This is wrong, right?
Jansma, Dorinde Jennechje

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Chapter 1
General Introduction
1. Introduction

Antisocial behaviour is an extensive problem in primary education. Children who exhibit antisocial behaviour are not only a great burden for teachers, peers and classroom climate, but also for society, both financially and socially (Soepboer, Veenstra & Verhulst, 2006). Therefore, there is an increasing awareness of the need for educational systems to encourage the acquisition of prosocial values and behaviour, i.e. voluntary behaviour that benefits others (Eisenberg, Spinrad & Knafo, 2015), and to discourage the acquisition of antisocial values and antisocial behaviour, i.e. behaviour that harms others (Brown, Corrigan & Higgins-D’Alessandro, 2012; Fink & Slade, 2016; Rupp & Veugelers, 2003). In practice, this awareness is reflected by numerous educational and intervention programs aimed at affecting bullying, prosocial learning and moral behaviour (Reiman & Dotger, 2008; Smith, Ananiadou & Cowie, 2003; Smith, Cousins & Stewart, 2005). However, research has revealed that the effectiveness of these programs is generally mixed (Wienke, Anthonijsz, Abrahamse, Daamen & Nieuwboer, 2014; Willems, Denessen, Hermans & Vermeer, 2012). Programs directed at social emotional learning show a considerable variety in efficacy (Weare & Nind, 2011). Also, most meta-analyses of anti-bully programs show small to moderate effect sizes at best (Merrell, Gueldner, Ross & Isava, 2008; NJI, 2015). Moreover, positive effects are more likely to be effects on attitudes, knowledge, and perceptions, rather than effects on behaviour (Rivara & Le Menestrel, 2016). Interestingly, some interventions programs do succeed, but not enough is known to indicate exactly how and when (Smith et al., 2004). Beneficial outcomes seem to be distributed across types of assessment, variables and interventions (Merrell et al., 2008). In line with this, Gravemeijer and Kirschner (2007) argue that research aimed at education innovation should not merely focus on evidence of effectiveness (What works?) but instead on understanding the processes explaining the effectiveness (How does it work?).

Thus, research is needed into the fundamental processes underlying anti- and prosocial behaviour. This means that further empirical evidence should validate possible fundamental processes leading to pro- and antisocial behaviour development. By examining the way in which the development of pro- and antisocial behaviour takes place and which factors influence this, (educational) interventions might subsequently be better able to affect both pro- and antisocial behaviour. The current study will focus on moral functioning as a fundamental
process driving anti- and prosocial behaviour in middle childhood (cf. Cuevas, 2011; Caravita, Gini & Pozzoli, 2012; Gasser & Keller, 2009; Gini, 2006; Hymel, Rocke-Henderson & Bonanno, 2005; Menesini & Camodeca, 2008; Perren & Gutzwiller-Helfenfinger, 2012; Pozzoli & Gini, 2010). Moral functioning refers to the psychological process that a person invokes in order to respond to and resolve a specific problem, conflict or dilemma that requires a moral decision and moral behaviour (Tappan, 2006). Both moral decisions and moral behaviour are in turn characterized by “the interest or welfare either of society as a whole or at least of persons other than the judge or agent” (Gewirth, 1984, p. 978). Both prosocial and antisocial behaviour are prime examples of morally relevant behaviour in middle childhood, because of its direct effect on the welfare of others (Fabes, Carlo, Kupanoff & Laible, 1999; Turiel, 1983; 1998). Consequently, moral functioning might serve as a central process underlying children’s anti- and prosocial behaviour in primary education.

However, it still remains unclear how different processes of children’s moral functioning simultaneously affect anti- and prosocial behaviour (Gasser, Malti & Gutzwiller-Helfenfinger, 2012). Traditionally, research on moral functioning mainly focused on the process of moral reasoning, i.e. justifications for giving a particular moral judgment (Jordan, 2007). However, moral reasoning predicts only 10-15% of the variance in moral behaviour (Blasi, 1980). By now it has been recognized that a comprehensive account of (im)moral behaviour should not only include cognitive processes, but emotional and self-related processes as well (Arsenio & Lemerise, 2004; Olthof, 2010). Rest’s (1983; 1986) Four Component Model currently probably offers the most adequate view on morality (Vozzola, 2014). The Four Component Model is grounded in a review of psychological research and is a widely used framework to assess the underlying psychological processes of moral behaviour (Myyry, Juujärvi & Pesso, 2010): moral sensitivity, moral reasoning, moral motivation, and moral character. The Four Component Model is shown in Figure 1.

