors (total

variances explained = 12.07%, 15.99% and 13.47%, respectively), which were kept on separate scales. The number of items and the reliability coefficients for the five scales were as follows: bully (6 items, α = .96), follower of the bully (reinforcer plus assistant; 8 items, α = .95), outsider (6 items, α = .93), defender (4 items, α = .88), victim (4 items, α = .97). The scores were standardized by class using *z*-scores.

We used the procedure employed by Salmivalli, Lagerspetz, et al. (1996) to assign each child a role: a child was assigned a role if the score on that scale was the highest of all scores, if it was above the mean and if the difference between this scale score and the next highest scale score was at least 0.1. Only in the case of the scales for bully and follower did we assign the role in which the score was highest even when the difference between the two scores was smaller than 0.1. Pupils who received almost equal scores on two or more scales (n = 10; 3.9%) were considered as not having a clear role and were not included in the analyses. Thus, the final sample employed in this study consisted of 299 children (145 girls and 154 boys). Of these, 33 pupils (11.0%) were assigned the role of *bully*, 57 (19.1%) the role of *follower*, 62 (20.7%) the role of *outsider*, 57 (19.1%) the role of *defender* and 42 (14.0%) the role of *victim*. In contrast to Salmivalli, Lagerspetz, et al. (1996), who also labeled those children who scored below zero as not having a clear role, we considered these children as not involved (n = 48; 16.1%) in the bullying situation.

Effective Interventions Questionnaire

The Effective Interventions Questionnaire (EIQ) was designed by the current authors to investigate to what extent children considered certain interventions effective in stopping bullying. (An overview of the questionnaire is presented in the Appendix). Three situations were devised drawing on three types of bullying (physical, verbal, relational). For each situation, children were asked to imagine being the victim, the bully and the witness. Thus, a total of nine situations were administered. An example is: "Imagine you always insult one of your classmates and call him names. What could be done to make you stop?" (Verbal bullying situation with children imagining being the bully). For each of these situations children responded to 11 items indicating different strategies to stop bullying. The items had a 4-point response modality (1 = *Would certainly not stop* to 4 = *Would definitely stop*).

We ran some factor analyses (PCA with varimax rotation) on the 11 items of each of the nine situations. Although a two or four-factor solution was also possible, we preferred a three-factor solution as it was more consistent with the content of the items and because, for six out of the nine situations, the extraction of three factors produced an initial eigenvalue greater than 1. Furthermore, a factor analysis on all 99 items together also yielded three factors. On the basis of their content we named these factors *punishment* (by powerful others) (items 1, 4 and 5 in each of the nine situations), *retaliation* (items 6 and 8 in each of the nine situations), and *mediation/assertivity* (items 2, 3, 7, 9, 10 and 11 in each of the nine situations). It is worth noting that the content of the retaliation answers depended on the type of bullying in the corresponding situation (e.g. in a verbal bullying situation you are supposed to retaliate verbally, cf. the Appendix).

Item 11 ("[the victim] tells the bully angrily to stop") could belong to a separate factor because its content deals more with an angry response than with a mediation. But the item loaded on the mediation factor and we could surmise that its meaning is very close to an assertive response, which can be performed either in a polite form ("ask and explain", item 10) or in a stronger way, as it was the case here. Also item 9 ("[the victim] does nothing to prevent [the bully] from getting madder") could belong to a separate factor, but it has often been found that nonchalance or pretending not to be hurt is a good strategy to stop harassment (Salmivalli, Karhunen, et al., 1996). However, we also analysed the data

excluding these two items from the mediation/assertivity factor, to check whether results were different, but the outcomes were similar with or without these items. We therefore decided to keep them in.

Thus, we finally created 27 variables, i.e. the scales for punishment, retaliation and mediation/assertivity in each of the nine situations (three types of bullying x three roles played). Reliabilities ranged from .44 to .79. (M = .63; SD = .09). Some low reliabilities are probably due to the low number of items in each scale, but in order to compare the scales, we did not delete those items which decreased the value of the Cronbach's alpha. The score of each variable was divided by the number of items in each variable, in order to minimize for the effect of differences in the number of items in each factor, and these mean scores were used.

6.4 Results

Before analysing the EIQ in relation to gender and role in bullying, we computed means and standard deviations of the 27 variables, and checked for differences. Because means differed across strategies (i.e. mediation/assertivity, punishment and retaliation) and perspectives (i.e. you imagined being a bully, a victim or an witness), but not across type of bullying, we decided to remove type from the computation and to present means and standard deviations for nine variables (three strategies x three perspectives). However, type of bullying was kept for the following analyses of variance. Nine t-tests for paired sample were run for couples of variables within the same perspective (e.g. mediation/assertivity versus punishment when you imagine being a bully). Table 6.1 presents means, standard deviations, t-test values and significance for each comparison. Punishment was the strategy most often chosen by children, followed by mediation/assertivity.

A crosstabulation was run in order to check the distribution of gender in function of the role in bullying. As previously found (Salmivalli, Lagerspetz, et al., 1996; Menesini & Gini, 2000), boys were more often found in the role of bully, follower and (unexpectedly) not involved than girls, who were more often defenders, outsiders and victims ($\chi^2(5)$ = 86.03; $p < .001$). Since the distinction between role and gender was clear and non-overlapping, we decided to keep these variables apart in the analysis of variance.

Two 3 (type of bullying) x 3 (imaginary role played) MANOVAs with repeated measures were run, with the 27 variables (punishment, mediation/assertivity and retaliation for the nine situations) as dependent variables. In the two analyses, the actual role in bullying, and gender, respectively, served as between-subject factors. We used a hierarchical approach which allowed us to delete step by step the non-significant interaction effects. Only gender was significant as a between-subject effect (Pillai's Trace = .06; $F(3, 225) = 4.91$; $p < .01$), with girls being more in favor of mediation/assertivity than boys ($F(1) = 12.81$; $p < .001$). No differences were found for the other two variables (punishment and retaliation).

Six within-subject effects were significant.

Type of bullying. The first one was the effect for type of bullying (Pillai's Trace = .12; $F(6, 210) = 4.93$; $p < .001$). The univariate test was significant for retaliation ($F(1.80)$ = 15.03; $p < .001$): relational bullying yielded higher scores than physical and verbal bullying.

Role imagined (Pillai's Trace = .28; $F(6, 210) = 13.47$; $p < .001$). All three variables were significant in the univariate test: mediation/assertivity ($F(1.46) = 35.12$; $p <$ .001), punishment ($F(1.60) = 25.51$; $p < .001$), and retaliation ($F(1.51) = 4.28$; $p < .05$). When children imagined being the bully they chose mediation/assertivity and punishment more often than when they imagined being the victim or the witness, and when they

imagined being the witness they scored higher on these variables than when in the imaginary role of victim. Children chose retaliation more often when they were in the imagined role of victim than in the one of bully (a trend) or witness. We will not discuss these results any further, because no hypotheses were formulated and because they may be biased by the children's role in the bullying situation.

Table 6.1
Means, Standard Deviations (Between Parentheses) and Tests for Paired Samples of the Three Variables Mean Scores x Perspectives

Perspective	Strategy	Means (*DS*)	Comparison	t-test value (*df*)
Victim				
A	Mediation/assertivity	1.93 (0.38)	A-B	-11.67 (278)***
B	Punishment	2.31 (0.54)	A-C	.61 (279) *ns*
C	Retaliation	1.91 (0.72)	B-C	7.31 (280)***
Bully				
A	Mediation/assertivity	2.13 (0.53)	A-B	-12.03 (283)***
B	Punishment	2.54 (0.67)	A-C	5.29 (280)***
C	Retaliation	1.19 (0.72)	B-C	13.87 (285)***
Witness				
A	Mediation/assertivity	1.97 (0.43)	A-B	-10.98 (269)***
B	Punishment	2.36 (0.55)	A-C	2.56 (261)*
C	Retaliation	1.86 (0.69)	B-C	10.39 (274)***

ns = not significant. * $p < .05$. ***$p < .001$.

Interaction between type of bullying and imagined role (Pillai's Trace = .14; $F(12, 204) = 2.75$; $p < .01$). Only punishment was significant in the univariate test ($F(3.88) = 5.24$; $p < .001$). When in the role of bully, children would choose punishment more in physical bullying situations than in the others, while in the role of victim, they would choose punishment more in the case of verbal bullying than in the other situations. In this case too, we will not provide any further discussion of these outcomes.

Interaction between type of bullying and gender (Pillai's Trace = .06; $F(6, 222) = 2.39$; $p < .05$). Univariate tests were significant for punishment (a trend, $F(1.79) = 2.50$; $p < .10$) and retaliation ($F(1.79) = 5.93$; $p < .01$). Boys chose punishment and retaliation more in the case of physical bullying than in the case of verbal bullying, while for girls it was the other way around.

Interaction between imagined role and gender (Pillai's Trace = .17; $F(6, 222) = 7.46$; $p < .001$). The univariate test for mediation/assertivity was significant ($F(1.42) = 11.80$; $p < .001$), but no interaction was found in the plot. Punishment and retaliation both yielded significant results ($F(1.54) = 16.93$; $p < .001$, and $F(1.48) = 21.58$; $p < .001$,

respectively). The trend was similar for both variables, with boys selecting these types of intervention more often when playing the role of victim, and girls when in the role of bully or witness.

