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MORAL COGNITION AND BULLYING IN SECONDARY SCHOOL – A CROSS-CULTURAL STUDY

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Abstract

This study investigated the relationship between moral evaluation, moral cognition and bullying behavior in high school students from the Netherlands and Colombia. It was examined how moral reasoning, moral value evaluation as well as self-serving cognitive distortions are related to bullying behavior. The sample consisted of 287 Dutch students (aged 12-18) and 142 Colombian students (aged 11-15). No negative associations between moral reasoning and bullying behavior could be established. An inverse relationship between moral value evaluation and bullying behavior was found for boys only in both samples. Self-serving cognitive distortions were positively associated with bullying behavior in the Netherlands. An association between moral reasoning and self-serving cognitive distortions could be found in both samples except for Colombian girls. The results show a negative association between moral value evaluation and self-serving cognitive distortions in the Dutch sample but not in the Colombian sample. Only self-serving cognitive distortions appeared to predict bullying behavior when multiple factors were taken into account. The implications of these results for intervention programs and further research are discussed.

Moral cognition and bullying behavior in secondary school – a cross-cultural study

School bullying is a cross-cultural phenomenon. The prevalence rates of adolescent students that are involved in bullying as either bullies and/or victims vary across cultures and range from 9% to 45% (Craig, 2009). In the Netherlands, about 26% of the students aged 8 to 18 reports that they have been bullied within the last week. Compared to other European countries this score is above average (Analitis, Velderman, Ravens-Sieberer, Detmar, Erhart, & Herdman, 2009). Nine percent of the Dutch high school students state that they showed bullying behavior in the last months (van Dorsselaer, van den Eeckhout, ter Bogt, & Vollebergh, 2005). Bullying can be classified as a subset of antisocial behavior and is defined as "*a specific type of aggression in which (1) the behavior is intended to harm or disturb, (2) the behavior occurs repeatedly over time, and (3) there is an imbalance of power, with a person or group perceived as more powerful attacking one perceived as less powerful"* (Analitis et al., 2009).

Students that are involved in bullying can be negatively affected. Among the consequences for victims of bullying are low self-esteem, a higher level of fear and lower levels of self-efficacy (Esbensen, 2009). In some cases, it can lead to the suicide of the victim (Kim & Leventhal, 2008). Bullies as well as victims appear to be less well adapted in school (Nansel, Haynie, & Simonsmorton, 2003) and show higher levels of depression and suicidal ideation (Roland, 2002). Furthermore, longitudinal studies show that bullying behavior is a risk factor for delinquent behavior (Ttofi, 2011).

The current study aims to look at the ways in which moral cognitions are correlated with bullying behavior. New insight into this association can help to develop cognitive intervention programs targeting adolescents that show bullying behavior. The relationship of moral reasoning and moral value evaluation on bullying is investigated. Moreover, the role of self-serving cognitive distortions in the link between moral reasoning, moral value evaluation and bullying behavior is analyzed. Data from a sample in the Netherlands and Colombia will be used in order to test whether the findings are valid across cultures.

Moral reasoning and bullying behavior

Moral reasoning refers to the ability to use moral standards to judge behavior (Colby & Kohlberg, 1987 in van der Velden, Brugman, Boom, & Koops, 2010). It develops across the life span. A cognitive developmental theory of moral reasoning was first proposed by Kohlberg (1976). He suggested that moral development can be described using six stages that

are divided into three levels of development. The three levels are the preconventional (stage 1 and 2), the conventional (stage 3 and 4) and the postconventional level (stage 5 and 6). Moral reasoning at the preconventional level is primarily driven by egocentric interests and can be described as heteronomous. At the conventional level more value is ascribed to the shared relationship and society. Individuals that reason at the postconventional level are not guided by specific rules or laws but are motivated by general moral principles (Killen, 2006). Gibbs revised Kohlberg's model and suggested four stages of moral development that exclude the post-conventional level (stage five and six) of the original model. Individuals who reason on the basis of the immature stages (one and two) have difficulties understanding mutuality and act and think from an egocentric point of view. At stages three and four, that are characterized by more mature moral reasoning, moral reasoning is based on reciprocity and rules are seen to form the basis of society (Gibbs, Basinger, & Fuller in Comunian, 2004).