According to Rest (1986) all moral components, i.e. psychological processes, must be in place in order to act moral. The first component, moral sensitivity concerns interpreting a situation in terms of how people’s welfare is affected by possible actions of the subject. The second component, moral reasoning, regards integrating various considerations to determine what ought to be done. Moral motivation, the third component, concerns the importance people give to moral
values (doing what is right) relative to other values (i.e. self-actualization). The fourth component is moral character and refers to the ability to persist in a moral task in the face of obstacles (Rest, 1983; 1986; 1994).

1.1 Aim of the project and research questions

The aim of this project is to obtain fundamentally new insights into moral functioning and into the relative contribution of the aforementioned four components of Rest’s (1983; 1986) model to anti- and prosocial behaviour in primary education. Surprisingly, the relations between these components - moral sensitivity, moral judgment, moral motivation and moral character - and behaviour have remained relatively unexplored in a simultaneous manner (Hardy, 2006; Morton, Worthley, Testerman & Mahoney, 2006). Typically different combinations of only two components have been investigated (Bebeau, 2002), thereby missing the opportunity to simultaneously unpack the processes underlying moral growth and development (Myyry, Juujärvi, Pesso, 2010). Moreover, Rest’s model has mainly been studied among adults (Jordan, 2007). Because the seeds of anti- and prosocial behaviour emerge in childhood (Hepach, Vaish, Grossmann & Tomasello, 2016; Malti & Dys, in press), knowledge of moral functioning in these years is essential to understand and intervene in antisocial behaviour and to promote prosocial behaviour. Therefore, this thesis examines all four moral components of Rest’s model in relation to anti- and prosocial behaviour among children age 7-12.
2. The four components and anti- and prosocial behaviour

2.1 Operationalization of the four components

The operationalization of the four components has been challenging ever since Rest came up with the Four Component Model (Bebeau, 1994; Myyry et al., 2010). The first component, moral sensitivity, was originally defined by Rest (1986) as a combination of one’s recognition of moral issues and how one reacts and processes these issues from an affective perspective within a social context. The current definition now includes dimensions such as ‘interpreting others’ reactions and feelings’, ‘having empathy and role-taking ability’, ‘understanding how one’s actions can affect the welfare of both oneself and others’, and even ‘making inferences from other’s behaviour and responding appropriately to their reactions’ (Jordan, 2007). Interestingly, no measures exist that directly assess children’s moral sensitivity. Instead, several measures assess components of moral sensitivity, such as sympathy and prosocial reasoning (Jordan, 2007). Sympathy is a good representation of moral sensitivity since it constitutes of both empathy and role taking, both very important elements of moral sensitivity (Bebeau, Rest & Narvaez, 1999; Mower, Robinson & Vandenberg, 2015). Sympathy can be defined as feelings of concern or sorrow for the other person based on an understanding of that person’s circumstances (Zhou, Valiente & Eisenberg, 2003). It thus concerns all previously mentioned dimensions of moral sensitivity, except for ‘making inferences from other’s behaviour and responding appropriately to their reactions’. Especially the latter part ‘responding appropriately to other’s actions’ is not captured by sympathy. Nevertheless, one could argue that ‘responding appropriately to other’s actions’ should not be part of the definition of moral sensitivity since it suggests an action instead of a psychological process preceding moral action (e.g. Rest, 1986).