Interaction between imagined role and real role (Pillai's Trace = .32; $F(30, 1070) = 2.43$; $p < .001$). The univariate test was significant for all the three types of intervention endorsed: mediation/assertivity ($F(7.32) = 3.33$; $p < .01$), punishment ($F(7.98) = 4.01$; $p < .001$), and retaliation ($F(7.55) = 6.64$; $p < .001$). Type of bullying did not affect the interaction between real role and imagined role, so we removed the variability due to that and reran an analysis of variance with the real role as factor, and the nine new variables (mediation/assertivity, punishment and retaliation per three perspectives). The multivariate test was Pillai's Trace = .38; $F(45, 1055) = 1.92$; $p < .001$, while univariate tests and post-hoc tests for the significant variables are shown in Table 6.2. When defenders, outsiders, victims and children not involved imagined being the bully, they chose mediation/assertivity and punishment for the perpetrator (to a lesser extent, outsiders and those not involved also chose retaliation). Bullies thought retaliation was effective more often than the others (and followers more than defenders), when they adopted the victim's perspective. Again, they had higher scores on retaliation also when thinking from the witness's perspective.

Table 6.2

Means, Standard Deviations (Between Parentheses) and Tests of Group Differences of the Three Variables Mean Scores x Perspectives, as a Function of Role in the Bullying Situation (Only Significant Variables Are Displayed)

	Bully ($n = 33$)	Follower ($n = 57$)	Defender ($n = 57$)	Outsider ($n = 62$)	Victim ($n = 42$)	Not involv. ($n = 48$)	F ($df = 5$)
Mediation[2]	1.84 $(0.11)_{b}^{\S}$	1.95 $(0.08)_{bc}^{\dagger}$	2.17 $(0.08)_{a}^{\dagger}$	2.22 $(0.07)_{a}$	2.30 $(1.00)_{a}$	2.08 $(0.09)_{ac}^{\S}$	3.30**
Punishment[2]	2.19 $(0.14)_{b}$	2.24 $(0.10)_{b}$	2.62 $(0.10)_{a}$	2.73 $(0.09)_{a}$	2.58 $(0.12)_{a}$	2.54 $(0.11)_{a}$	4.16***
Retaliation[1]	2.40 $(0.15)_{a}$	2.00 $(0.11)_{b}$	1.69 $(0.11)_{c}$	1.87 $(0.09)_{bc}$	1.79 $(0.13)_{bc}$	1.75 $(0.12)_{bc}$	3.77**
Retaliation[2]	1.71 $(0.15)_{bd}^{\dagger}$	1.74 $(0.11)_{bd}$	1.91 $(0.11)_{abc}$	2.05 $(0.10)_{ac}^{\dagger}$	1.97 $(0.13)_{cd}^{\S}$	1.65 $(0.12)_{b}^{\S}$	2.02†
Retaliation[3]	2.11 $(0.14)_{a}$	1.70 $(0.10)_{bc}$	1.71 $(0.10)_{bc}$	1.89 $(0.09)_{ab}^{\dagger}$	1.86 $(0.12)_{abc}$	1.61 $(0.11)_{c}^{\dagger}$	2.17†

Note. Superscripts 1, 2, 3 = imagined role of victim, bully, and witness, respectively. Means in the same row with different subscripts (a-c) differ significantly at $p < .05$, two-tailed ($^{\dagger}p < .10$ and $^{\S}p < .10$) by the least significant difference test.

$^{\dagger}p < .10$. ** $p < .01$. ***$p < .001$.

6.5 Discussion

The outcomes of the study shed light on the way in which children involved and not involved in bullying evaluate possible interventions. The most frequently chosen intervention strategy against bullying was punishment of the perpetrator by a more powerful person (parents or teacher). It seems that children trust adults and ask for their help in resolving their conflicts. But what they think is effective is a kind of " eye for an eye" strategy, even if not carried out by themselves (which would constitute retaliation), but by someone else, older and more powerful. At this age children might still think that punishment is the best way to stop undesired behavior.

However, children's real role according to peer reports and the fictitious role they were asked to imagine played an important part in their responses. One of the most striking, albeit unsu*r*prising results was that bullies and followers indeed displayed their aggressive tendencies and did not support the use of non-aggressive strategies. They did not favor mediation/assertivity strategies or punishment of the perpetrator to resolve the conflict when they adopted the bullies' perspective. Because they themselves are the perpetrators, we may surmise that they think that none of these strategies would effectively stop them. Alternatively, they could just be selecting the interventions that are not harmful to them.

What is more, bullies would retaliate against the perpetrator when in the victim's perspective and would also suggest that the victim should retaliate when they adopt the witness's perspective (followers would also retaliate in the role of victim, but at a lower level compared to bullies). We could interpet these data too as a confirmation of the bullies' own aggression. They like fighting and usually succeed in reaching their aims using aggression; thus, it is possible that, when in the role of the victim, they think retaliation would be effective. We could also advance the hypothesis that some of these bullies may indeed also be victims (i.e. bully/victim or provocative victims, Olweus, 1993; Perry, Kusel & Perry, 1998), who bully those weaker than themselves, but are also victimized[†]. The retaliatory strategies used by bullies give support to the findings of some studies claiming that bullies present both a reactive and a proactive type of aggression (Camodeca et al., 2002; Pellegrini et al., 1999; Salmivalli & Nieminen, 2002). On the other hand, bullies do not choose retaliation when in the bully's perspective, maybe because they do not want anyone against them and want to be the only ones to have power and the ability to dominate. Alternatively, we can surmise that their perception of themselves is so self-confident that they think victims could never get the upper hand, even if they retaliated. It is also possible that they know that no victim would retaliate against them because of fear or weakness. Just as in the case of mediation/assertivity and punishment, it is bullies' perception that they cannot be stopped in their bullying behavior.

Although the pattern for the followers is similar to that of the bullies, it is not entirely so. In fact, followers also found mediation/assertivity strategies or punishment ineffective when in the imagined role of bully. However, they differed from the bullies regarding retaliation. When in the victim's or witness's role they thought less often than bullies that retaliating against the perpetrator was effective. It is possible that they themselves might sometimes have been the victim of a ringleader bully and, therefore, when imagining themselves in that role, they know that retaliating against a bully is useless. Followers are just the assistants of the bully and are not so strong or powerful that they can retaliate and dominate in an effective way.

[†] Sixteen (5.2%) children scored over the mean on both the bully and the victim scale, but either one or the other score (or even a score in any other scale) was much higher. For this reason, we did not create a bully/victim group.

Victims, defenders, outsiders and those not involved seemed to voice opinions similar to each other. They think retaliation does not work when imagining they are witnesses or victims. It may be that they have tried to retaliate against a bully in the past and know that this strategy is not effective, as the bully may get more and more ruthless. These children seemed to be very much in favor of strategies aimed at resolving the conflict, such as mediation by peers or adults, or assertivity, and punishment of the perpetrator. We noticed that they found these strategies particularly effective when they imagined themselves to be the bully. At least, they think that these strategies would work, presumably because they know such strategies would work with them. It is likely that they would not go on bullying if these interventions were put into action. Even if this could be due to their being "weaker" than the bullies, it is feasible that they do not want to harass the others and any strategy would be good enough to make them stop. We could surmise that children not directly involved in the bullying (but also victims) really think bullying is blameworthy and bullies' behavior cannot be justified. This outcome leads to the conclusion that for the majority of children, action against bullying is endorsed and welcomed. It is a further incentive to develop intervention programs, now that children too have expressed their opinions and have been found to favor proper and effective action to stop bullying.

Type of bullying also yielded interesting results. We would remind the reader that in the case of relational bullying, the retaliatory strategies in the questionnaire offered to the children were of a relational nature. The fact that retaliation is considered more effective in the case of relational bullying than in the case of verbal or physical bullying could be explained on the hypothesis that children find this type of bullying the most hurtful and the one with the most long-lasting effects (e.g. spreading rumors about someone is more humiliating and its effects last longer than just kicking them). Furthermore, children are aware that retaliation is socially criticized and not allowed; it is therefore possible that they would feel more protected from an observer eye and would consider retaliation more acceptable if they retaliate using relational means (which are covert). It may also be that children think that indirect bullying is something you have to solve by yourself, because you cannot prove its existence to adults or other peers. Finally, it could also be that some children do not feel strong or self-confident enough to retaliate physically, but that they could be skillful in excluding a peer or in talking behind the peer's back.

Boys' and girls' answers could be affected by the different cultural roles which exist for gender (Kochenderfer & Ladd, 1997; Salmivalli, Lagerspetz, et al., 1996). Boys could perceive asking for help (i.e. mediation/assertivity strategies) as a "girl-type" strategy and would rather fight back to show their power and strength. On the other hand, girls are not expected to fight back, are reared to be more empathic and to reject violence; they are more often found in the role of defender (Salmivalli, Lagerspetz, et al., 1996).They are therefore more likely to choose assertive and prosocial strategies, to use constructive conflict resolution and third-party intervention more often than boys (Cowie, 2000; Glover, Gough, Johnson & Cartwright, 2000). However, this was not completely true in the case of verbal bullying, where girls too responded with verbal retaliation and wanted the bully punished. Besides the fact that girls develop verbal skills faster than boys (Björkqvist, Lagerspetz & Kaukiainen, 1992), they also use verbal bullying more often than boys (Crick & Bigbee, 1998; McNeilly-Choque et al., 1996; Schäfer, Werner & Crick, 2002), and are more troubled by verbal bullying than by physical bullying (Crick et al., 1999; Paquette & Underwood, 1999). It is not surprising therefore that they find punishment and retaliation against the bully more effective when verbal bullying is at issue.