There has been an ongoing controversy how moral cognition relates to moral action. Kohlberg claimed that there is a reciprocal relationship between moral reasoning and moral action (Kohlberg & Candee, 1984 in Kurtines, 1984). According to Kohlberg, a new stage of moral reasoning can bring about new action but new action can also stimulate the development of moral reasoning. While some research supports the notion that there is a direct relationship between moral reasoning and action, other studies question the existence of this link. Barriga, Morrison, Liau and Gibbs (2001) conclude that the strength of the link has commonly been low. They attribute this to the fact that the stages described by Kohlberg are rather general and abstract, while the behaviors are concrete and specific. In their study among sixteen and nineteen year old college students it was confirmed that there is a weak (negative) relationship between the stage of moral reasoning and the level of externalizing behavior, based on self-report measures and teacher reports on the behavior of the student. Likewise, a study of a sample of Russian high school students found a significant relationship between moral reasoning and antisocial behavior (Boom & Brugman, 2005). In a meta-analysis conducted by Stams, Brugman, Dekovic, van Rosmalen, van der Laan, & Gibbs (2006) a large effect size was found for the relationship between the level of moral reasoning and delinquent behavior. The link was found to be stronger in the late adolescent group than in early and middle adolescence. Possibly, the association between moral reasoning and delinquent behavior is more evident in Stams' analysis because it concerns an extreme form of externalizing behavior. In contrast to these studies, no relationship between moral reasoning and antisocial behavior was found in a study on young adolescents attending the

lowest educational level of the Dutch school system (van der Velden et al., 2010). A negative trend in the relationship between antisocial behavior and moral reasoning was found only within one of the two waves of data taken. The narrow target group of the study by Van der Velden et al. (2010) might have led to a restriction of range leading to a low power to detect effects. We conclude that the results of research on the association between moral reasoning and antisocial behavior are inconclusive.

Whether the findings described above are also true for bullying as a subset of antisocial behavior is unclear. Arsenio (1996) argues that bullies show a delay in moral development and therefore do not realize that they act immorally by victimizing others for their own benefit. According to some research that explicitly distinguishes between bullying and other types of antisocial behavior (e.g. physical aggression, stealing), bullies are not showing a developmental delay in moral reasoning. Instead bullies appear to show lower levels of moral compassion when compared with controls (Gini, Pozzoli, & Hauser, 2010). Gasser and Keller (2009) conducted a study among primary school students and looked at the role moral knowledge and moral motivation plays in bullying behavior. Moral knowledge was seen as the ability to judge a transgression as morally wrong and to give a moral justification for this judgment. In order to measure moral motivation, the ability to attribute a negative emotion to the self as transgressor and to justify this morally was tested (Gasser & Keller, 2009). They found that bullies in primary school did not lag behind in moral knowledge but were less motivated than controls to act accordingly. It can be concluded that the evidence for the existence of a direct link between moral reasoning and bullying behavior is not persuasive yet. Therefore, the link between moral reasoning and bullying behavior will be further investigated. We hypothesize that a higher level of moral reasoning will be associated with less bullying behavior. The effect size is expected to be low because participants are in the early or middle adolescence and the link appears to become stronger during late adolescence.

Moral value evaluation and bullying behavior

Apart from moral reasoning, moral value evaluation plays a role in the relationship between moral reasoning and moral action. Moral value evaluation describes how important an individual rates moral values. While it has gotten considerable less attention than moral reasoning there is evidence that it might be crucial to include it in research on factors influencing antisocial behavior. Beerthuizen et al. (2011) found that moral value evaluation was a better predictor of delinquent behavior than moral reasoning. Similarly, Tarry and

Emler (2007) question the significance of the relationship between moral reasoning and antisocial behavior and suggest that the importance of moral values is a better predictor of antisocial behavior or delinquency. Others (Brusten, Stams, & Gibbs, 2007) oppose Tarry and Emler's findings that moral value evaluation explains moral action instead of moral reasoning. According to Brusten et al. (2007) the association between moral reasoning and moral action is a well supported finding that cannot be questioned on the basis of a single study. They attribute the low correlations found by Tarry and Emler to the young sample and state that de developmental delay in moral reasoning only becomes apparent later in adolescence. Attitudinal processes might play a more dominant role in the younger group. Since there is no research on the association between moral value evaluation and bullying, this study aims to investigate the role of moral value evaluation in bullying behavior. It is hypothesized that higher levels of moral value evaluation are linked to lower levels of bullying behavior. We expect the strength of the link to be stronger than the link between moral reasoning and bullying. If moral value evaluation appears to be an important predictor it might help to find new cognitive approaches for intervention of bullying at school.

Moral reasoning, moral value evaluation and self-serving cognitive distortions

Self-serving cognitive distortions are crucial in cognitive approaches for the explanation of antisocial behavior. They are defined as "inaccurate or biased ways of attending to, or conferring, meaning upon experiences" (Barriga et al., 2001) and help to maintain a positive self-concept when antisocial behavior is displayed (Brugman & Bink, 2010). Furthermore, they help perpetrators to not undergo cognitive dissonance and moral self-sanction for immoral action (Ribeaud & Eisner, 2010). A distinction is made between the following four self-serving cognitive distortions (Gibbs & Potter, 1992 in Barriga et al., 2001): self centered, blaming others, minimizing/mislabeling and assuming the worst. When using self-centered cognitive distortions a person prioritizes personal gains and interests while completely disregarding other persons needs and feelings. Blaming others includes the accusation of others of being responsible for the person's own wrongdoing. When minimizing or mislabeling is used, antisocial behavior is trivialized and the behavior is declared to cause no harm. The cognitive distortion 'assuming the worst' is characterized by a deep mistrust in other people's intentions and the conviction that all efforts to act morally will fail. Research on the association between moral reasoning and self-serving cognitive distortions is sparse and the results are inconsistent. Barriga et al. (2001) found a negative association between the

