Feelings or cognitions? Moral cognitions and emotions as longitudinal predictors of prosocial and aggressive behaviors

Gustavo Carlo a,⁎, Maria Vicenta Mestre b, Paula Samper b, Ana Tur b, Brian E. Armenta a

a Department of Psychology, 320 Burnett Hall, University of Nebraska-Lincoln, Lincoln, NE 68588, USA
b Department of Psychology, University of Valencia, Avenida Blasco Ibáñez, 13, Valencia 46010, Spain

ARTICLE INFO

Article history:
Received 26 October 2009
Received in revised form 21 January 2010
Accepted 8 February 2010
Available online 15 March 2010

Keywords:
Prosocial behaviors
Moral reasoning
Perspective taking
Sympathy
Aggressive behaviors

ABSTRACT

There is debate regarding the roles of sociomoral cognitions and emotions in understanding moral development. The short-term longitudinal relations among perspective taking, sympathy, prosocial moral reasoning, prosocial behaviors and aggression in adolescents were examined. Participants were 489 students (M age = 12.28 years, SD = .48; 232 boys) in public and private schools from predominantly middle class families in Valencia, Spain. Students completed measures of perspective taking, sympathy, prosocial moral reasoning, prosocial behaviors, and aggressive behaviors. Overall, structural equation modeling analyses showed that moral reasoning and emotions were interrelated and predicted both prosocial behaviors and aggression. Discussion focuses on the relevance of both social cognitions and emotions in moral development.

© 2010 Elsevier Ltd. All rights reserved.

1. Introduction

For centuries, philosophers have debated the roles of emotions and cognitions in morality. More recently, among psychologists, such debates have resurfaced in the writings of major moral theorists such as Kohlberg (1984) and Hoffman (2000). Cognitive-developmental theorists emphasized the role of sociomoral cognitions in moral development and this perspective continues to heavily influence contemporary research (Lapsley, 1996; Turiel, 1998). However, social cognitive theorists (Carlo, 2006; Eisenberg, 1986) have attempted to understand the interplay of moral emotions and cognitions and still others (e.g., Haidt, 2001) have suggested that moral emotions are primary to moral cognitions. Although this debate is likely to continue, research examining the simultaneous influence of moral cognitions and moral emotions processes is needed.

Prosocial moral reasoning is defined as decision making regarding helping opportunities when there is a conflict between one’s own and others’ psychological or physical needs in situations where there are no laws or formal social guidelines. Unlike prohibition-oriented moral reasoning that emphasizes issues of justice, prohibitions, and life-and-death (see Kohlberg, 1984), prosocial moral reasoning entails issues of caring and interpersonal relationships (Eisenberg, 1986; Gilligan, 1982). Eisenberg (1986) outlined five developmental levels of prosocial moral reasoning commonly observed among children and adolescents: hedonistic, approval-oriented, needs-oriented, stereotyped, and internalized (including reasoning about empathy). The first three levels are present early in childhood whereas the latter two levels of reasoning emerge later in childhood and adolescence. Furthermore, prosocial moral reasoning is conceptually linked to moral emotions such as sympathy (i.e. feelings of sorrow or concern for others) such that moral reasoning (and perspective taking) can induce or prime sympathy and vice versa (Eisenberg, 1986; Hoffman, 2000). Several investigators have shown that prosocial moral reasoning is related positively to prosocial behaviors (i.e. actions intended to benefit others), sympathy, and perspective taking (Eisenberg, Carlo, Murphy, & Van Court, 1995; Eisenberg, Zhou, & Koller, 2001), and negatively related to aggression (Laible, Eye, & Carlo, 2008).

Another social cognition that is hypothesized to be related to moral behaviors is perspective taking. Batson (1998) and Hoffman (2000) have speculated that perspective taking is required for sympathy and ought to facilitate prosocial behaviors and mitigate aggression. According to these scholars, understanding how others are feeling, their intentions and desires, and their social circumstances should lead to greater sympathy and prosocial behaviors for those who need assistance or who are suffering. Meta-analytic reviews have revealed that there is an overall modest positive association between these constructs (e.g., Underwood & Moore, 1982). Other studies have shown that aggression and externalizing behaviors are negatively associated with perspective taking (see Miller & Eisenberg, 1988).
Several scholars have noted the conceptual importance and relevance of empathy (i.e., feeling the same as another) and sympathy (i.e., feelings of sorrow or concern for others) in prosocial behaviors and in aggression (Batson, 1998; Hoffman, 2000). Batson (1998) asserts that empathy is the basis for altruistic behaviors (i.e., selflessly motivated behaviors primarily intended to benefit others often under risky circumstances and without reward expectations). Similarly, Hoffman (2000) argues that empathy frequently serves as the primary motive behind prosocial behaviors. On the other hand, the lack of empathy is a central component of clinical psychopathy and has been linked to delinquency (Hare, 2006). Thus, although perspective taking enables the individual to understand the social situation, empathy and sympathy (or sometimes referred to as empathic concern; see Davis, 1983) are the constructs that move the individual toward prosocial action and away from harming or injuring others. There is relatively substantial evidence on the significant associations between empathy and sympathy and both prosocial and aggressive behaviors (Batson, 1998; Carlo, 2006; Eisenberg, 1986).