This study has certain limitations. A bias may have occurred because of the large number of items employed (99). For each of the 9 situations, children had to fill in answers to the same 11 questions. It is possible therefore that some children did not properly fill in all the questions, because they got tired or irritated. Furthermore, we used structured questions instead of open questions, which would have allowed the children to express their own opinions with more creativity and freedom. We did this to make the instrument easier to administer, since open questions would increase the time needed for data collection considerably and would, therefore, not allowed for a relatively large sample. In addition, structured questions guaranteed a focus on the specific topics we wanted to stress and gave us an exact perception of each item. Further research is advisable in order to improve the instrument by reducing the number of items and allowing open questions together with structured items. Longitudinal and applied studies would be useful to test whether children's ideas about intervention are indeed effective in stopping bullying.

However, the outcomes of the present study are a further step in developing and improving intervention programs. The results imply that interventions should be different for children with different roles. For instance, bullies and followers, who think retaliation is a good strategy, could be taught non-aggressive responses, social skills and how to cope with different situations in assertive and prosocial ways. It has to be clear that aggression is not an effective strategy to reach one's goals. Unfortunately retaliation seems to be the only effective strategy according to bullies, since they do not perceive punishment or any type of mediation/assertivity as effective in making them stop. A promising finding is that all the other children think that these are effective ways of stopping bullying. Defenders and outsiders could be employed to demonstrate to other children assertive and prosocial responses, such as those suggested by the mediation/assertivity items.

Victims could be helped to express in practice what they assert in words (e.g. by means of the questionnaire), that is, that you should face up to a bully and give a proper answer to aggression, or simply report harassment to teachers or parents. Unfortunately, in practice victims often fear retaliation by bullies and prefer to suffer in silence (Pellegrini, 2001), feel too weak to respond to the bully, and are not sufficiently self-confident to behave assertively (Camodeca & Goossens, 2002; Schwartz, Dodge & Coie, 1993). Since children think the help of parents or teachers is effective, schools and families need to work together and to raise their voices in stopping bullying.

7

Discussion and conclusions

No solutions without discussions

Croatian Proverb

The general aim of this thesis was to investigate bullying and victimization at school, taking a group approach. We considered the different roles children play in the bullying situation and their stability, and focused on types of aggression, cognitions and emotions. We tried to fill some gaps in the research field of bullying and victimization among school-age children. Differences and similarities between bullies and victims (and other children) were tested with respect to reactive and proactive aggression, social information processing, emotions, and opinions on the effectiveness of intervention strategies.

In general, the findings consistently show that children directly involved in bullying are the group most at risk of social and psychological maladjustment, because of their aggressive behavior, deficits in processing social information, and expression of anger. The maladjusted behavior and aggressiveness of bullies are also reflected in their opinions on intervention, which are not aimed at resolving the conflict.

In this last chapter, a summary of the most important results is given, the limitations of the study are outlined, and implications for theory, for interventions in bullying and for further research are suggested.

7.1 Summary

The present work employed two samples. In the longitudinal design (Chapters 2 to 5) there were 7 to 9 year-old children. Older children (10-12 years old) were the subjects in the second sample (Chapter 6). We used peer reports to assign children a role in the bullying situation, teacher reports to assess type of aggression, and self-reports to study social information processing and intervention strategies.

The considerable prevalence of bullying and victimization (not to mention the feelings of insecurity generated in the witnesses of bullying) underscores the importance of taking action to prevent it, thereby improving the quality of school life for many children. Interventions should also have priority in view of our finding that both bullying and victimization remain stable with the passing of time. Results showed that bullying is more stable than victimization (Chapter 2), but also that many victimized children remain in that role for a long period of time. Table 7.1 summarizes the prevalence of bullying and victimization among the children in our studies.

The association between bullying and victimization on the one hand, and reactive and proactive aggression on the other (Chapters 2 and 3) supports findings by other authors (Pellegrini, Bartini & Brooks, 1999; Roland & Idsøe, 2001; Salmivalli & Nieminen, 2002), namely that bullies show both types of aggression, while victims only display reactive aggression. Furthermore, bully/victims and followers presented high levels of pervasive

aggression (a combination of reactive and proactive aggression), while children in the roles of outsider or defender and those not involved did not show any type of aggression.

Table 7.1
Bullying and Victimization Incidence Across Studies

Assessment	*N*	Instrument	(*n*) % Bully	(*n*) % Victim
T1	236	AVS	(23) 9.7%	(20) 8.5%
T2	242	AVS	(18) 7.4%	(13) 5.4%
T3	242	PRS	(22) 9.7%	(35) 15.4%
S2	309	PRS	(33) 11.0%	(42) 14.0%

Note. T1, T2, T3 = longitudinal sample at three different points in time; S2 = separate sample not included in the longitudinal design; AVS = Aggression and Victimization Scale; PRS = Participant Role Scale.

Children directly involved in bullying as bullies, victims or bully/victims showed deficits in processing social information (Chapters 4 and 5). They interpreted the intentions of others in ambiguous situations as hostile. Consequently, they wanted to retaliate or chose antisocial goals, and expressed anger. Victims have been found to experience sadness (Chapter 5). In Chapter 4 we also took into consideration children's response generation in the face of provocation. Only children not involved in bullying chose assertive strategies. If all children were given the opportunity to reflect, their aggressive responses diminished. However, seeking help from adults or peers was the most common strategy chosen by all the children.

When children were asked to evaluate intervention strategies (Chapter 6), they all favored punishment for the perpetrator above mediation/assertivity strategies and retaliation. Different perspectives were also taken into account: children were asked to imagine being the victim, the bully, or the witness, alternatively. Bullies (in the bully's role) did not choose strategies known to be effective in resolving conflict (assertiveness or mediation). Similarly, in their opinion punishment is ineffective. When they imagined they were the victim they most often chose retaliation. Children in the other roles found other strategies effective, i.e. those strategies aimed at mediating the conflict or which involved an assertive response to bullying.

7.2 Theoretical implications

The studies presented in the thesis contribute to our knowledge in the field of bullying at school and fill certain gaps identified in our review of literature. In this section we draw conclusions about our hypotheses and about the place of our findings within the theoretical framework.

First of all, we think that the use of peer reports to detect different roles in the bullying situation was fruitful. Peer nominations allowed for an aggregation of judgements made by those who assist and are aware of bullying episodes, and also allowed us to study bullying in a social perspective in which the greatest attention is given to group dynamics and to social reputation. The results that emerged on incidence and stability of bullying and victimization confirm and complement previous studies using self-reports. Furthermore,

using peer reports in combination with teacher and self-report measures (to detect reactive and proactive aggression, social information processing, and effective intervention strategies), allowed us to exclude shared variance due to using the same informants and to obtain more reliable outcomes. Finally, when we asked children (Chapter 6) to imagine playing various roles (bully, victim or witness), the use of peer reports allowed us to avoid biases that might have occurred if children themselves also had to judge their own real role.

The first aim fulfilled in this thesis concerned the stability of bullying and victimization across time. We found that both these roles remained stable, with bullying more stable than victimization. Therefore, we can assume that those children who remain in the same role even after a one-year interval are at risk of maladjustment (Loeber & Le Blanc, 1990). On the other hand, it may be more likely that those children considered bullies or victims at just one point in time will follow a normal developmental pathway. In fact, it may be possible that particular circumstances (e.g. problems within the family or with some classmates) lead the child to develop bullying behavior or a victimized attitude. However, these may just be temporary and may not lead to maladjustment. On the other hand, the finding that at least some children remained stably involved in bullying and victimization is more serious. The fact that we found the roles of bully and victim stable using peer reports supports the social aspects of these roles. It seems that peers nominate the same children as bullies or victims after an interval of one year. It may be a sign that these roles really are stable, because many judgments are given and higher reliability is reached. On the other hand, it can also be possible that social stigmas intervene when roles are given to children; thus, if a child is labeled as bully or victim, it is very difficult for his/her classmates to change their opinions about his/her role.

The second aim of the present study was to investigate whether bullies and victims display reactive and proactive aggression. Our results showed that bullies used aggression both to reach their own goals and to defend themselves from others' aggression, while victims only used a reactive type of aggression. Bullies' aggression, therefore, is not only limited to harassing and manipulating others in a cold and calculated way, as previous studies hypothesized (Crick & Dodge, 1999; Price & Dodge, 1989), but it is also used as a means of defense. We can surmise that bullies do not like to be harassed themselves and retaliate using aggression. The outcomes relating to victims lend support to the conclusions drawn by previous investigators that at least some victims are not only passive, wary and withdrawn, but they also present externalizing behaviors, such as disruptiveness, aggression and hyperactivity (Kochenderfer & Ladd, 1997; Schwartz, McFayden-Ketchum, Dodge, Pettit & Bates, 1998).

To sum up, the links we found between reactive and proactive aggression and bullying may be used to enlarge knowledge of bullying by taking advantage of studies on aggression. Thus, for example, we could investigate the antecedents of becoming a victim using those studies of the family circumstances in which reactively aggressive children are raised (see Dodge, Lochman, Harnish, Bates and Pettit, 1997); or we could employ the reactive and proactive aggression distinction as the missing link between bullying and social information processing (SIP), using those studies which investigated the SIP of reactively and proactively aggressive children (Crick & Dodge, 1996; Dodge et al., 1997; Dodge & Coie, 1987).

However, results about the SIP framework only partially confirmed what was claimed by the aforementioned authors, namely that reactively aggressive children (i.e. our victims and bullies) present deficits at the beginning of the SIP cycle, while proactively aggressive children (i.e. our bullies) show a different cognitive pattern in the final steps of the SIP cycle. In our studies, both bullies and victims were in fact found to present deficits

in almost every step of SIP, supporting the circular formula of the SIP framework in which every step influences the following one, as Crick and Dodge (1994) themselves suggested. We can therefore argue that if a child presents a cognitive bias when attributing intent, this is carried on throughout the process, through selection of antisocial goals, expression of anger, creation of aggressive responses, feeling of self-efficacy in performing aggression, and, presumably, in final enactment of the aggressive behavior.