level of moral reasoning and self-serving cognitive distortions. A negative correlation between these two factors also appeared in a study that compared delinquent and non-delinquent youth (Lardén, Melin, Holst, & Langström, 2006). Nas, Brugman en Koops (2008) could not replicate these findings in every sample that included measures of socio-moral reasoning and self-serving cognitive distortions. Only in two of the three delinquent samples a negative correlation was found between the moral reasoning and self-serving cognitive distortions. Based on these findings, we hypothesize that a lower level of moral reasoning will be related to higher levels of self-serving cognitive distortions.

To our knowledge, the relationship between moral value evaluation and self-serving cognitive distortions has not been investigated. However, we expect that a high level of moral value evaluation will interfere with the use of self-serving cognitive distortions. Therefore, we hypothesize that higher levels of moral value evaluation will be associated with lower levels of self-serving cognitive distortions.

Self-serving cognitive distortions and bullying

A link between self-serving cognitive distortions and antisocial behavior was found in various studies. Higher levels of self-serving cognitive distortions are associated with higher levels of antisocial behavior (Barriga et al., 2001). Self-serving cognitive distortions with overt behavioral referents appear to be specifically related to aggressive behavior (Barriga, Hawkins, & Camelia, 2008). Interesting findings about the direction of the effect stem from a study by Van der Velden et al. (2010). In their longitudinal study among adolescents, they found that antisocial behavior antecedes self-serving cognitive distortions instead vice versa as was expected. The results indicate that higher levels of antisocial behavior might lead to higher levels of self-serving cognitive distortions.

There is a lack of research on self-serving cognitive distortions and its specific relationship with bullying behavior. However, research has examined the association between the related concept of moral disengagement and bullying behavior. Moral disengagement strongly overlaps with the concept of self-serving cognitive distortions (Ribeaud & Eisner, 2010). For this reason, expectations for this study will be based upon results found for the association of moral disengagement and bullying. The concept of moral disengagement was first proposed by Bandura (1996) in his theory about moral agency. Moral disengagement serves as a socio-cognitive mechanism that enables a person to act immorally. An association between moral disengagement and bullying behavior is found in various studies (Hymel,

Rocke-Henderson & Bonanno, 2005; Menesini, 2003; Obermann, 2011). Hymel et al. (2005) found higher levels of moral disengagement to be associated with higher levels of bullying behavior in a sample of 8th to 10th grade students. The results were confirmed in a study that used a younger sample (grade 6 and 7) (Obermann, 2011). It was shown that the effect is present for self-reported bullying behavior as well as for peer-reported bullying behavior. On the bases of these findings it is expected that there will be a positive correlation between self-serving cognitive distortions and bullying behavior.

Self-serving cognitive distortions as a mediator in the relationship between moral reasoning /moral value evaluation and bullying behavior

It has been suggested that there are cognitive mediators that can help to clarify the relationship between moral reasoning, moral value evaluation and antisocial behavior. Self-serving cognitive distortions is one of these mediators. Barriga et al. (2001) found that self-serving cognitive distortions partially mediated the relationship between moral reasoning and antisocial behavior. However, the research was cross-sectional and no causal relationships could be established. On the basis of the findings of van der Velden et al. (2010) it can be doubted that self serving cognitive distortions function as a mediator. In this study we hypothesize, in line with Barriga et al.(2001), that self-serving cognitive distortions functions as a potential mediator in the relationship between moral reasoning and bullying behavior (see figure 1).