Despite the available evidence on the links among perspective taking, prosocial moral reasoning, sympathy, prosocial behaviors, and aggressive behaviors, several questions remain. First, most studies on the relations between prosocial and aggressive behaviors and these sociocognitive and socioemotive predictors are cross-sectional designs, which limit our ability to infer causality. Second, few studies have had large enough samples to examine the multivariate relations between perspective taking, prosocial moral reasoning, and sympathy, and these social behaviors (see Carlo, 2006; Eisenberg & Fabes, 1998). The present study was designed to further examine these multivariate relations in a relatively large, longitudinal sample of adolescents from Spain.

Although it is difficult to adequately characterize people from countries because of within group heterogeneity, researchers have often done so to contextualize their findings (see Oyserman, Coon, & Kemmelmeier, 2002). Spain is similar to most other Western, industrialized societies and is a member of the European Union. Spain is generally characterized as a society that values the family (Elzo, 2004). Although religion is not rated as highly as family and health, religion (primarily Christianity) continues to play a major role in the culture and social customs of Spanish life (CIS, 2004). In general, Spain ranks higher on individualism than other Latino cultures but substantially lower on individualism than the USA (Hofstede, 1984; Oyserman et al., 2002). Therefore, Spain is considered moderately collectivist (Basabe et al., 2000; Fernández-Berrocal, Salovey, Vera, Ramos, & Extremera, 2001). Because prior research on prosocial development in Spain show similar developmental patterns to those in studies conducted in the United States (Mestre, Frias, Sampfer, & Tur, 2002; Mestre, Sampfer, & Frias, 2002), we expected moral reasoning and emotions to be positively associated with later prosocial behaviors, and negatively associated with later aggression. Moreover, adolescent girls were expected to report more perspective taking, sympathy, prosocial moral reasoning, and prosocial behaviors than adolescent boys, but less aggression than adolescent boys (Eisenberg, 1986; Gilligan, 1982).

2. Methods

Five hundred and five adolescents from Valencia, Spain initially completed the measures described below. Students voluntarily participated in two successive annual evaluations. However, 16 adolescents failed to complete both waves completely and thus were excluded from the main analyses. The final sample included 489 adolescents with an average age of 12.28 years (SD = .48; 232 boys) at Wave 1. One hundred and forty-eight (30%) were from public schools and 341 (70%) were from Catholic private schools. SES was calculated using the Hollingshead classification scheme (adapted for use in Spain; Ibáñez, 2005). The scale ranges from 1 to 7 (1 = top level administrative and business executives; 3 = mid-level administrators including administrative secretaries, insurance agents; 5 = skilled manual laborers such as auto mechanics, carpenters; 7 = unskilled workers such as cleaning workers, porters). The mean SES of the sample was 3.25 (SD = 1.20).

2.1. Measures

Each of the measures was previously translated into Spanish by a moral developmental researcher from Spain who is fluent in Spanish and back translated by a bilingual researcher.

Empathic concern and perspective taking were assessed with the empathic concern (i.e., sympathy) and perspective taking subscales of the Interpersonal Reactivity Index (IRI; Davis, 1983). Each scale has seven items, such as “The problems of the others worry me” (sympathy; \( a = .63 \) & .61, for waves 1 and 2, respectively) and “When I must decide, I listen to different opinions” (perspective taking; \( a = .62 \) & .64, waves 1 and 2, respectively) on a 5-point scale from 1 (does not describe you well) to 5 (describes you very well). Several studies demonstrate adequate psychometric properties of the IRI with European American and Spanish samples (Davis, 1983; Eisenberg et al., 1995; Mestre, Sampfer et al., 2002).