What is more, our investigation of the SIP model as applied to the bullying realm fills a gap in this field and can be considered to be pioneering work. In fact, so far, direct empirical support for the link between bullying and SIP has not been provided, and there has merely been a suggestion advanced by Crick and Dodge (1999) about the possible application of the SIP framework to studies of bullying. We think that combining SIP and bullying can certainly encourage and help research about bullies' and victims' way of thinking, and their consequent behavior.

Another gap we aimed to fill concerned the arousal of emotions in children. We found that both bullies and victims show a higher level of anger compared to children not directly involved in bullying, but that only victims feel sad as a consequence of a bullying incident. These findings may help in understanding the emotional consequences of being a bully or a victim. We may claim that being victimized indeed makes children sad and that physical or verbal harassment produces anger in bullies and victims. We may also surmise that these children have difficulties in regulating these negative emotions and may need help in coping with them. Being sad or angry may influence a child's whole life and cause bullies and victims to experience further problematic situations they are not able to deal with.

Combining cognitions and emotions fills another gap, as suggested by Lemerise and Arsenio (2000), who introduced emotions into the SIP framework, but did not study such links empirically. Our results support the hypothesis that cognitions and emotions influence each other in processing social information (Lemerise & Arsenio, 2000; Loeber & Coie, 2001; Weiner, 1995). For instance, links between anger and attribution of hostility have been found in the present work as well as in previous studies (Graham & Hoehn, 1995; Graham, Hudley & Williams, 1992; Weiner, 1995). Applying the theory of social information processing to the topic of bullying, focusing at the same time on emotions, is of great importance for insight into the way of thinking and feeling of bullies and victims and to intervention where biases occur.

The final aim of the thesis was to investigate children's opinions on interventions against bullying. Although many studies have developed intervention programs or have asked victims about who could help them, our study is the first one to question children directly on the effectiveness of different strategies to stop bullying. We found that children at this age most often chose punishment of the bully by a more powerful person (teacher or parents) as the most effective strategy. It seems that children have an "eye for an eye" view of conflict resolution, even if they do not choose to retaliate themselves. We think that bullies may be taught to understand that aggression cannot be used to counter aggress, and to resolve conflicts in a more appropriate and effective way.

Furthermore, as long as bullies select retaliation (when they are in the victim's or witness's perspective), and believe that nothing can stop them (when they are in the bully's perspective), it can be argued that they think that aggression is the only effective means to reach their goals and that they are confident in their own aggression. Basically, these outcomes underline the fact that bullies are both proactively and reactively aggressive. Similarly, these findings further support what has been found using the social information processing framework, i.e. that bullies' social cognitions hinder them in their interactions

with peers as long as these cognitions are based on aggression and dominance and fail to promote consideration for other people's wellbeing.

7.3 Implications for intervention

As long as bullying and victimization are quite stable phenomena, intervention programs are needed to prevent these roles becoming chronic and leading to serious consequences. To be effective, interventions should be preventive, or at least applied early in the development of the problem, and have to be sustained over time, not just over a short period. Although victims are most at risk, it is worthwhile to note that bullies are also children in need of help and consideration. Implications for interventions deriving from the results of this thesis are discussed here.

The results on reactive and proactive aggression showed that victims are only reactively aggressive, while bullies are pervasively aggressive (Chapters 2 and 3). An interesting approach to reduce reactive aggression in these children (and bully/victims and followers, who are also reactively aggressive) may be to work on self-restraint and tolerance, to teach them how to control their anger and how to cope with frustration in a more effective way than aggression. For instance, only after anger is under control would any advice to victims to ignore the bullies in order not to reward their behavior be useful. Nonchalance and avoidance have been found effective in previous studies (Salmivalli, Karhunen & Lagerspetz, 1996; Smith, Shu & Madsen, 2000).

Results from the social information processing (Chapters 4 and 5) also suggest interesting implications for intervention. Both bullies and victims attribute hostile intentions to ambiguous actions, i.e. they are prone to experience offence, even if it is unintended, and therefore they become angry (which is also related to reactive aggression). The fact that not only victims, but also bullies attribute hostility is a new finding in the literature about bullying and can suggest various interventions. Programs may be developed to train children to detect intentionality accurately, to attribute non-hostile intent in ambiguous situations (e.g. by means of role-playing or simulations), to behave as if ambiguous acts were an accident, in the event of missing information, and to ask for more information before blaming someone, because even if they suffer harm , the other person may not have done it on purpose. Some of these programs have been already suggested (Hudley & Graham, 1993), with the result that anger and aggressive retaliation have been reduced.

Bullies have also been found to be proactively aggressive and to reach their aims using aggression. Bullies might learn that there are more assertive and less harmful ways to obtain one's goals. Helping them in understanding the victims' suffering and in developing a kind of empathy (through role-playing, for instance) could be very useful. Furthermore, we surmise that if aggression is not rewarded, even bullies' behavior might change. It is therefore important that there are penalties for bullying actions and that these actions are not so easily carried out or effective as might appear. With this purpose in mind more effort could also be put into changing followers' attitudes: if followers do not reward the bullies with admiration, laughter and assistance, it is likely that bullies will feel they have lost their audience and may control their behavior (bullies' behavior is often aimed only at being admired and at displaying power).

Bullies and victims have also been found to select antisocial goals (e.g. they wish to retaliate) and not to choose assertive responses. In addition, the work on the most effective interventions (Chapter 6) showed that bullies do not respond with effective strategies for resolving conflicts, but in fact try to make conflicts harder to resolve by choosing retaliation. On the basis of these outcomes, children could be helped to find alternatives for

retaliation or aggression and to choose more cooperative rather than confrontational means to accomplish goals. It was found that reflection was associated with a decrease in aggressive response. Teaching children to "count to 10" could therefore be an useful strategy to stop unjustified aggression and to control anger. However, Orobio de Castro (2000) pointed out that this delay may not be useful if it is employed to develop negative and hostile thoughts. For this reason, training children to reflect could be accompanied by teaching them to control their anger and to find responses which do not hurt their peers. More effort could be put into teaching children assertive strategies, which could help potential bullies to obtain their goals without the use of force, and potential victims to be successful without being harassed.

Finally, because many children seemed to ask for help from adults or peers (Chapter 4) it is important to respond to this call. We found that the largest group of children consists of defenders, outsiders or children who are not involved. Consequently, it would be interesting to use these children as natural helpers (Cowie, 2000; Salmivalli, 1999), to improve their skills to face up to bullying and stand up for the victims, and to encourage them to report any episode to an adult. We surmise that those children who act as outsiders or who are not involved could actually be trained to become defenders. We might even think of ways to separate the followers from the ringleader bullies, encouraging both these groups to interact with children who are not in their clique in order to prevent the links with aggressive children becoming ever stronger. It would be interesting to try to build up friendship links between bullies and victims by means of work groups, for example. In this way, empathy, sensitivity, cooperativeness and prosocial behavior could also be promoted among children. Furthermore, promoting friendship could work as a protective factor for victims (Bukowski, Hoza & Boivin, 1994; Hodges, Boivin, Vitaro & Bukowski, 1999; Hodges, Malone & Perry, 1997; Schwartz, McFadyen-Ketchum, Dodge, Pettit & Bates, 1999). Having a friend could also make victims less lonely, help them to integrate in the group and as a result to feel less sad (victims were the saddest group, cf. Chapter 5).

Responsibility for bullying actions can also mean reporting the act to teachers or parents, who can effectively help to stop the bullying. Children do seek help and trust powerful adults, as was shown in Chapters 4 and 6. We would therefore like to emphasize once again the importance of adult help, because victims are often unable to defend themselves and to escape violence on their own, and bullies may only know aggressive strategies. Unfortunately, it is sometimes teachers or school principals themselves who support bullying, although unintentionally. Pellegrini et al. (1999) suggested that teachers often provide aggressive models or fail to help victims, ridicule pupils, and think that victims should learn to defend themselves as bullying is part of growing up. On the basis of our results, we may argue that the advice commonly given to defend yourself without assistance could increase the likelihood of reactive aggression, which is linked to both bullying and victimization, and therefore exacerbate the problem. On the other hand, teachers may have an important role in improving quality of life in the classroom, using class-oriented or person-oriented methods, supervising and being present when bullying occurs, and providing a comfortable environment in which children feel free to express their fears and denounce bullying acts.

7.4 Limitations of the studies and suggestions for further research

Although we think that the results of our study add to our knowledge about bullying, the work also has certain limitations. First of all, a number of methodological limits should be mentioned. We mainly investigated direct (physical or verbal) bullying,

omitting relational bullying, which might be extremely important and present particularly among girls. In our study boys were found more often than girls in the roles of bully and follower, which might be different if indirect bullying was also identified.

Although we are very much in favor of the use of peer reports to investigate the different roles in bullying, we still think that results obtained with the use of self-reports, teacher reports or direct observations would have provided both different and comparable views, which could have enhanced the validity of the studies. The use of self-reports, for example, would have provided the subjective experience of children about their being bullies or victims, while teacher reports could have been useful to detect the impact on teachers of bullying and victimization (cf. authors who employed multiple informants: Crick, Casas & Mosher, 1997; Kumpulainen & Räsänen, 2000; Lagerspetz, Björkqvist, Berts & King, 1982; McNeilly-Choque, Hart, Robinson, Nelson & Olsen, 1996; Pellegrini, 2001; Pellegrini & Bartini, 2000; Schäfer, Werner & Crick, 2002; Schwartz, Farver, Chang & Lee-Shin, 2002).