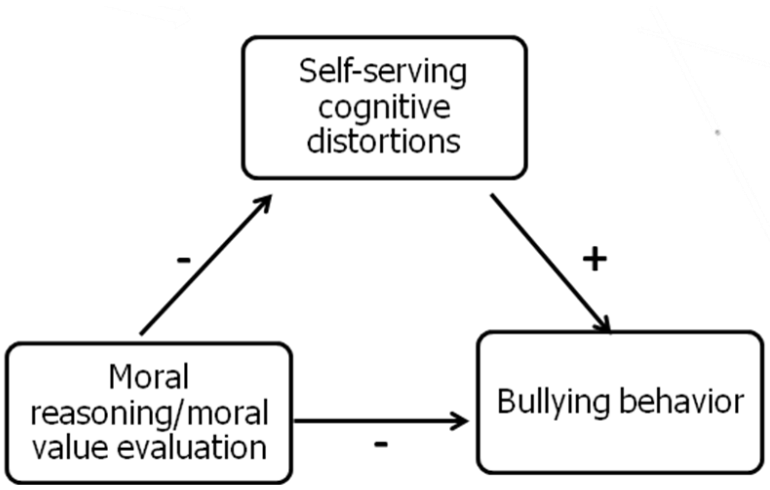

Figure 1. Expected result fort the relationship between variables

Culture and development of moral reasoning and moral value evaluation

Interaction of cultural and psychological processes

Since Bronfenbrenner (1979 in Bronfenbrenner, 1994) first suggested an ecological model of human development it is widely acknowledged that cognition as well as behavior of an individual is influenced by various layers of the environment an individual interacts with. Although the relationship of psychological and cultural processes is complex and is not characterized by a one-to-one relationship the two processes can be seen as "mutually constitutive" (Miller in Kitayama, 2010, p.482). In the relationship between the individual and culture the individual plays an active role but is influenced by cultural patterns. Taking this into account, this study aims to compare the moral development of adolescents in a Dutch and a Colombian sample. The choice of these two samples allows a comparison of moral development in a highly individualistic Western culture and a more collectivistic Non-Western culture (Hofstede, 2003).

Moral development across cultures

One of the basic assumptions in Kohlberg's cognitive developmental theory of moral reasoning is that the order and structure of the stages of moral reasoning are universal across cultures. Kohlberg did not apply the universality to the rate with which an individual moves from one stage to the next. He acknowledged that individuals living in less socially complex cultures might be slower in reaching higher levels of moral thinking than individuals in highly socially complex cultures (Gibbs, Basinger, Grime, & Snarey, 2007). Kohlberg's claims were tested in various studies analyzing the nature of moral development in cultures around the world. The results show that stages one to three are found across cultures while the higher stages are less common in some cultures (Jensen, 2008). In a review of 45 studies in 27 countries Gibbs et al. (2007) conclude that the shift from stage two to three of moral development occurs consistently across cultures in the years from late childhood to early adulthood. Regardless of the culture, the majority of children between 9 to 11 years were reasoning on the basis of stage one or two. In late adolescence youth appears to reach stage three. On the basis of this research, it is expected that the majority of the participants will reason at stage two or three in Colombia as well as in the Netherlands.

Aims of the current study

In brief, this study aims to examine the links between moral reasoning, moral value evaluation, self-serving cognitive distortions and bullying behavior (cross-culturally). We

expect that (1) higher levels of moral reasoning and moral value evaluation will relate to lower levels of bullying behavior. Moreover, it is expected that (2) there will be a direct positive relationship between self-serving cognitive distortions and bullying behavior. Furthermore, it is hypothesized that (3) moral reasoning and moral value evaluation relate inversely to self-serving cognitive distortions. Finally, it is hypothesized that (4) self-serving cognitive distortions will partially mediate the link between moral reasoning, moral value evaluation and bullying behavior. The current study adds to the existing knowledge through its specific focus on moral cognition and bullying. Furthermore, the findings are especially interesting because of the cross-cultural set up of the study.

Method

Recruitment in the Netherlands

Thirty-two Dutch secondary schools were asked per mail whether they were willing to take part in the project. The schools that were approached did not belong to a certain religious or philosophical orientation and represented every main educational level of the Dutch school system. Three schools agreed to take part in the study. Due to time limitations the data of only one school was entered and included in this research report.

Recruitment in Colombia

Schools in Colombia were approached personally. The school that took part in the research was a private catholic school.

Participants

Dutch sample. The Dutch sample consisted of 287 students (130 boys) that attended a public secondary school in a small town in the central part of the Netherlands. Students from grade seven to ten participated. In each grade the main educational levels of the Dutch school system were represented by one class. The age of the students ranged from twelve to eighteen years (ages 12-13, 32.5%; ages 14-15, 42.1%; ages 16-17, 24.3%; age 18, 1.1%) and averaged 14.34 (*SD* = 1.46). The smallest class consisted of 11 students and the largest of 31 students. One fifth (20.2%) of the participants belonged to an ethnic minority group and had at least one parent that was not born in the Netherlands (e.g. Morocco or Turkey). Most of the students' parents had completed college or university degrees (mothers 49.1%, fathers 55.9%). Approximately one third of the parents had only completed primary or secondary education (35.8% of the mothers and 29% of the fathers). Fifteen percent of the students did not know the highest level of education their parents had completed.

Colombian sample. In Colombia, 142 students (69 boys) from a private catholic school in the capital Bogotá participated in the study. The sample consisted of students from grade six to nine. In the Colombian school system the students are not divided according to their level of achievement.

The age ranged from eleven to fifteen (ages 11-12, 43%; ages 13-14, 52.1%; age 15, 4.9%) with a mean age of 12.65 (*SD* = 1.18). The school attended by students from low income families and was subsidized by the state. More detailed information about the socioeconomic and ethnic background was not available for this sample.

Procedure

The questionnaires were administered in the classroom during one lesson (duration 50 minutes). Before filling out the questionnaires, the students were assured that their privacy is warranted and a reward was promised to everyone who would complete the questionnaire. The supervisors were available for answering questions during the administration. The reward, in the form of candy, was handed out at the end of class.