The second moral component, moral reasoning, has been most studied and operationalized of all moral components (Blasi, 1980; Jordan, 2007). This is because for over two decades, research on moral development has been dictated by rationalist models (e.g. Kohlberg, 1969; Piaget, 1965) in which cognition, e.g. moral reasoning, was considered to be responsible for moral action (Rest, 1994). Moral reasoning describes the process in which individuals, using logic and self-reflection, determine why a specific act is right or wrong from a moral perspective (Malti & Ongley, 2014). The dominant stage theory of Kohlberg (1969) stated that there are
hierarchical stages of moral reasoning in which children are first selfish, then oriented to familial and societal regulation, and then formulating principled morality in adolescence. However, more recent moral theories separate moral and non-moral reasoning, allowing for the view that humans prioritize moral over non-moral issues during the lifespan, and not simply as an advanced stage in moral reasoning (Turiel, 1983). Specifically, moral domain theory proposes that moral knowledge (principles of how individuals ought to treat one another) is different from other forms of social knowledge, such as societal knowledge (regulations designed to promote the smooth functioning of social groups and institutions) and psychological knowledge (an understanding of self, others, and beliefs about autonomy and individuality). Thus, beginning in early childhood, children construct moral, societal, and psychological concepts in parallel, rather than in succession. Social domain studies have provided ample evidence that already at 4 years of age, children have developed an understanding of the validity of norms of justice and care, and that they are able to distinguish moral norms from other social rules (Helwig, Tisak, Turiel, 1990; Smetana & Killen, 2008). In this way children are just as well seen as capable moral beings (Nucci, 2001), allowing the investigation of variations in their moral reasoning ability. In correspondence with this view, moral reasoning is nowadays assessed using a distinction between moral (i.e., referring to moral norms and empathic concern for the victim) and non-moral reasoning instead of distinguishing different stages of moral reasoning across development (e.g. Malti, Gasser & Buchmann, 2009; Malti & Ongley, 2014).

Moral motivation, the third component, is conceptualized as the readiness to abide by a moral rule that a person understands to be valid, even if this motivation is in conflict with other, amoral desires and motives (Nunner-Winkler, 1999, 2007). Moral motivation thus implies that a child not only understands, but also personally accepts the validity of moral norms. A central approach to the study of children’s moral motivation has been to focus on the anticipation of emotions following moral transgressions, i.e. violations of a moral norm (Nunner-Winkler, 1999; Nunner-Winker & Sodian, 1988). A strength of this approach is that it is a production measure instead of a self-report questionnaire. The underlying assumption of this production measure is that children’s emotion attributions represent authentic expressions of what is important to them in a given moral conflict. Thus, moral emotion attributions are seen as indicating the degree to which a child feels personally committed to moral principles and hence also the degree to
which moral principles are integrated into the self (Arsenio et al., 2006; Keller, 1996; Mascolo & Fischer, 2010; Montada, 1993; Nunner-Winkler, 1999, 2007). However, Krettenauer and Malti (2008) debated whether emotion attributions are really an indicator of moral motivation. They claim that changes in emotion attributions are not only a motivational but also a cognitive phenomenon. This means that a child’s cognitive capacities, involving mental processes like attention, memory, and thinking, are thought to influence the attribution of emotions. In response to this, Nunner-Winkler (2013) argued that positive emotions after a transgression are also present in adults, and that therefore these emotions cannot only be a lack of cognitive capacities and must have a motivational element.

Moral character, the fourth component, is probably the most difficult component to capture by research designs. The vagueness of the moral character component - it includes dimensions like personality traits as well as diverse situational factors - makes it hard to study (Myyvy et al., 2010). Rest (1986, 1994) described moral character as having courage and implementation skills to carry out a line of action in the face of obstacles. The processes that lead to success in this respect are referred to by Rest (1986) as involving ego strength or self-regulation, i.e. choosing for larger delayed rewards or goals for which one must either wait or work. He also noted, however, that ego-strength may be used for the good as well as the bad. Equating moral character to self-regulation therefore does not seem to capture the ‘moral’ part of moral character and should be complemented with implementation skills or characteristics that help children succeed in doing the good (and not the bad) (Bebeau, 1994). In line with this, the personality characteristics conscientiousness and agreeableness are seen as the precursors of moral character in childhood since they help children succeed in doing the good (Lapsley & Hill, 2009). Moreover, both concepts have a close link to self-regulation. Whereas conscientiousness concerns traits related to self-discipline, orderliness and goal pursuit, agreeableness has a strong link with the regulation of emotions and constitutes of traits related to a desire to maintain social harmony (Ahadi & Rothbart, 1994; Cumberland-Li, Eisenberg & Reiser, 2004; Weisberg, DeYoung & Hirsh, 2011). Additionally, a central self-regulation ability is inhibitory control, i.e. behavioural and cognitive suppression of interferences from the environment (Ahadi & Rothbart, 1994; Graziano & Eisenberg, 1997).