As to emotions, we only took into account the emotions of anger and sadness. Although they are the simplest ones to express and to rate, it would nevertheless be interesting to discover how other emotions such as fear, shame, and guilt are related to bullying and victimization.

One advantage of pointing out limitations is that they can help in designing subsequent research. For example, research into bullying might be widened to include a "space" and "time" perspective. Bullying is not just an isolated phenomenon in a particular period of life. It involves different periods and different actors, in different environments. It would seem naive to study children only at school, and neglect the rest of their world. In this regard, particular attention should be given to family (background, rearing conditions, values), neighborhood, culture and socioeconomic factors, all of which could affect involvement in bullying. More points in time, including infancy, adolescence and adulthood, could be investigated, because bullying has roots in the past and consequences in the future.

Although many intervention programs and guidelines to cope with bullying have already been developed and used by teachers, bullying still persists. The problem for many teachers may be that they do not always comprehend and retain these guidelines, because insight into the bullying process is fragmentary. We think that one of the greatest contributions of this thesis is the investigation of what kind of thoughts or emotions guide children's behavior in bullying situations. Our findings can be used to support practice, by helping teachers (but also parents or professionals) to understand what goes on the minds of children involved in bullying, so that any formal or informal intervention can be delivered with much more precision and sensitivity.

We have not developed any practical intervention and, at the moment, we are not involved in any work with schools. However, we hope to be able in the future to put into practice what we have concluded here in words. We strongly urge that research is carried out to improve intervention programs, to focus attention on a problem that often remains covert, but is very painful for children. Solving the plight of victimized children (but also of bullies, we would add) is a challenge for schools and the people who work with children. As Calvin suggests (cf. the cartoon on the first page), more scientific attention should be given to "finding a cure for jerks". Let's try to fulfill children's wishes…

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Appendix

Examples of situations and items of the Effective Intervention Questionnaire

After providing personal information (name, date of birth, gender, class and school), children were given a definition of bullying and a request, as shown in the following:

> We say someone is being bullied or victimized when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other students. It is a negative action when somebody pushes, shoves, kicks, hits. It is also bullying when somebody calls names, threatens, teases, makes faces, tells bad stories about the victim, excludes intentionally and isolates.
> I am going to suggest a number of things which could be done to make different types of bullying stop. I want you to tell me your opinion about how likely they are to succeed. Read the situations and mark the little square that corresponds to your opinion.

After each situation four squares were posed, namely "Would certainly not stop," "Probably would stop," "Would stop," and "Would definitely stop."

We present here in full the three situations of physical bullying, i.e. when children had to imagine being the victim, the bully or the witness.

A1) Imagine someone in your class always hits, beats and pushes you. What could be done to make him stop? Suppose that…

1. The teacher punishes him.
2. The teacher gets us to settle the matter.
3. The teacher supervises so that it never happens again.
4. My parents defend me.
5. My parents tell his parents and the teacher, so that he will be punished.
6. My classmates defend me by kicking him back.
7. My classmates mediate so that we come to an agreement.
8. I hit and push him back.
9. I do nothing, to prevent him from getting madder.
10. I ask him why he's doing it and explain to him that his behavior is wrong.
11. I tell him angrily to stop it.

A2) Imagine you always hit, beat and push one of your classmates. What could be done to make you stop? Suppose that…

1. The teacher punishes me.
2. The teacher gets us to settle the matter.
3. The teacher supervises so that it never happens again.
4. His parents defend him.
5. His parents tell my parents and the teacher, so that I will be punished.
6. My classmates defend him by kicking me back.
7. My classmates mediate so that we come to an agreement.
8. He hits and pushes me back.
9. He does nothing, to prevent me from getting madder.

10. He asks me why I'm doing it and explains to me that my behavior is wrong.
11. He tells me angrily to stop it.

A3) Imagine one of your classmates (A) always hits, beats and pushes another classmate (B). What could be done to make A stop? Suppose that…

1. The teacher punishes A.
2. The teacher gets the two of them to settle the matter.
3. The teacher supervises so that it never happens again.
4. B's parents defend him.
5. B's parents tell A's parents and the teacher, so that A will be punished.
6. The classmates defend B by kicking A back.
7. The classmates mediate so that A and B come to an agreement.
8. B hits and pushes A back.
9. B does nothing, to prevent A from getting madder.
10. B asks A why he's doing it and explains to him that his behavior is wrong.
11. B tells A angrily to stop it.

For verbal and relational bullying we will only give here examples of situations in which children imagined they were the victim. The way the structure changes when children imagine they are the bully or the witness is similar to the previous one. Similarly, items 6 and 8 were changed on the basis of the content. The example situations for verbal and relational bullying are the following:

B1) Imagine someone in your class always insults you and calls you names. What could be done to make him stop?

C1) Imagine someone in your class always excludes you and says bad things about you behind your back. What could be done to make him stop?

Summary

The present thesis aimed to investigate bullying and victimization among school-children, taking into account different related issues, such as stability of the bully and victim roles, links to reactive and proactive aggression, children's cognitions and emotions, and children's opinions on effective interventions.

Chapter 1 is a theoretical introduction to the theme of bullying among schoolchildren. We defined bullying as a particular form of aggression (direct or indirect), aiming to harm, unjustified, intentional and unprovoked, frequent and repeated over time, in which the victims are oppressed by force or threats, are perceived to be weaker or less powerful than the bullies and are unable to defend themselves. In this introductory chapter we gave an overview of current knowledge of bullies' and victims' characteristics, gender differences, stability, antecedents and consequences of being a bully or a victim. Furthermore, we introduced the issues of reactive and proactive aggression, social information processing and emotions.

The rest of the thesis consists of five empirical chapters. A longitudinal design was employed for the largest part of the thesis (Chapters 2 to 5), while a one-off design with an independent sample was used in Chapter 6. Conclusions and discussion are outlined in the seventh and final chapter.

Many authors (Craig & Pepler, 1995; Menesini & Gini, 2000; Salmivalli, Lagerspetz, Björkqvist, Österman & Kaukiainen, 1996; Sutton & Smith, 1999) have pointed out that bullying involves the whole group (class, in this case). Thus, every child is assumed to play a role in the bullying process, even if only the role of an audience before which the victim is humiliated. Peers are therefore the best informants in the investigation of social roles (Juvonen, Nishina & Graham, 2001). Furthermore, peers provide an aggregation of judgements and are usually knowledgeable about bullying situations. We therefore employed peer reports to assign roles. We used two measurements of peer nominations: the Aggression and Victimization Scale (AVS, Perry, Kusel & Perry, 1988), which allowed us to group children into bullies, victims, bully/victims and not involved (Chapters 2 and 4), and the Participant Role Scales (PRS, Salmivalli, Lagerspetz, et al., 1996), which allowed us to group children into bullies, followers of the bully, defenders of the victim, outsiders, victims and children not involved (Chapters 3, 5 and 6).

Chapter 2 aimed to investigate whether bullying and victimization were stable across a one-year period, and whether bullying and victimization were linked to reactive and proactive aggression. Children were tested twice, when they were seven and a half years old (T1), and one year later (T2) (*N*s were 236 and 242 at T1 and T2, respectively). The AVS was used to group children into mutually exclusive roles, while teacher reports were used to assess reactive and proactive aggression. Results on stability of bullying and victimization showed that both roles were moderately stable with the passing of time. Bullying was found to be more stable than victimization, but some victimized children also remained in that role for a long period (40% of bullies and 16.7% of victims remained in the same role after one year).

The associations between bullying and victimization on the one hand, and reactive and proactive aggression on the other supported conclusions drawn by other authors (Pellegrini, Bartini & Brooks, 1999; Salmivalli & Nieminen, 2002), namely that bullies and bully/victims show both types of aggression, while victims only display reactive aggression. It means that bullies tend to use aggression as a means to reach their own goals

and as a reaction to frustration, while victims only use aggression to defend themselves or act out in an aggressive way the emotions generated by being bullied.

The study in Chapter 3 strengthened the previous findings of reactive and proactive aggression in children involved in bullying. The sample was the same as the one used in Chapter 2, but the children were a year older (N = 242, mean age = 9 years and 9 months). In addition, the PRS were used instead of the AVS, which enabled us to investigate other roles in the bullying process as well. We found that bullies and followers both turned out to be reactively and proactively aggressive, while victims showed only reactive aggression. Results also indicated that outsiders, defenders and children not involved were low on both types of aggression.

In Chapter 4 we employed the social information processing framework (Crick & Dodge, 1994; 1999), operationalized as responses to hypothetical scenarios, to investigate children's cognitive processes in response to other children's actions. The sample was the same as the one in Chapter 2. Children were tested twice, with a one-year interval. We used the AVS to assign roles to the children. We used provocation scenarios to test how children responded when provoked, both spontaneously and after prompting (T1), and we used ambiguous scenarios (situations are called ambiguous when harm is inflicted, but the real intention of the perpetrator is not clear) to test children's attributional interpretations, selection of (retaliatory) goals and anger (T2). Children's strategies in responding to bullying were grouped into aggression, avoidance, seeking help, assertiveness and irrelevance (if the response was inappropriate or not given). Children not involved in bullying chose assertive strategies more often than bullies and victims did. When children were given the opportunity to reflect, all their aggressive responses diminished. Seeking help from adults or peers was the most common strategy chosen by all the children, and also the strategy they judged as the best one to cope with bullying. When the intention of the perpetrator was ambiguous, bully/victims attributed more blame, were angrier and would retaliate more often than children not involved.