Prosocial moral reasoning was assessed with the Prosocial Reasoning Objective Measure (PROM; Carlo, Eisenberg, & Knight, 1992). The PROM contains stories designed to invoke a conflict between the actor’s needs, wants, and desires and those of another (or others). The stories depict situations which participants had to weigh (a) helping a peer who is being teased versus incurring rejection from peers, (b) donate blood to a needy other at the cost of losing money and time at work and school, (c) go to the beach with friends or help a peer study to pass a math exam, (d) go to a party with friends or miss the party to help an injured boy, and (e) take food to the people of his or her flooded village at the cost of not having sufficient food for him or herself.

Adolescents indicated whether the story protagonist should or should not help and then indicated the importance of five different reasons (on a scale from 1 = not at all to 5 = greatly) for making this decision. From less to more mature forms of moral reasoning (Eisenberg, 1986), each story included reasons reflecting hedonistic moral reasoning (e.g., “it depends whether Sandy can find other friends to do things with in school”), needs-oriented moral reasoning (e.g., “it depends whether the other girl is crying a lot”), approval-oriented moral reasoning (e.g., “it depends whether Sandy’s classmates would approve of what she does”), stereotypic moral reasoning (e.g., “it depends whether Sandy thinks the older girl is mean or not”), and internalized moral reasoning (e.g., “it depends whether Sandy thinks that she is doing what she believes she should do”).

Because adolescents show greater preference for some over others, proportion scores were computed by dividing each scale score by the sum total of responses to all five scale scores (see Carlo et al., 1992 for details on scoring). Then, weights were applied to the proportion scores; hedonistic and needs oriented were weighted by 1, approval-oriented and stereotypic were weighted by 2, and internalized was weighted by 3 to reflect different developmental levels. The final composite score showed acceptable internal consistency for both waves (\( a = .73 \) & .76, waves 1 and 2, respectively). The PROM has demonstrated acceptable reliability, construct, convergent, and discriminant validity in other studies with adolescents, including research with adolescents from Spain (Carlo, McGinley, Roesch, & Kaminski, 2008; Eisenberg et al., 1995; Mestre, Frias et al., 2002).
Aggression was assessed with the Physical and Verbal Aggression Scale (Caprara & Pastorelli, 1993; Del Barrio, Moreno, & López, 2001). Participants responded to 20 items, such as “I kick or punch” on a 3-point scale, anchored by 1 (never), 2 (sometimes), and 3 (always). Cronbach's alphas were .80 and .82, at waves 1 and 2, respectively; item scores were summed and averaged.

Prosocial behavior was assessed with the 10-item subscale of the Prosocial Behavior Scale (Caprara & Pastorelli, 1993; Del Barrio, Moreno, & López, 2001). Participants indicated the degree to which they engage in different types of prosocial behaviors (1 = never, 2 = sometimes, 3 = always; e.g., “I help my classmates do their homework”). Cronbach's alphas were .75 and .76, at waves 1 and 2, respectively; item scores were summed and averaged.

### 2.2. Procedure

The schools that participated were randomly selected from the total schools centers in Valencia, Spain that had students enrolled in the first level of Secondary Obligatory Education. A total of 22 schools (67 classrooms) participated. The measures were completed by groups of students in two 45-min sessions in their classrooms during school hours.

### 3. Results

#### 3.1. Preliminary analyses and descriptive statistics

Means, standard deviations, and repeated measure analysis of variances (ANOVAs) testing mean differences across waves are reported in Table 1. There was a significant increase between waves 1 and 2 in sympathy, and a significant decrease in prosocial moral reasoning.

Mean differences between boys and girls for each variable at each wave were examined using one-way ANOVAs. Across both waves, girls were higher than boys in perspective taking, sympathy, prosocial moral reasoning and prosocial behavior but lower in aggression (Table 2). Correlations showed that perspective taking, sympathy, prosocial moral reasoning, and prosocial behavior were all positively associated with each other and negatively associated with aggression (Table 3). SES (wave 1) was negatively associated with prosocial moral reasoning at both waves such that higher SES was linked to higher prosocial moral reasoning.

#### 3.2. Analytic strategy

Three longitudinal path analyses, using observed variable scores, were tested using Mplus Version 3.01 (Muthén & Muthén, 2004) and maximum likelihood estimation with robust standard errors. The base model is shown in Fig. 1. In the second analysis, wave 1 prosocial behavior and aggression were controlled for by including paths from these variables to their corresponding wave 2 variables. For the third analysis, gender was examined a moderator using multiple group path analyses (moderation model). A fully unconstrained model, in which the model parameters were allowed to vary across the groups, was compared to a model in which the path coefficients were constrained to be equal across groups. The Satorra–Bentler (S–B; Satorra & Bentler, 1994) Δχ² test was used to compare the fit of the constrained models relative to the unconstrained models. Models were determined to fit the data well if they produced values of CFI > .95 and SRMR < .08 (Hu & Bentler, 1999).