2.2 Relations between the moral components and anti- and prosocial behaviour

Previous research into associations between anti- and prosocial behaviour and Rest’s four components rendered various results. Importantly, prosocial and antisocial behaviour are not the opposite ends of a single dimension (Hawley, Little & Card, 2007), and might therefore also differently relate to moral functioning. Whereas prosocial behaviour is voluntary behaviour that benefits others (Eisenberg, Spinrad & Knafo, 2015), antisocial behaviour is behaviour that harms or injures others (Brown, Corrigan & Higgins-D’Alessandro, 2012; Fink & Slade, 2016). A well-known reflection of antisocial behaviour in education is bullying behaviour. Therefore, bullying-related behaviour, and its relation to moral functioning, will receive special attention in this thesis. Bullying occurs in a context of an imbalance of power and is characterized by a repetition of negative actions towards a peer, with the intention to hurt (Olweus, 1993; Veenstra et al., 2005). Moreover, bullying always occurs in a peer group, where other children besides the bully also have a role in influencing the bullying. There are five participant roles involved in the bullying process, next to the victim: bully, who starts the bullying; assistant, who joins in the bullying, but does not start it; reinforcer, who encourages the bully; defender, who supports the victim; and outsider, who keeps out of the bullying situation (Salmivalli, 2010).

The first component, moral sensitivity, expressed as sympathy, negatively correlates with different forms of antisocial behaviour (Björkqvist, Österman & Kaukiainen, 2000; Kaukiainen et al., 1999; Kaukiainen, Björkqvist, Österman & Lagerspetz, 1996; Zahn-Waxler, Cole, Welsh & Fox, 1995) and with bullying in particular (Gini, Pozzoli & Hauser, 2011; Jolliffe & Farrington, 2006). In a review of Van Noorden, Haselager, Cillessen and Bukowski (2015) it was concluded that sympathy showed no association with being victimized and a negative or no association with assisting or reinforcing in the bullying process. Additionally, Sutton, Smith and Swettenham (1999) and Arsenio and Lemerise (2001) found that bullies might not appreciate the emotional consequences of their behaviours on others’ feelings and fail to sympathize with the feelings of others. In line with this, Caravita, Di Blaso and Salmivalli (2010) concluded that bullies were less able to understand the pain of other children. On the other hand, they found sympathy to be positively associated with defending. More generally, Hoffman (2000) and Arsenio and Lemerise (2004) argued that children’s capacity for sympathy is a key contributor prosocial behaviour. Links between sympathy and prosocial behaviour
have been found to exist both within specific and at the dispositional level (Eisenberg et al., 2015; Malti et al, 2016).

The second component, moral reasoning, was found to explain about 10 - 15% of variance in real life moral behaviour, although empirical support for this association varies from area to area (Blasi, 1980). Generally, moral reasoning is related negatively to delinquency, cheating, aggression and other forms of antisocial behaviours (Eisenberg et al., 2015). Research shows inconsistent findings with regard to the relation between moral reasoning and prosocial behaviour with small to modest positive relations at best (e.g. Eisenberg et al., 2015). Some theorists argue that children’s adequate cognitive moral understanding, i.e. moral reasoning, by no means implies they are competent moral actors (Haidt, 2001; Nunner-Winkler, 1999). Simply stated, knowing the good might not be sufficient to do the good (Nucci, 2001). Two studies within the age range of this study empirically demonstrate this proposition. Both Gini, Pozzoli and Hauser (2011) and Olthof (2010) found that bullies know just as well as defenders that some reasons to explain behaviour are morally wrong. On the other hand, Gini (2006) found that 8 to 11 year old bullies, assistants and reinforcers showed less moral reasoning than defenders and outsiders.

The relations between anti- and prosocial behaviour and children’s anticipated emotions, expressing the third component moral motivation, have been summarized in a meta-analysis by Malti and Krettenauer (2013). This meta-analysis showed small-size relations between negative emotion attributions and prosocial behaviour and moderate-size relations between negative emotion attributions and antisocial behaviour independent of age. This is in line with theoretical accounts of moral emotions stating that moral emotions may be an important part of why children apply moral justification in complex moral situations and why they adhere or fail to adhere to their own moral standards (Malti & Latzko, 2012; Tangney, Stuewig & Mashek, 2007). Studies of children’s anticipated emotions generally assume that children remember the emotional antecedents and consequences of social situations and that this connection between events and emotions guides future behaviour (Arsenio, 2014). Specifically, anticipated negative emotions following moral transgressions restrict aggressive behaviour and motivate reparative behaviour, such as apologies (Asendorpf & Nunner-Winkler, 1992; Malti & Keller, 2010; Tangney et al., 2007). For behaviour in bullying situations, comparable results were found. Gasser and Keller (2009) report that bullies showed
a deficit in moral motivation compared to prosocial children. In the study of Menesini et al. (2003) bullies attributed more negative emotions to a wrongdoer compared to victims and outsiders. Defenders showed less negative emotion attributions than victims.