Measures

The Sociomoral Reflection Measure – Short Form Objective (SRM-SFO). The SRM-SFO (Brugman, Basinger, & Gibbs, 2007) is a recognition based paper and pencil instrument that measures moral reasoning and moral value evaluation. Respectively two item sets represent each of the following value areas: contract and truth, affiliation, life, property and law and legal justice. The participants have to rate the importance of a value on a three-point scale ("*very important*", "*important*", "*not important*"). The moral value evaluation score is based on the answer to these questions. Subsequently, participants need to give a reason for their choice. The moral reasoning maturity of the respondent is determined based on the reasons given. The instrument differentiates between four stages of moral reasoning maturity. The SRM-SFO shows acceptable convergent and discriminant validity for both moral value evaluation and moral reasoning maturity (Beerthuizen et al., 2011). The internal consistency of moral reasoning maturity appears to be low for both samples (α_{NL} = .55, α_{CO} = .62). The moral value evaluation scale shows a higher level of reliability (α_{NL} = .74, α_{CO} = .89).

The How I Think Questionnaire (HIT). The HIT questionnaire (Gibbs, Barriga, & Potter, 2001) contains 68 items and measures four kinds of self-serving cognitive distortions that are based on the classification suggested by Gibbs and Potters. The categories are self-centered, blaming others, minimizing-mislabeling and assuming the worst. Each category is

represented through statements that concern the behavioral referents lying, stealing, physical aggression or oppositional defiance. The behavioral referents are grouped in an overt scale (physical aggression and opposition defiance) and a covert scale (lying and stealing). A 6-point Likert scale is used which ranges from "1 = *totally disagree*" to "6 = *totally agree*". The item "If you know you can get away with it only a fool wouldn't steal." is an example for the cognitive distortion minimizing/mislabeling with the use of stealing as a behavioral referent. The reliability and validity of the Dutch version of the HIT are acceptable (Nas et al., 2008). In the current study the internal consistency was .94 for the Dutch sample and .87 for the Colombian sample, which suggests a high level of reliability.

The bullying questionnaire (BQ). The BQ (Defensor del Pueblo, 2000) is an extensive questionnaire about bullying at school. The BQ asks for information about the place and the type of bullying. Moreover, participants have to state whether they show bullying behavior or experience victimization. For the purpose of this study only one scale with 13 items about bullying behavior was used. The question was "Have you picked on one or more pupils this year?". The students had to specify which kind of bullying behavior (e.g. insulting someone, stealing, threatening someone with weapons) they have shown and how often. The answer options were "1 = *never*", "2 = *sometimes*", "3 = *often*" and "4 = *always*". We administered a Dutch translation of the Spanish questionnaire. Two assistants translated the Spanish questionnaire into Dutch independently and subsequently chose the most accurate version of the items. Moreover, the translation was corrected by a native Dutch speaker who has used the Spanish version of the questionnaire in other research projects. The internal consistency for the questionnaire appeared to be good for the Dutch sample (α_{NL} = .84) and sufficient for the Colombian sample (α_{CO} = .66). There is low dispersion in the scores which shows in a low standard deviation (SD_{NL}=.29, SD_{CO}=.18). The instrument does not differentiate well between students who show a high levels bullying behavior versus low levels of this behavior.

Results

Firstly, missing values were analyzed. Following this, (1) the scores of every measure across the Netherlands and Colombia were compared using a MANCOVA and a Mann-Whitney U test. Secondly, I (2) analyzed relationship between all measures through correlational and regression analysis. Finally, (3) I conducted a logistic regression analysis for the HIT and the MVE as predictors of bullying behavior.

Missing values

In total, 2.7% of the values were missing. The amount of missing values was calculated per measurement for every participant. Participants were excluded from the analysis including the particular measurement if less than 70% of the items were filled out. Because of this, the number of participants fluctuates depending on the variables included in the analysis. Due to time restrictions during the administration of the questionnaires, there was a high rate of missing values especially on the SRM-SFO which was placed at the end of the questionnaire. A substantial amount of the values of this questionnaire were missing (12.4%). Based on the criterion of 70%, 40 Dutch participants and 29 Colombian participants were excluded from every analysis including the SRM-SFO. The values were not missing at random. Participants that completed less than 70% of the SRM-SFO scored significantly higher on the HIT (M_{HIT} = 2.87) than participants that completed most of the items of the SRM-SFO (M_{HIT} = 2.26) ($t(422) = 4.839$, $p < .01$).