#### 3.3. Test of base models

Standardized path coefficients of the base model (Fig. 1) show that perspective taking (wave 1) was positively related to sympathy (wave 1), prosocial behaviors (wave 2), and (marginally) to prosocial moral reasoning (wave 1) but negatively related to aggression (wave 2). Sympathy (wave 1) was positively associated to prosocial moral reasoning (wave 1), prosocial behaviors (wave 2), and negatively related to aggression (wave 2). Prosocial moral reasoning (wave 1) was positively related to prosocial behaviors (wave 2) and negatively (marginally) related to aggression (wave 2). The R² values for the mediators and outcomes are as follows: sympathy = .30; prosocial moral reasoning = .10; prosocial behaviors = .33; and aggression = .30.

### Table 1
Table of descriptive statistics and repeated measures ANOVAS.

<table>
<thead>
<tr>
<th>Wave</th>
<th>Wave</th>
<th>F Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>F (1,488)</td>
</tr>
<tr>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Perspective Taking</td>
<td>3.27</td>
<td>.64</td>
</tr>
<tr>
<td>Sympathy</td>
<td>3.45</td>
<td>.65</td>
</tr>
<tr>
<td>Moral Reasoning</td>
<td>1.85</td>
<td>.07</td>
</tr>
<tr>
<td>Aggression</td>
<td>1.46</td>
<td>.28</td>
</tr>
<tr>
<td>Prosocial Behavior</td>
<td>2.55</td>
<td>.29</td>
</tr>
</tbody>
</table>

* p < .05. ** p < .01.

### Table 2
Table of ANOVAs for waves 1 and 2 variables by sex.

<table>
<thead>
<tr>
<th>Wave</th>
<th>Boys</th>
<th>Girls</th>
<th>F Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Perspective taking</td>
<td>3.09</td>
<td>.60</td>
<td>3.43</td>
</tr>
<tr>
<td>Sympathy</td>
<td>3.19</td>
<td>.64</td>
<td>3.68</td>
</tr>
<tr>
<td>Moral reasoning</td>
<td>1.83</td>
<td>.07</td>
<td>1.85</td>
</tr>
<tr>
<td>Aggression</td>
<td>1.51</td>
<td>.27</td>
<td>1.41</td>
</tr>
<tr>
<td>Prosocial behavior</td>
<td>2.46</td>
<td>.30</td>
<td>2.62</td>
</tr>
<tr>
<td>Wave 2</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Boys</td>
<td>3.15</td>
<td>.65</td>
<td>3.48</td>
</tr>
<tr>
<td>Girls</td>
<td>3.32</td>
<td>.60</td>
<td>3.79</td>
</tr>
<tr>
<td>Perspective taking</td>
<td>1.82</td>
<td>.07</td>
<td>1.85</td>
</tr>
<tr>
<td>Sympathy</td>
<td>1.52</td>
<td>.29</td>
<td>1.39</td>
</tr>
<tr>
<td>Moral reasoning</td>
<td>2.44</td>
<td>.30</td>
<td>2.64</td>
</tr>
</tbody>
</table>

* p < .05. ** p < .01.
Fig. 1. Longitudinal path model testing the associations between perspective taking (wave 1), sympathy (wave 1), prosocial moral reasoning (wave 1), aggression (wave 2) and prosocial behavior (wave 2). $^* p < .05$, $^{**} p < .01$. $^* p < .10$. Additional statistical controls, the overall pattern became weaker suggesting that the relatively high stability of these behaviors overwhelmed predictive effects of sociomoral cognitions on changes in these behaviors 1 year later.

In general, the findings supported prior theorizing that sympathy and perspective taking facilitate prosocial actions and mitigate aggressive behaviors. Furthermore, the findings suggest that sympathy can induce higher level care-based moral reasoning, as well as have direct effects on moral behaviors (Eisenberg, 1986; Hoffman, 2000). Moreover, although perspective taking can sometimes be used to cause harm in others as suggested by some scholars (e.g., Feshbach, 1987), such traits generally promote prosocialness and inhibit harm to others. Furthermore, perspective taking was strongly associated with sympathy suggesting that perspective taking is an important dimension of sympathy (Batson, 1998; Davis, 1983; Eisenberg, 1986; Hoffman, 2000). Although somewhat less strongly associated, there was also a marginally significant ($p < .10$ level) positive link between perspective taking and prosocial moral reasoning, which is consistent with theorizing that understanding the social situation of others can foster higher moral reasoning (Kohlberg, 1984).