Moral character, represented by inhibitory control and by the personality dimensions agreeableness and conscientiousness, has been positively related to prosocial behaviour and negatively to antisocial behaviour. Generally, children who have good control over their emotions are more likely to exhibit prosocial behaviours (Beauchaine et al., 2013; Carlo, Crockett, Wolff & Beal, 2012; Laible, Carlo, Panfile, Eye & Parker, 2010; Padilla-Walker & Christensen, 2011). Moreover, the personality of moral exemplars has repeatedly been found to orient toward conscientiousness and agreeableness (Walker, 1999; Walker & Hennig, 2004). Also, Robins, John, and Caspi (1994) have found these two personality dimensions to be strongly and negatively correlated with antisocial personality. In the study of Tani, Greenman, Schneider and Fregoso (2003) defenders exhibited high levels of agreeableness in comparison to other participant roles in the bully process. Contrarily, it has been found that bullies and assistants tend to score lower on agreeableness, conscientiousness and inhibitory control compared to other participant roles (Fossati, Borroni & Maffei, 2012; Menesini et al., 2010; Miller, Lynam & Leukefeld, 2003; Tani et al., 2003).

3. Issues motivating the current research and corresponding research questions

The most prominent and overarching issue motivating the current research lies in the need for further empirical evidence to validate possible fundamental processes leading to pro- and antisocial behaviour development. Given this situation, the aim of our research is not to start by evaluating the effectiveness of an intervention program discouraging antisocial behaviour and/or strengthening prosocial behaviour with yet another positive or negative outcome. Instead, the starting point of our research concerns the question what underlies anti- and prosocial behaviour in middle childhood. Specifically, we argued that moral functioning might serve as a central process underlying children’s anti- and prosocial behaviour in elementary school. In line with this, the present research pursues a greater understanding of the moral processes underlying antisocial and prosocial behaviour. Since the Four Component Model of Rest’s (1983; 1986)
currently offers the most adequate framework to examine the underlying psychological processes of moral behaviour, we rely on this framework. Moreover, research into moral processes rarely focussed on all moral components simultaneously. Up until now, there is scant empirical evidence of the relations between the four described components of moral functioning and their association with moral behaviour (Hardy, 2006; Morton et al., 2006). This gap is unfortunate because it results in fragmented knowledge about the general process of the development of morality. By uncovering the whole scope of moral functioning in pupils age 7-12 this research could guide the development of more effective educational interventions that affect bullying and anti- and prosocial behaviour. The continuing decline in formerly coherent value systems and an increasing individualization in modern Western society make this even more relevant (Rupp & Veugelers, 2003).

In the light of getting more insights into moral functioning as a fundamental process underlying anti- and prosocial behaviour in middle childhood, it is crucial that assessment tools continue to be optimized and tested. Moreover, the operationalization of the Four Component Model is a stringent undertaking (Bebeau, 1994). Therefore, the starting point of our project was the operationalization of the moral components as defined by Rest. Most attention was given to the assessment of moral motivation since small variations in the assessment of these concepts were known to have a strong influence on children’s replies (Malti & Ongley, 2014; Nunner-Winkler, 2013). Moreover, the psychometric properties of the assessment of anticipated emotions in the context of moral transgressions, i.e. our operationalization of moral motivation, was not systematically examined yet (Arsenio, 2014). However, supportive evidence of reliability and validity clearly is a critical feature of meaningful research. Our first research question therefore concerns the examination of the validity and reliability of the assessment of emotions in the context of moral dilemmas. We tested this assessment method in the light of two of its important aspects, its domain and developmental variability. Also, we looked at its links to important criterion measures, namely aggressive and prosocial behaviour, and sympathy.