Descriptive statistics (table 1)

The level of bullying behavior appears to be moderate in the two samples. Most of the students report that they never show bullying behavior or only sometimes. As expected the students in the Netherlands and Colombia show moral reasoning that matches with stage 2 or 3 of the moral maturity model. This means that the participants are in the transition between immature moral reasoning to more mature moral reasoning. On average the participants

Table 1
Means (and standard deviations) on measures of moral reasoning, moral value evaluation and self-serving cognitive distortions for the different groups of participants

Outcome measure	**NL total (N=232)**	NL girls (N=141)	NL boys (N=91)	**CO total (N=125)**	CO girls (N=68)	CO boys (N=57)
Bullying behavior	**1.23 (.29)**	1.20 (.24)	1.29 (.36)	**1.20 (.18)**	1.22 (.18)	1.17 (.19)
Moral reasoning	**284.31 (33.60)**	293.29 (31.36)	270.41 (32.34)	**270.56 (40.52)**	279.21 (38.42)	260.24 (40.86)
Moral value evalutaion	**2.48 (.30)**	2.50 (.28)	2.45 (.32)	**2.69 (.30)**	2.67 (.29)	2.45 (.32)
Self-serving cognitive distortions	**2.15 (.72)**	1.99 (.66)	2.39 (.75)	**2.39 (.61)**	2.25 (.59)	2.56 (.59)

evaluate the moral values that are presented as important or very important. The level of self-serving cognitive distortions appears to be within the normal range. Results from a normative sample report a mean of 2.39 on the HIT with standard deviation of (.69) (Barriga, 2001 in Barriga et al., 2008).

Differences across culture

A multivariate analysis of covariance (MANCOVA) was conducted to test the differences on outcome variables across cultures and gender while controlling for age and social desirability. Significant multivariate effects are found for culture, Pillai's Trace = .094, $F = 12.12$, $df = (3,000)$, $p = .00$, as well as for gender, Pillai's Trace = .126, $F = 16.84$, $df = (3,000)$, $p = .00$. The univariate analysis shows that the scores on moral reasoning do not differ across cultures when it is controlled for age (F(3030,00) = 2.547, p=.11). A significant effect of culture is found for moral value evaluation (F(1,89) = 22.30, p < .01) and the level of self-serving cognitive distortions (F(1,37) = 4.50, p < .05). The Colombian sample scores higher on moral value evaluation as well as on self-serving cognitive distortions. There is a gender effect for the level of moral reasoning (F(40363,38) = 33.93, p < .01) and the level of self-serving cognitive distortions (F(7,64) = 25.12, p < .01). Girls appear to reason on a higher moral developmental level than boys. Furthermore, girls show lower levels of self-serving cognitive distortions than boys.

Bullying behavior was not included in the MANCOVA because the scores were not distributed normally. A Mann-Whitney U test was conducted in order to compare the results across culture. It appeared that the scores on bullying behavior did not significantly differ across cultures (M_{NL}=1.23, M_{CO}=1.20), $U = 18631.50$, $p = .81$. Gender did have marginal significant effect on bullying behavior in the Dutch sample (M_{girls}=1.20, M_{boys}=1.29), $U = 710,00$, $p = .05$. A difference in bullying behavior was also found between Colombian girls and boys (M_{girls}=1.17, M_{boys}=1.22), $U = 1905,00$, $p < .05$.

Results of correlational analyses (see table 2) and regression analysis

The scores of the bullying scale were not distributed normally and various transformations did not result in normality of the scores. Because of this, the assumptions for a multiple regression analysis were not met for this scale. Therefore, we used Spearman's rank correlational test in order to investigate the relationships between bullying behavior and the other measurements. The expectations regarding the relationship of moral reasoning and bullying behavior were not confirmed. In the Netherlands, no significant correlation was found between moral reasoning and bullying behavior. In Colombia, a positive correlation for

Table 2
Spearman's rank correlation coefficients correlations between bullying behavior and other measurements

		girls	boys
school Netherlands			
1	Moral reasoning (N = 232)	.01	-.01
2	Moral value evaluation (N = 232)	-.13	-.32**
3	HIT Total (N = 266)	.28**	.32**
4	Age (N = 270)	.05	-.12
school Colombia			
1	Moral reasoning (N = 125)	-.03	.28**
2	Moral value evaluation (N = 129)	.01	-.30**
3	HIT Total (N = 139)	.23	.18
4	Age (N = 140)	.24**	-.33**

Note: ** $p < .01$. Due to the missing values the sample sizes differ across measurses.

moral reasoning and bullying behavior was found for boys, contradicting our hypothesis. This association was not significant for girls. On the basis of this we reject our hypothesis that self-serving cognitive distortions mediate the relationship between moral reasoning and bullying behavior. The hypothesis concerning the association between moral value evaluation and bullying behavior was confirmed for boys only. A medium effect size was found for boys in the Netherlands and in Colombia. A positive correlation between self-serving cognitive distortions and bullying behavior was found in the Netherlands. The results indicate a medium effect size (Cohen, 1992, in Field, p. 32) for Dutch boys and girls. No significant correlation was found for the Colombian sample which is inconsistent with our hypothesis.