The findings with regard to prosocial moral reasoning were mixed and somewhat weak. Prosocial moral reasoning was significantly associated with prosocial behaviors one year later but was only marginally ($p < .10$ level) significantly related to later aggression. The findings demonstrate that the predictive effects of prosocial moral reasoning on prosocial and aggressive behaviors are tempered significantly by the effects of perspective taking and sympathy, which are also associated with prosocial moral reasoning. Prior research has found comparable weak magnitude of effects on the relations between prosocial moral reasoning and prosocial behaviors (Eisenberg et al., 2001). However, research on the relations between prosocial moral reasoning and aggression is much less studied. It could be that other forms of moral reasoning such as prohibition-oriented (Kohlbergian) moral reasoning is more relevant to predict transgressive behaviors. That is, adolescents’ thinking about dilemmas regarding whether to break rules or laws might be more applicable to understanding adolescents’ aggressive behaviors rather than their thinking about whether to help another person or fulfill their own needs.

Alternatively, the relatively different magnitude of predictive effects could be due to the fact that sociomoral cognitions and emotions might play somewhat different roles depending upon the specific form of moral behavior. Some forms of prosocial behaviors might require more thoughtful decision making (e.g.,
cognitions are central factors in moral identity (Hart, 2005; 2006). Recent work has begun to focus on the impact of moral sociomoral emotions can also predict sociomoral cognitions that sociomoral cognitions can play significant roles in predicting 2006; Eisenberg & Fabes, 1998). The present findings remind us our understanding of the universality of these models.

Recent concerns regarding the importance of social cognitions in moral functioning has often centered on the limitations of cog-nitive processing and methodological issues (see Haidt, 2001) but prior and present evidence shows that sociomoral cognitions have somewhat stable qualities with enduring consequences (see Carlo, 2006; Eisenberg & Fabes, 1998). The present findings remind us that sociomoral cognitions can play significant roles in predicting sociomoral emotions and other sociomoral cognitions, and that sociomoral emotions can also predict sociomoral cognitions (Hoffman, 2000). The fact that sociomoral cognitions (and emotions) have enduring effects on social behaviors across time is probably due to the relative stability of these traits due to stable biological factors (e.g., temperament), psychological processes (e.g., sense of moral self), and socialization processes (e.g., relatively consistent family, peer, media experiences) (see Carlo, 2006). Recent work has begun to focus on the impact of moral identity on moral behaviors and there is evidence that sociomoral cognitions are central factors in moral identity (Hart, 2005; Narvaez, 2005). Thus, the accumulated evidence points to the like-lihood that both sociomoral cognitions and emotions are relevant aspects of moral functioning.

Several methodological concerns limit our confidence in the present findings. First, all the measures used in the present study were self-report and therefore subject to self-presentation biases. Second, the sample consists of adolescents from Spain and thus generalizations must be necessarily limited to adolescents with similar characteristics. And third, although longitudinal studies improve our ability to make inferences regarding direction of causality, better tests of the models using more than two waves of data and tests of alternative models (e.g., bidirectional models) are desirable. Despite the limitations, there were several strengths to the present study. The relatively large sample of adolescents and the longitudinal methodology allowed for a multivariate examination of the roles of sociomoral cognitions and emotions in moral conduct. The results demonstrate the need for theories of moral conduct that help us understand the interplay of sociomoral cogniti-ve and emotive processes and the circumstances under which such processes are most relevant. Finally, the overall pattern of findings are consistent with studies of populations in individualistic-oriented societies (e.g., United States) thus lending further sup-port for cognitive-developmental and social cognitive models of moral conduct across individualistic and collectivist societies. Studies of non-Western, non-industrialized societies would further our understanding of the universality of these models.

Acknowledgements

The authors are grateful for the assistance of Ana Belen Andreu, Inmaculada Almazán Simón, Elisabeth Malonda Vidal, and the staff, parents and youth of the participating educational centres in the Community of Valencia. Funding support was provided to Gustavo Carlo by a Visiting Scholar Fellowship from the Universitat de Valen-cia and by an I&R&D project grant (reference BS02001-3042) of the Ministry for Science and Technology (2001-2004) to Maria Mestre.

References