In Chapter 5 we also investigated children's social information processing and emotions. The sample was the same as the one employed in Chapter 3, and the PRS were used to assign a role to children. Ambiguous scenarios were used to detect attribution of intentions, goal selection and emotions (anger and sadness). Two questionnaires were administered to children in order to assess self-perceived efficacy for aggression and assertiveness, and expected outcomes from behaving aggressively or prosocially. Both bullies and victims scored higher than the other children on hostile interpretation, anger, antisocial goals and self-efficacy for aggression. Bullies were the most self-confident group in behaving assertively and victims were the saddest group. All children, irrespective of their role in the peer group, thought that aggressive as well as prosocial behaviour were more likely to produce desired results from a friendly peer than from an aggressive one.

In the study reported in Chapter 6 a different sample from that employed in the other studies was used. Children (N = 309) aged 11 years were grouped into roles by means of the PRS. They were presented with a questionnaire designed to rate their opinions of interventions against bullying. Three types of bullying (physical, verbal and relational) and three perspectives (imagining being the bully, the victim or the witness) were also taken into account. Results showed that children were mostly in favor of punishment for the bullies by a more powerful person. However, their imagined and real role influenced their responses. Bullies (in the bully's role) did not choose strategies deemed by experts to be effective in resolving conflict (i.e. assertiveness or mediation). Similarly, they judged that punishment would also be ineffective. When they imagined being the victim they thought retaliation was the most effective strategy. Children in the other roles, instead, found other strategies effective, i.e. those aimed at mediation of the

conflict, or strategies that involved an assertive response to bullying. Relational bullying called for more retaliation than other types of bullying. Girls chose retaliation and punishment more often in verbal bullying than in physical bullying, while the opposite was true for boys.

To sum up, the results of these studies consistently support the view that children directly involved in bullying show a more problematic pattern of development compared to other children. They are more aggressive than their classmates and their way of processing social information is ill-adapted to social environments, because they find it difficult to take peers' well being and the shared values of the group into account. Another reason for regarding bullying and victimization as a serious problem is that these phenomena do not seem to decrease with the passing of time.

The relevance of these studies for bullying theory can be seen in the different perspectives used to investigate bullying and victimization. They include the different types of aggression (reactive and proactive) bullies and victims can put into effect, bullies' and victims' way of processing social information and their expression of emotions, and children's opinions about effective interventions. One of the biggest novelties of this thesis lies in the application of the social information processing framework to the phenomenon of bullying. This is the first time that empirical research has been carried out to reveal the way in which bullies and victims process social information. Another novelty concerns the investigation of children's own opinions of intervention; these have never been investigated, but they can be used to design intervention programs and to better understand what children think of each other, or how they view their own role when they have adopted another perspective.

We think that the findings of this thesis can stimulate both theoretical and applied research. On the one hand, further research in the field of bullying could take advantage of these findings about aggression, cognition, emotion and children's opinion on intervention to gain insight into children's way of thinking and behaving. On the other hand, our findings can also contribute to the creation and improvement of intervention projects, which can take advantage of these different aspects in order to stop bullying and help many children to follow an adjusted development pathway.

Samenvatting

Dit proefschrift gaat over pesten op de basisschool in de periode dat de kinderen 7 tot 9 jaar oud waren. De nadruk ligt op een aantal kwesties, zoals de stabiliteit van de rollen van dader en slachtoffer, het verband tussen deze rollen enerzijds en proactieve en reactieve agressie anderzijds, de cognities en emoties van kinderen die bij pesten betrokken zijn en tenslotte de opinie van alle kinderen over wat effectieve interventies zijn om het pesten op school te bestrijden.

In hoofdstuk 1 besteden we veel aandacht aan theoretische achtergronden. We zien pesten als een bijzondere vorm van agressie (direct of indirect), die niet gerechtvaardigd is, niet wordt uitgelokt, bedoeld is om te kwetsen of pijn te doen, frequent voorkomt en chronisch van aard is. Het is agressie die bewerkstelligt dat de slachtoffers door overmacht of bedreigingen worden onderdrukt. Die slachtoffers worden gezien als zwakker of minder machtig dan de daders en zijn niet in staat om zichzelf te verdedigen. In dit eerste hoofdstuk presenteren we een overzicht van wat op dit moment bekend is over kenmerken van daders en slachtoffers. Sekseverschillen, stabiliteit, antecedenten en gevolgen van dader of slachtoffer zijn, komen aan de orde. Bovendien introduceren we de kwesties van reactieve en proactieve agressie, en zetten we de rol van sociale cognities en emoties uiteen.

De rest van het proefschrift bestaat uit 5 empirische hoofdstukken, gevolgd door conclusies en discussie in het zevende en laatste hoofdstuk. In de hoofdstukken 2 tot en met 5 behandelen we de resultaten van een longitudinale studie naar pesten, terwijl in hoofdstuk 6 de resultaten staan van een correlationeel onderzoek bij een nieuwe steekproef.

Veel auteurs (Craig & Pepler, 1995; Menesini & Gini, 2000; Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996; Sutton & Smith, 1999) hebben erop gewezen dat bij pesten de hele groep (klas) betrokken is. Men gaat ervan uit dat elk kind een rol speelt bij het pesten, zelfs al is dat maar de rol van publiek voor de ogen waarvan het slachtoffer wordt vernederd. Om die reden worden de leeftijdsgenoten (klasgenoten, in dit geval) gezien als de beste informanten om de verschillende rollen op te sporen (Juvonen, Nishina, & Graham, 2001). Bovendien verschaffen klasgenoten een veelvoud aan oordelen en weten zij meer van wat er is gebeurd en wie daarbij betrokken waren dan andere informanten (zoals leerkrachten). Om die reden hebben we dan ook gebruik gemaakt van informatie van klasgenoten om de kinderen in een bepaalde rol te kunnen identificeren. We gebruikten daarbij twee verschillende instrumenten, die allebei gebaseerd zijn op een nominatie-techniek, namelijk. de Agressie en Slachtofferschap Schaal (ASS, Perry, Kusel, & Perry, 1988), en de Deelnemende Rollen Schalen (DRS, Salmivalli, Lagerspetz et al., 1996). Met de ASS is het mogelijk om de kinderen in te delen in daders, slachtoffers, dader/slachtoffers en kinderen die niet bij pesten betrokken zijn (zie de hoofdstukken 2 en 4). Met de tweede wordt het mogelijk om onderscheid te maken tussen daders, meelopers, verdedigers, buitenstaanders, slachtoffers en kinderen die niet bij pesten betrokken zijn (zie de hoofdstukken, 3, 5 en 6).

Het doel van hoofdstuk 2 was te onderzoeken of dader en/of slachtoffer zijn stabiel was over een periode van 1 jaar en of actief pesten en slachtoffer zijn verband hield met proactieve dan wel reactieve agressie. De kinderen werden tweemaal getest, eerst toen ze 7,5 jaar oud waren (T1) en opnieuw 1 jaar later (T2; de aantallen waren 236 op T1 en 242 op T2). We maakten gebruik van de ASS om de kinderen in te delen in elkaar uitsluitende rollen; daarnaast gebruikten we leerkrachtoordelen om proactieve en reactieve agressie

vast te stellen. De resultaten wezen uit dat de rollen van dader en slachtoffer redelijk stabiel waren. Dader zijn was stabieler (40%) dan slachtoffer zijn (16.7%), maar sommige kinderen die slachtoffer waren op T1 waren dat nog steeds op T2. De link tussen pesten en slachtofferschap enerzijds en proactieve en reactieve agressie anderzijds ondersteunden de conclusies van andere auteurs (Pellegrini, Bartini, & Brooks, 1999; Salmivalli, & Nieminen, 2002), nl. dat daders en dader/slachtoffers vooral gekenmerkt worden beide typen agressie, terwijl slachtoffers uitsluitend gekenmerkt worden door reactieve agressie. Dit betekent dat daders in de regel agressie inzetten om hun doel te bereiken én als reactie op frustratie, terwijl slachtoffers agressie slechts gebruiken om zichzelf te verdedigen of op een agressieve manier uiting te geven aan de emoties, die tot stand komen door het feit dat ze gepest worden.

In hoofdstuk 3 is dat verband tussen reactieve en proactieve agressie enerzijds en de rol die men bij het pesten speelt, nog eens onderzocht, met dezelfde resultaten. De steekproef was nu inmiddels weer een jaar ouder ($N = 242$, gemiddelde leeftijd 9 jaar en 9 maanden). Bovendien maakten we hier gebruik van de DRS in plaats van de ASS, waardoor we in de gelegenheid waren om meer rollen in de analyse te betrekken. Zowel daders als meelopers bleken zowel proactief als reactief agressief, terwijl de slachtoffers opnieuw reactief agressief bleken. De resultaten wezen ook uit dat buitenstaanders, verdedigers, en kinderen die niet bij het pesten betrokken waren laag scoorden op elk van beide typen agressie.