*Research Question 1: What is the validity and reliability of the assessment of emotions in the context of moral dilemmas?*
Another issue motivating our research lies in the need for further empirical evidence to validate models of possible processes leading to pro- and antisocial behaviour development. Only by examining the way in which development takes place (educational) interventions might be better able to affect both pro- and antisocial behaviour. Moreover, only by better understanding the underlying processes of the development of anti- and prosocial behaviour interventions might be able to steer them into a less antisocial and/or more prosocial career. Remarkably, we found a gap in the research trying to explain the development of anti- and prosocial behaviour. According to Caprara, Dodge, Pastorelli and Zelli, (2007) marginal deviations in behaviour have been neglected in past research, which focused mainly on extreme groups or continuous dimensions of behaviour. The theory of marginal deviations argues that marginal deviations in behaviour, i.e. a small degree of reliable variability in behaviour between a particular child and a normative baseline, also have the potential to develop into higher or lower levels of this behaviour (Caprara et al., 1992; Caprara et al., 2007). Moreover, the theory concerns the processes through which behaviour that is initially only marginally deviant from the norm get transformed into higher or lower levels of this behaviour over time (Caprara, 1992; Caprara & Pastorelli, 1993; Caprara & Zimbardo, 1996). Even though the theory is said to apply to growth in both antisocial and prosocial behaviour, empirical evidence for this proposition is lacking. Indeed, the processes underlying prosocial behaviour might be quite different from processes underlying antisocial behaviour (Baumeister, Bratslavsky, Finkenauer & Vohs, 2001; Krueger, Hicks & Mcgue, 2001; Malti & Krettenauer, 2013; Rothbart & Park, 1986). This motivated us to study marginal deviations in prosocial behaviour, providing new insights in research and theorizing about prosocial development. We were interested in prosocial behaviour development in marginally prosocial children as well as marginally nonprosocial children, respectively initially having a standard score greater than 0 and less than 1 SD above the norm and smaller than 0 and more than 1 SD below the norm of prosocial behaviour.

An interesting avenue for studying the development of marginal deviations in prosocial behaviour into higher or lower levels of prosocial behaviour concerns the effect of (the accumulation of) moral components. Since the separate moral components are understood to be related to prosocial behaviour, they might also contribute to the transformation of marginally deviations in prosocial behaviour into higher or lower levels of prosocial behaviour. Moreover, the theory of marginal
deviations states that the accumulation of personal protective or risk factors might support the development of marginal deviant behaviour into higher levels of this behaviour. For example, a child’s marginal deviations in prosocial behaviour could be coupled with high social perspective taking skills and low aggressive behaviour. In this way protective factors accumulate. Moreover, Caprara et al. (2007) showed that a combination of marginal deviations in aggression and accumulated risk factors increase the chance of the development of aggression. In a similar way, the accumulation of moral components might induce the development of prosocial behaviour. This is in line with the Four Component Theory of Rest (1983; 1986) since this theory states that all moral components, i.e. psychological processes, must be in place in order to act moral. However, thus far, it remains unexplored whether and which moral factors moderate the effect of marginal deviations in prosocial behaviour on the development of prosocial behaviour. Also, it is unclear whether the accumulation of central moral processes plays a role in predicting whether marginal deviations in prosocial behaviour develops into higher or lower levels of prosocial behaviour. Our second research question therefore concerns the investigation of the theory of marginal deviations in relation to prosocial behaviour and (the accumulation of) moral components.

Research Question 2: What is the relative contribution of (the accumulation of) the four moral components to the development of prosocial behaviour in the light of the theory of marginal deviations?

A misconception that further triggered our research is that prosocial and antisocial behaviour have been viewed as opposite ends of a single dimension (Hawley, Little & Card, 2007). However, numerous studies have shown that the (longitudinal) correlations between antisocial and prosocial behaviours are at best modest in early to middle childhood (e.g. Carlo, Hausmann, Christiansen & Randall, 2003; Crick & Grotpeter, 1995; Eisenberg et al., 1998; Hastings, ZahnWaxler, Robinson, Usher & Bridges, 2000; Howes & Phillipsen, 1998; Hughes & Dunn, 2000; Tremblay, Vitaro, Gagnon, Piche & Royer, 1992; Wyatt & Carlo, 2002; Zhou et al., 2002). Also, the processes underlying prosocial behaviour might be quite different from processes underlying antisocial behaviour (Baumeister et al., 2001; Krueger et al., 2001; Malti & Krettenauer, 2013; Rothbart & Park, 1986). Therefore, the contribution of the four moral components to pro- and antisocial
behaviour might also not be the same. This motivated us to study the contribution of the moral components to antisocial behaviour, in addition to studying the contribution of moral components to prosocial behaviour with Research Question 2.