A multiple regression analysis was conducted in order to examine if moral reasoning and moral value evaluation significantly predict self-serving cognitive distortions. The two predictors explain 28,8 % of the variance (R^2=.29, F (2,225) = 45.00, $p < .01$) in the Dutch sample. It was shown that moral reasoning significantly predicts self-serving cognitive distortions (β= -.17, $p < .01$), so did moral value evaluation (β = -.48, $p < .01$).

This pattern was confirmed in separate analysis for boys and girls in the Netherlands. These results confirm our hypothesis concerning the relationship between moral reasoning, moral value evaluation and self-serving cognitive distortions. In the Colombian sample, moral reasoning and moral value evaluation explain 5% of the variance (R^2=.54, F (2,116) = 3,19, $p < .05$). It appeared that only moral reasoning is a significant predictor of self-serving cognitive distortions in the Colombian sample (β = -.23, $p < .01$). When boys and girls were

analyzed separately it appeared that moral reasoning was only a significant predictor for boys in Colombia ($\beta = -.29$, $p < .05$). No relationship was found between moral value evaluation and self-serving cognitive distortions in Colombia, in contrast to our expectations.

With regard to the mediation hypothesis we conclude that self-serving cognitive distortions possibly mediate the link between moral value evaluation and bullying behavior in Dutch boys. However, the mediation cannot be tested through regression analysis because of the limitations of the data on bullying behavior. We therefore state that the conclusion on the mediation is preliminary.

Logistic regression analysis

Due to the limitations of the data described above, we chose to conduct a logistic regression analysis in order to predict bullying behavior. Bullying behavior was dichotomized with a score of 1.5 on the bullying scale as a cut point which corresponds to one standard deviation above the mean. Through this a group is generated which shows a level of bullying behavior above average ($N_{NL} = 26$, $N_{CO} = 10$). Prior to the logistic regression analysis t-tests were carried out in order to test on which variables the two groups differed significantly. It was found that the two groups differed on the scores on the MVE and on the HIT.

A logistic regression analysis with HIT, MVE, gender and age as predictors of a high or a low score on bullying behavior was conducted. A stepwise entry method was used in which the variables were entered backwards. The results for the Dutch sample (table 3) as well as for the Columbian sample (table 4) showed that only the HIT is a significant predictor of bullying behavior ($b_{NL} = 1.35$, $p_{NL} < .01$, $b_{CO} = .95$, $p_{CO} < .05$). The odds ratio for the HIT (3.84 in NL and 2.59 in Colombia) indicates that a higher score on the HIT is associated with an increase of the odds for bullying behavior. The effect size for the Dutch sample as well as the Colombian sample is found to be low ($R^2_{NL} = .10$, $R^2_{CO} = .03$ (Cox & Snell); $R^2_{NL} = .19$, $R^2_{CO} = .08$ (Nagelkerke).

Table 3
Logistic regression with the HIT and MVE as predictor bullying behavior in the Netherlands controlling for age and gender

		95% CI for exp *b*		
	B (SE)	Lower	Exp *b*	upper
Included				
Constant	-5.286** (.81)			
HIT	1.345 **(.292)	2.165	3.836	6.797

Note: $R^2 = .10$ (Cox & Snell), .19 (Nagelkerke). Model $\chi^2(8) = 3.599$, * $p < .05$, ** $p < .01$.

Table 4
Logistic regression with the HIT and MVE as predictor bullying behavior in Colombia controlling for age and gender

		95% CI for exp *b*		
	B (SE)	Lower	Exp *b*	upper
Included				
Constant	-4.918** (1.31)			
HIT	.953 * (.462)	1.049	2.594	6.412

Note: R^2 = .03 (Cox & Snell), .08 (Nagelkerke). Model χ^2 (8) = 11.662 , * $p < .05$, ** $p < .01$.

Discussion

This study aimed to analyze the relationship between moral reasoning, moral value evaluation, self-serving cognitive distortions and bullying behavior (cross-culturally). The comparison of means revealed no differences in the level of moral reasoning across cultures. In both samples girls scored higher on moral reasoning than boys. Colombian students show higher levels of moral value evaluation and at the same time appeared to score higher on self-serving cognitive distortions than Dutch students. The level of bullying behavior did not differ across the two samples. Boys reported more bullying behavior than girls across culture. Our first hypothesis concerning the relationship between moral reasoning and bullying behavior was not confirmed. In contrast, a positive relationship was found between moral reasoning and bullying behavior in Colombian boys. Surprisingly, this study revealed the expected inverse relationship between moral value evaluation and bullying behavior only for boys in the Netherlands and Colombia. In line with our expectations, we found a negative relationship between moral reasoning and self-serving cognitive distortions and moral value evaluation and self-serving cognitive distortions in the Dutch sample. In Colombia, a significant relationship between moral reasoning and self-serving cognitive distortions could only be found for boys. Contrary to our hypothesis, the relationship between moral value evaluation and self-serving cognitive distortions was not found to be significant in the Colombian sample. On the basis of the absence of a significant relationship between moral reasoning and bullying behavior we conclude that self-serving cognitive distortions do not serve as a mediator in this relationship. Possibly the relationship between moral value evaluation and bullying is mediated by self-serving cognitive distortions for boys in the Netherlands.