In hoofdstuk 4 maakten we gebruik van het social information processing' model (Crick & Dodge, 1994;1999). We maakten gebruik van hypothetische scenarios, die we aan de kinderen aanboden, waarna we gerichte vragen stelden om de cognitieve verwerking in reactie op het gedrag van andere kinderen te meten. Opnieuw werden de kinderen meerdere malen getest. Op T1, toen we gebruik maakten van de ASS om de kinderen in te delen in (slechts) 4 verschillende rollen, gebruikten we provocatie-scenarios, zo genoemd omdat we wilden weten wat kinderen (zowel spontaan als na enig nadenken) zouden gaan doen in omstandigheden waarin zij geprovoceerd werden. Op T2, toen we opnieuw gebruik maakten van de ASS, gebruikten we ambigue scenarios (we spreken van ambigu omdat in die scenarios weliswaar schade wordt berokkend, maar de intenties van de dader niet zonder meer duidelijk zijn) en waren we vooral geïnteresseerd in de interpretaties, de selectie van (wraakzuchtige) doelen en de mate van ervaren boosheid van de kinderen. De strategieën van de kinderen om te reageren op provocaties werden door ons in 5 categorieën ingedeeld, namelijk agressie, vermijden, hulp zoeken, assertiviteit en een laatste 'niet relevant'- categorie (geen reactie of een totaal ongeschikte reactie). Kinderen die niet bij pesten betrokken waren kozen vaker voor assertieve strategieën dan daders of slachtoffers. Wanneer kinderen in de gelegenheid werden gesteld om na te denken over de provocaties, dan namen hun agressieve reacties af. Hulp zoeken van volwassenen of van leeftijdsgenoten was de categorie die het vaakst werd gekozen en die men ook over het algemeen als de beste strategie beschouwde om met het pesten om te gaan. Wanneer de bedoelingen van de dader ambigu waren, dan gaven de dader/slachtoffers anderen eerder de schuld, zij gaven ook aan bozer te zijn en gingen eerder over tot contra-agressie dan kinderen die niet bij het pesten betrokken waren.

Ook in hoofdstuk 5 doen we verslag van een studie naar de sociale informatieverwerking en naar emoties bij kinderen. Dit keer gebruikten we de DRS om de rollen vast te stellen. Voorts gebruikten we opnieuw ambigue scenarios om de attributie van intenties, selectie van doelen en de emoties (boosheid en verdriet) boven tafel te krijgen. De kinderen kregen bovendien twee vragenlijsten voorgelegd om 'self-perceived efficacy' van agressie en assertiviteit en om de verwachte uitkomsten van agressie en prosociaal gedrag te meten. Zowel daders als slachtoffers waren eerder dan de andere

kinderen geneigd tot een vijandige interpretatie van de intenties van de ander, tot boosheid, tot de selectie van niet-sociale doelen en tot een sterk geloof in eigen kunnen voor de executie van agressief gedrag. De daders hadden meer zelfvertrouwen in hun eigen vermogen om assertief op te treden, terwijl de slachtoffers zeer bedroefd waren. Alle kinderen dachten – ongeacht wat hun rol bij het pesten was – dat agressief zowel als prosociaal gedrag meer kans op succes opleverden bij een vriendelijke dan bij een agressieve leeftijdsgenoot.

Tenslotte trokken we een volledig nieuwe steekproef (N = 309; gemiddelde leeftijd 11 jaar) om ze opnieuw aan de hand van de DRS in de verschillende rollen in te delen. Deze kinderen moesten aan de hand van een vragenlijst hun mening geven over interventies tegen pesten. In die vragenlijst maakten we onderscheid naar 3 typen pesten (fysiek, verbaal en relationeel) en naar 3 perspectieven, d.w.z. de kinderen moesten zich voorstellen dat zij de dader waren, dat ze het slachtoffer waren en dat ze getuige waren van elk van deze 3 typen pesten. Uit de resultaten bleek dat de kinderen vooral positief waren over het straffen van de dader door iemand die machtiger was dan die dader. Dat was echter niet het enige belangrijke resultaat, want zowel het perspectief dat men geacht werd te hanteren als de rol die men in werkelijkheid speelde, was van invloed. Daders (die zich moesten voorstellen dat zij de dader waren) kozen juist niet voor strategieën die volgens de experts zo effectief zijn om een conflict te beeindigen (zoals assertiviteit of bemiddeling door derden). Tegelijkertijd waren zij van oordeel dat straffen niet zou helpen. Wanneer deze daders zich moesten voorstellen het slachtoffer te zijn, dan zagen zij het meeste heil in wraak. Kinderen met andere rollen vonden juist andere strategieën effectief: bemiddeling bij het conflict of juist assertieve strategieën als reactie op het pesten. Relationeel pesten riep meer wraakacties op dan andere vormen van pesten. Meisjes kozen bij verbaal pesten vaker voor wraak en straffen dan bij fysiek pesten, terwijl dat bij jongens net andersom was.

Samenvattend, de resultaten van deze studies leveren steun voor het standpunt dat kinderen die direct bij het pesten betrokken zijn een meer problematische ontwikkeling doormaken vergeleken bij de ander kinderen, die niet bij pesten betrokken zijn. Zij zijn agressiever dan hun klasgenootjes en hun wijze van sociale informatie verwerken is minder competent in het licht van de sociale omgeving waarin zij verkeren, omdat zij het moeilijk vinden om het welzijn van hun leeftijdsgenoten en de gedeelde waarden van de groep in hun overwegingen te betrekken. Er is nog een belangrijke reden om pesten als een belangrijk probleem op te vatten en dat is dat de situatie niet zonder meer beter wordt met het verstrijken van de tijd.

Het belang van deze studies voor pesten en voor de uitbouw van de theorie over het verschijnsel pesten is vooral ontleend aan de verschillende perspectieven die we gehanteerd hebben om het pesten te onderzoeken. We doelen hier op de verschillende typen agressie die daders en slachtoffers in interactie met hun leeftijdsgenoten demonstreren, op hun wijze van sociale informatieverwerking, de emoties die ze ervaren en zelfs hoe zij het effect van interventies beoordelen. Wat dit proefschrift vernieuwend maakt, is de toepassing van het sociale informatieverwerkingsmodel op het verschijnsel pesten. Het is –voor zover wij weten– de eerste keer dat aan de hand van empirisch onderzoek is gepoogd in kaart te brengen hoe daders en slachtoffers met de informatie uit de sociale werkelijkheid omgaan. Wat ook nieuw is, is de inventarisatie van hoe kinderen denken over interventies om het pesten te stoppen, want dat is nog maar zelden onderzocht en zeker niet op de wijze waarop wij dat hebben gedaan. De informatie die deze studie opleverde, kan niet alleen gebruikt worden om te begrijpen hoe kinderen tegen elkaar aankijken of hoe ze hun eigen rol zien, wanneer ze gedwongen worden te kijken vanuit een andere rol, maar ook om interventieprogrammas op te zetten.

We zijn van mening dat de uitkomsten van deze studie kunnen leiden tot nieuwe theoretische ontwikkelingen en tot beter uitgewerkte toegepast onderzoek. Nieuw onderzoek zou profijt kunnen hebben van de resultaten die nu ter beschikking zijn gekomen over agressie, cognities, emoties en de ideeën van kinderen over interventies, om het inzicht in de manier van denken van kinderen en hun gedrag te verdiepen. Tevens kunnen onze resultaten ook een bijdrage leveren aan de verbetering van interventies met het doel het pesten te stoppen en kinderen te helpen om een competent ontwikkelingstraject af te leggen.

Riassunto

Il presente lavoro ha come obiettivo quello di studiare il bullismo e la vittimizzazione tra bambini di scuola, tenendo in considerazione diversi argomenti correlati, come la stabilità dei ruoli di bullo e di vittima, i legami con l'aggressività reattiva e proattiva, le cognizioni e le emozioni dei bambini, le opinioni dei bambini circa gli interventi efficaci.

Il Capitolo 1 è un'introduzione al tema del bullismo tra bambini di scuola. Abbiamo definito il bullismo come una particolare forma di aggressività (diretta o indiretta), finalizzata a nuocere, ingiustificata, intenzionale e non provocata, frequente e ripetuta nel tempo, in cui le vittime sono oppresse con la forza o con minacce, sono percepite come più deboli o con meno potere dei bulli e sono incapaci di difendersi da sole. Questo capitolo presenta un quadro delle attuali conoscenze sulle caratteristiche di bulli e vittime, sulle differenze legate al genere, sulla stabilità, gli antecedenti e le conseguenze dell'essere un bullo o una vittima. Inoltre, abbiamo introdotto gli argomenti dell'aggressività reattiva e proattiva, dell'elaborazione delle informazioni sociali e delle emozioni.

Il resto della tesi consiste di cinque capitoli empirici. Una ricerca longitudinale è stata impiegata per la parte più consistente della tesi (Capitoli 2-5), mentre un progetto unico con un campione indipendente è stato usato nel Capitolo 6. Le conclusioni e la discussione sono tracciate nel settimo capitolo, quello finale.

Molti autori (Craig & Pepler, 1995; Menesini & Gini, 2000; Salmivalli, Lagerspetz, Björkqvist, Österman & Kaukiainen, 1996; Sutton & Smith, 1999) hanno sottolineato che il bullismo coinvolge l'intero gruppo (la classe, in questo caso). In questo modo, si presuppone che ogni bambino giochi un ruolo nel processo del bullismo, anche se solo il ruolo di spettatore davanti al quale la vittima viene umiliata. I pari sono pertanto i migliori informatori per studiare i ruoli sociali (Juvonen, Nishina & Graham, 2001). Inoltre, i pari forniscono un'aggregazione di giudizi e in genere conoscono le situazioni di bullismo. Pertanto, abbiamo utilizzato le nomine dei pari per assegnare i ruoli. Abbiamo usato due strumenti di nomina dei pari: la Scala dell'Aggressività e della Vittimizzazione (*Aggression and Victimization Scale*, AVS, Perry, Kusel & Perry, 1988), che permetteva di raggruppare i bambini in bulli, vittime, bulli/vittime e non coinvolti (Capitoli 2 e 4), e il Questionario dei Ruoli dei Partecipanti (*Participant Role Scale*, PRS, Salmivalli, Lagerspetz, et al., 1996), con il quale i bambini sono stati raggruppati in bulli, seguaci del bullo, difensori della vittima, esterni, vittime e bambini non coinvolti (Capitoli 3, 5 e 6).