In the context of the Four Component Model, bullying seemed a particularly interesting reflection of antisocial behaviour, prevailing among 15% of primary school children (Veenstra et al., 2005). Bullying in school is not only a great burden for teachers and classroom climate, but also for the perpetrators and victims (Hawker & Boulton, 2000; Nansel et al., 2004; Nishina & Juvonen, 2005; Salmivalli & Isaacs, 2005). Since the definition of bullying includes both intentionality and the repetition of a harmful act, bullying has been more strongly related to moral functioning than other forms of antisocial behaviour (Gasser, Gutzwiller-Helfenfinger, Latzko & Malti, 2013). However, research directed at (opposition to) bullying behaviour as an operationalization of moral behaviour in children generally did not explicitly use the Four Component Model as defined by Rest (1983; 1986). Moreover, a major limitation of research relating moral components to children’s behaviour in bullying situations has been the neglect of the complex group nature of bullying in schools (Barchia & Bussey, 2011; Faris & Ennet, 2012; Huitsing & Veenstra, 2012; Salmivalli, 2010). The result of this is twofold. First of all, studies have rarely examined the associations between moral components and all the different roles in the bullying process, i.e. the victim, bully, assistant, reinforcer, defender and outsider. Second, researchers have typically focused on individual moral characteristics, whereas moral characteristics of the group have been neglected. This while processes of social influence among classmates can be rather persuasive for the behaviour of children (Espelage, Holt & Henkel, 2003; Juvonen & Galvan, 2008). Research Question 3 therefore advances current research by obtaining insights into the relative contribution of individual and class moral components to bullying as a group phenomenon.

Research Question 3: What is the relative contribution of the four components at the individual and class level to bullying-related behaviour?

Continuing the examination of the underlying moral processes of pro- and antisocial behaviour, we wanted to guide the development of educational interventions that aim at affecting bullying and anti- and prosocial behaviour. Following the outcomes of the previous research questions identifying the relations
between the components of moral functioning and pro- and antisocial behaviour, we plan to distillate the most promising success-promoting moral component for educational interventions. Based on this moral component we will develop a class-based intervention program aimed at the promotion of this specific moral component. In this way, we want to evaluate whether the promotion of this moral component will lead to the reduction of bullying-related and antisocial behaviour and to the promotion of prosocial behaviour in education. Hence, we tried to overcome the current shortcoming of the research into the effectiveness of interventions, i.e. that they focus on what works instead of understanding the process of how an intervention works (Gravemeijer & Kirschner, 2007). Thus, in our fourth research question, we wanted to examine how education, one of the most important contextual factors in childhood, might be able to influence children’s functioning on the most promising moral component in order to target bullying-related behaviour as well as anti- and prosocial behaviour in middle childhood. Specifically, we strived to investigate the effects of a class-based intervention program promoting the most prominent moral component on bullying-related behaviour, and anti- and prosocial behaviour over the course of two school years.

**Research question 4: What are the effects of a class-based intervention program promoting the most promising moral component in middle childhood on bullying-related behaviour, and anti-and prosocial behaviour?**

4. The data and design

In order to answer our research questions data was collected using a four-occasion longitudinal design. The longitudinal study consisted of two parts, as can be seen in Table 1. The first part concerned the first measurement occasion in September/October 2014 and the second measurement occasion in May 2015 with a sample of respectively 1258 and 1261 children in 54 school classes (grade 1 to 6) in 11 primary schools. A total of 1231 children participated in both the first and the second measurement occasion. We took great care in assuring variability in school denomination (three catholic, two protestant, six public), size (from 37 to 307 children, M=119.2 and SD=71.9), location (seven in rural areas and five in cities), and mixing of grades (five with single-graded classroom, six with multi-graded classrooms). During the first part of our study grades 1 to 6 of one school were
Chapter 1

offered a class-based intervention promoting agreeableness in between the first and second measurement occasion. Within the same school the parallel grades 1 to 6 were the control condition. The class-based intervention was especially developed and carried out as part of the present research project.