The absence of a significant negative relationship between moral reasoning and bullying behavior can possibly be explained by the fact that moral development stages are nonspecific and abstract and theoretical while behaviors are concrete and specific as stated by

Barriga et al. (2001). Through this, a direct relationship might not have been found. An alternative explanation for the results can be found in the structure of the missing values. It appeared that the participants that failed to fill in the questions of the SRM-SFO scored higher on the HIT. The conclusion can be drawn that the participants who were deleted due to many missing values belonged to the most extreme group. Hereby, an existing effect might not have been revealed through restriction of range. Furthermore, the reliability of the moral reasoning questionnaire was low. These methodological limitations can also explain the failure of this study to detect a link between moral reasoning and self-serving cognitive distortions.

A gender effect in the link of moral value evaluation and bullying behavior or antisocial behavior has not been described in earlier studies. Some of the studies did not differentiate between boys and girls (e.g. Beerthuizen et al., 2011). Our findings confirmed by Tarry and Emler's findings (2007) insofar as they also found an effect for boys. Unfortunately, they did not include girls in their research. We can conclude that there is evidence for a significant relationship between moral value evaluation and bullying behavior for boys. Based on the present study no conclusions can be drawn for girls. Possibly there is a disconnection between moral value evaluation and bullying behavior in girls. Further research is needed to show whether the finding can be replicated. If the effect proves to be consistent it would mean that moral value evaluation can be a starting point for interventions against bullying behavior for boys. For girls other factors influencing bullying behavior must be explored.

Against our expectation, only self-serving cognitive distortions appeared to be associated with bullying behavior when predicted by moral value evaluation and self-serving cognitive distortions. This result points to the important role of self-serving cognitive distortions as factor that is related to bullying behavior. However, the directionality of the effect remains unclear due to the cross-sectional design of this study. Based on the findings of Van der Velden et al. (2010) it can be doubted if self-serving cognitive distortions antecede antisocial behavior. Before intervention programs are developed that focus on the level of self-serving cognitive distortions it necessary to further investigate if they cause antisocial behavior and are not rather a consequence of it. In case they appear to cause antisocial behavior, intervention programs could aim to challenge distorted ways of thinking through cognitive therapy.

It is unclear why Colombian students showed higher levels of moral value evaluation than Dutch students. It can be speculated that moral values are emphasized stronger in the

upbringing or in the educational system in Colombia than it is in the Netherlands. Further research is necessary to test whether this finding is consistent and what causes the difference in moral value evaluation in Colombia and the Netherlands.

Strengths and Limitations

The study takes a holistic approach by including variables on the psychological level as well as on the level of culture. Through this, different levels of influence on bullying can be explored. Furthermore, a step is taken to test the universality of models of moral cognition and bullying across cultures. The comparison in this study is particularly strong because the chosen two cultures differ from each other on various dimensions (Western versus Non-Western, more individualistic versus more collectivistic).

The generalizability of the findings is limited because of two reasons. First, the scope of the study is limited to one school in each country. Hereby, it is unclear whether the effects that are found are due to differences between the two cultures or between the two schools. In future research more schools need to be included in the analysis in order to achieve a representative sample. Furthermore, the generalizability is restricted through the amount of missing values in parts of the questionnaire. The fact that the values were not missing at random shows that the results are restricted to subgroups of the samples used. In order to lower the amounts of missing values, the questionnaires need to be shortened. Moreover, the characteristics of the bullying questionnaire are a limitation of the current study. The variation in scores was considerable low. Due to this, the power to differentiate between students that bully rarely in contrast to frequently was low. This can possibly explained by the fact that the bullying items were not subtle enough. The use of the word “bullying” in the Dutch translation of the Spanish questionnaire might have triggered social desirable answers. The explicit use of the word “bullying” needs to be replaced by more subtle terms. Furthermore, subsequent research should add other measurements than self-report (e.g. peer report or teacher report) in order to avoid a self-report bias. Self-report measures and peer nominations techniques were found to be valid measures in themselves but are only moderately associated with each other. Therefore, both measures provide important insight into the bullying behavior of an individual. Ideally, peer nomination techniques would be used in addition to self-report measures (Branson, 2009). When interpreting the results it must be taken into consideration that the research is correlational. On the basis of this no conclusions about the directionality of the effects can be drawn. Longitudinal research is needed to be able to develop causal models of the influence of moral cognition on bullying behavior.

Conclusion

The results suggest that the level of moral reasoning might not be associated with bullying behavior. Instead moral value evaluation seems to play a role in the level of bullying behavior especially in boys. Furthermore, self-serving cognitive distortions show to be related to bullying behavior. Longitudinal studies are needed to test the direction of effects and to see whether intervention programs that focus on moral cognition can be useful in the combat against school bullying.

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