Il Capitolo 2 mira a verificare se il bullismo e la vittimizzazione sono stabili dopo il periodo di un anno, e se sono legati all'aggressività reattiva e proattiva. I bambini sono stati esaminati due volte, quando avevano sette anni e mezzo (T1), e un anno dopo (T2) (i soggetti erano 236 e 242 a T1 e T2, rispettivamente). Per raggruppare i bambini in ruoli diversi è stata usata l'AVS, mentre per determinare l'aggressività reattiva e proattiva sono state utilizzate valutazioni da parte degli insegnanti. I risultati sulla stabilità del bullismo e della vittimizzazione hanno mostrato che entrambi i ruoli erano moderatamente stabili con il passare del tempo. Il bullismo è stato trovato più stabile della vittimizzazione, ma anche alcuni bambini vittimizzati rimanevano in quel ruolo per un lungo periodo di tempo (40% dei bulli e 16.7% delle vittime sono rimasti nello stesso ruolo dopo un anno).

L'associazione tra bullismo e vittimizzazione da una parte e aggressività reattiva e proattiva dall'altra ha dato conferma a conclusioni già trovate da altri autori (Pellegrini, Bartini & Brooks, 1999; Salmivalli & Nieminen, 2002), cioè che i bulli e i bulli/vittime

mostrano entrambi i tipi di aggressività, mentre le vittime presentano solo aggressività reattiva. Ciò significa che i bulli tendono ad utilizzare l'aggressività come un mezzo per raggiungere i loro scopi e come reazione alla frustrazione, mentre le vittime aggrediscono solo per difendersi o mettono in atto in modo aggressivo le emozioni generate dall'essere oggetto di prepotenze.

Lo studio nel Capitolo 3 conferma i risultati precedenti riguardo l'aggressività reattiva e proattiva nei bambini coinvolti nel bullismo. Il campione era lo stesso di quello impiegato nel Capitolo 2, ma i bambini avevano un anno in più (N = 242, età media = 9 anni e 9 mesi). Inoltre, sono state usate le PRS invece dell'AVS, cosa che ci ha permesso di studiare anche altri ruoli nel processo del bullismo. Abbiamo trovato che sia i bulli che i seguaci del bullo erano reattivamente e proattivamente aggressivi, mentre le vittime mostravano solo aggressività reattiva. I risultati hanno anche indicato che gli esterni, i difensori e i bambini non coinvolti avevano punteggi bassi in entrambi i tipi di aggressività.

Nel Capitolo 4 abbiamo impiegato la teoria dell'elaborazione delle informazioni sociali (*social information processing* –*SIP*–) (Crick & Dodge, 1994; 1999), operazionalizzato in forma di risposte a ipotetici scenari, per investigare i processi cognitivi dei bambini in risposta ad azioni di altri bambini. Il campione era lo stesso di quello nel Capitolo 2. I bambini sono stati valutati due volte, con un anno di intervallo tra la prima e la seconda volta. L'AVS è stato impiegato per assegnare i ruoli ai bambini. Abbiamo usato scenari di provocazione per valutare come i bambini rispondevano quando venivano provocati, sia in situazione spontanea che dopo essere stati sollecitati (T1), e abbiamo usato scenari ambigui (una situazione è detta ambigua quando viene fatto del male, ma la vera intenzione di colui che ha commesso l'atto non è chiara) per valutare, nei bambini, l'attribuzione causale, la selezione di scopi (vendicativi) e la rabbia (T2). Le strategie che i bambini hanno utilizzato per rispondere al bullismo sono state raggruppate in aggressività, evitamento, ricerca di aiuto, assertività e irrilevanza (se la risposta non era appropriata o era mancante). I bambini non coinvolti nel bullismo hanno scelto strategie assertive più spesso di quanto abbiano fatto i bulli e le vittime. Quando i bambini hanno avuto l'opportunità di riflettere, tutte le loro risposte aggressive sono diminuite. Cercare aiuto dagli adulti o dal gruppo dei pari è stata la strategia più comunemente scelta da tutti i bambini, e anche la strategia che essi hanno giudicato come la migliore per affrontare il bullismo. Quando l'intenzione di colui che compiva l'atto era ambiguo, i bulli/vittime hanno attribuito più colpa, erano più arrabbiati e si sarebbero voluti vendicare più spesso dei bambini non coinvolti.

Anche nel Capitolo 5 abbiamo analizzato l'elaborazione delle informazioni sociali dei bambini e le loro emozioni. Il campione era lo stesso di quello impiegato nel Capitolo 3, e per assegnare un ruolo ai bambini sono state usate le PRS. Scenari ambigui sono stati utilizzati per scoprire l'attribuzione di intenti, la selezione di scopi e le emozioni (rabbia e tristezza). Due questionari sono stati somministrati ai bambini per valutare l'autoefficacia percepita per mettere in atto aggressività e assertività, e i risultati attesi dal comportarsi in modo aggressivo o prosociale. Sia i bulli che le vittime hanno avuto punteggi più elevati degli altri bambini in interpretazioni ostili, rabbia, scopi antisociali e autoefficacia per l'aggressività. I bulli sono stati i più sicuri di sé nel comportarsi in modo assertivo e le vittime le più tristi. Tutti i bambini, indipendentemente dal loro ruolo nel gruppo dei pari, hanno ritenuto che sia i comportamenti aggressivi che quelli prosociali portavano ai risultati attesi quando venivano messi in atto con un compagno non ostile piuttosto che con uno aggressivo.

Nello studio riportato nel Capitolo 6 è stato usato un campione differente rispetto a quello degli altri studi. I bambini (N = 309) avevano 11 anni e sono stati raggruppati in

ruoli per mezzo delle PRS. E' stato presentato loro un questionario costruito appositamente, per valutare le loro opinioni circa gli interventi contro il bullismo. Sono stati presi in considerazione anche tre tipi di bullismo (fisico, verbale e relazionale) e tre prospettive (immaginare di essere il bullo, la vittima o il testimone). I risultati hanno mostrato che i bambini erano soprattutto a favore della punizione per i bulli da parte di una persona con maggiore potere. In ogni modo, il ruolo reale e quello immaginato hanno influenzato le loro risposte. I bulli (nella prospettiva del bullo) non hanno scelto quelle strategie generalmente riconosciute effettive per risolvere i conflitti (cioè, l'assertività o la mediazione). Similmente, hanno ritenuto che anche la punizione fosse inefficace. Quando immaginavano di essere nella prospettiva della vittima, hanno giudicato la vendetta come la strategia più efficace. I bambini negli altri ruoli, invece, hanno trovato effettive altre strategie, cioè quelle mirate alla mediazione del conflitto, o strategie che implicavano una risposta assertiva al bullismo. E' stata riscontrata più vendetta nel bullismo relazionale che negli altri tipi di bullismo. Le femmine hanno scelto la vendetta e la punizione più spesso nel bullismo verbale che in quello fisico, mentre l'inverso è accaduto per i maschi.

In breve, i risultati di questi studi sono consistenti nel supportare la visione che i bambini direttamente coinvolti nel bullismo presentano uno sviluppo più problematico rispetto agli altri bambini. Sono più aggressivi dei loro compagni ed elaborano le informazioni sociali in modo non adeguato agli ambienti sociali, perché trovano difficile prendere in considerazione il benessere dei pari e i valori condivisi del gruppo. Il bullismo e la vittimizzazione possono essere considerati un problema serio anche perché questi fenomeni non sembrano decrescere con il passare del tempo.

La rilevanza di questi studi per la teoria del bullismo può essere vista nelle diverse prospettive usate per studiare il bullismo e la vittimizzazione. Queste includono i diversi tipi di aggressività (reattiva e proattiva) che i bulli e le vittime possono mettere in atto, il modo di elaborare le informazioni sociali dei bulli e delle vittime e la loro espressione delle emozioni, le opinioni dei bambini circa gli interventi efficaci. Una delle maggiori novità di questa tesi consiste nell'applicazione della teoria dell'elaborazione delle informazioni sociali al fenomeno del bullismo. Questa è la prima volta che si conduce una ricerca empirica per scoprire il modo in cui bulli e vittime elaborano le fasi dell'informazione sociale. Un'altra novità sta nello studio delle opinioni che i bambini hanno riguardo l'intervento, cosa che non è mai stata analizzata, ma che può essere utilizzata per progettare programmi di intervento e per capire meglio cosa pensano i bambini l'uno dell'altro, o come vedono il proprio ruolo quando assumono un'altra prospettiva.

Pensiamo che i risultati di questa tesi possano stimolare sia la ricerca teorica che la ricerca applicata. Da un lato, ulteriori studi nel campo del bullismo potrebbero avvantaggiarsi di questi risultati circa l'aggressività, le cognizioni, le emozioni e le opinioni dei bambini riguardo l'intervento per scoprire il modo di pensare e comportarsi dei bambini. Dall'altro, i nostri risultati possono anche contribuire alla creazione e al miglioramento di progetti di intervento, che possono usufruire di questi diversi aspetti per fermare il bullismo e aiutare molti bambini a seguire un percorso di sviluppo adeguato.

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