Table 1

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The second part concerned the third measurement occasion in September/October 2015 and fourth measurement occasion in March/April 2016. Data was collected at the school participating in the class-based intervention in the first part, leading to a subsample of the first two measurement occasions. The third measurement occasion concerned 316 children in 10 school classes from grade 1 to grade 6 in one primary school, among which 227 children that also participated in the first two occasions. The children in grade 6 in the school year 2014 – 2015 left school and new first grade entered the data collection during the school year of 2015 – 2016. Grades 1-5 from 2014 -2015 became grade 2-6 in the school year of 2015 – 2016. Most children participating in the third occasion also participated in the
fourth occasion. There were four children leaving school resulting in a total of 312 children participating in the fourth measurement occasion. During the second part of the study the class-based intervention was again implemented in the same school in between the third and fourth measurement occasion.

At all four measurement occasions, children filled in an online questionnaire assessing aspects of moral sensitivity and moral character, and peer nominations on anti- and prosocial behaviour and bullying-related behaviour. Furthermore, at the first and second occasion all children participated in an one-on-one interview assessing the constructs of moral reasoning and moral motivation. The questionnaires and interviews were administered by trained undergraduate and graduate students. The children were instructed to provide their own responses to the questions and were informed that there were no right or wrong answers. Care was taken to assure children that their answers would remain strictly confidential. Additionally, teachers filled in a short questionnaire about the children in their class concerning aspects of moral character. The study had a very high response rate of varying from 97.3% to 99% for the different measurement occasions. This allowed us to get a complete picture of the whole scope of moral processes and anti- and prosocial behaviours going on within a classroom context over time (Neal, 2008).

5. This dissertation

The present dissertation encompasses four different studies, which were motivated by different, but complementary ideas. Across all four studies we explored the association between moral components and anti- and prosocial behaviour. Before getting to the gist of it, we believed it was important to find adequate measures of the concepts under study. Chapter 2 reflects this notion by presenting a detailed account of the assessment of moral motivation answering Research Question 1. This chapter describes the reliability and validity of the assessment of anticipated emotions in the context of moral transgressions with a special interest in the domain and developmental specificity of the instrument. The instrument consisted of six transgression scenarios covering three domains: unfairness (not winning fairly, not keeping word), omission of a prosocial duty (not sharing, not helping) and victimization (verbal bullying, relational bullying). To evaluate the concurrent and predictive validity, we also examined the relation
between anticipated emotions and antisocial and prosocial behaviour and sympathy at two time points.

In Chapter 3 and 4 we examined the Four Component Model of Rest in two different but complimentary ways. Chapter 3 used the theory of marginal deviations to look into children’s development of prosocial behaviour answering Research Question 2. Specifically, we studied whether moral sensitivity, moral reasoning, moral motivation and moral character influence whether marginal deviations in prosocial behaviour accelerates into higher or lower levels of prosocial behaviour. With the help of a multilevel regression analysis we examined possible processes leading to prosocial behaviour development. Further, in Chapter 4, moral behaviour concerned bullying-related behaviour according to five different participant roles: bullying, assisting, defending, victimization or being a bystander. Specifically, we looked into the relative contribution of the four moral components to bullying as a group process, answering Research Question 3. All the different roles in the bullying process were compared with regard to moral sensitivity, moral reasoning, moral motivation, and moral character at both the individual and class level using a multinomial multilevel analysis.

Then, Chapter 5 presents the effects of an intervention aimed at promoting agreeableness in middle childhood answering Research Question 4. Specifically, this paper investigates the effects of a class-based intervention program promoting agreeableness on bullying, assisting, defending, victimization, outsider behaviour, prosocial behaviour, and antisocial behaviour over the course of two school years. Some children received the intervention program during the first year, some during the second year, and some children received the intervention program during both years. The effects of the intervention program were evaluated with the help of multilevel growth curve modelling comparing the different intervention groups to the control group on the growth of the aforementioned outcomes.

We close this dissertation with Chapter 6, in which we recapitulate and discuss the main findings from our four empirical studies, we analyse their limitations, and we derive implications for practice and further research. Although the studies mainly reason about general processes, the conclusions drawn have concrete implications for practitioners and policymakers who want to discourage antisocial behaviour or stimulate prosocial behaviour in the context of primary education. Through our focus on processes, we were able to present some general ingredients for the development and adjustment of intervention programs.