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The relations between values and prosocial behavior among children: The moderating role of age

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ABSTRACT

Do children's values relate to their prosocial behavior? To answer this question, this study investigated N = 586 Australian children aged 6–12; the children reported their values and their prosocial behavior was assessed by peer nominations. As hypothesized, prosocial behavior was negatively correlated with self-enhancement values and positively correlated with self-transcendence and conservation values. In addition, age moderated the relations between values and prosocial behavior. For younger children, negative relations were found between openness-to-change values and prosocial behavior, but for older children, the relations were significantly positive. A mirror image appeared for the interaction of age and conservation values. The results have implications for values development among children and for moral development.

1. Introduction

Parents and educators make great efforts to enhance children's helping and sharing behavior (Eisenberg, Spinrad, & Knafo-Noam, 2015), as these prosocial behaviors hold great importance for the preservation of the social fabric. For that reason, there is much interest in individual characteristics associated with prosocial behavior, including, for example, theory of mind and moral emotions (Malti et al., 2016; Yu, Zhu, & Leslie, 2016). One such characteristic may be personal values, commonly defined as broad motivational goals that transcend situations and guide attitudes and behaviors (Schwartz, 1992). Although relations between values and social behavior (especially prosocial behavior) are well established (e.g., Sanderson & McQuilkin, 2017; Schwartz, 2010), most previous studies have examined these relations in adults and adolescents, with only one study examining values and prosocial behavior in children (e.g., Abramson, Daniel, & Knafo-Noam, 2017). As such, we know very little about the factors underlying relations between values and prosocial behavior in childhood (Benish-Weisman & McDonald, 2015).

Research among pre-adolescents suggests that values-behavior relations may change with age (Vecchione, Döring, Alessandri, Marsicano, & Bardi, 2016). As such, we cannot simply assume that the factors underlying relations between values and prosocial behavior in children are the same as those found in adults and adolescents. To learn more about these associations, we examined the values and prosocial behavior of 586 Australian children aged 6–12 years.

1.1. Values and prosocial behavior

Values express what is important to a person and serve as guiding principles or motivational goals that are considered to be relatively stable across situations and time (Rokeach, 1973; Schwartz, 1992). They are a central aspect of our personality that have an important influence on behavior (Bardi & Schwartz, 2003; Cieciuch, 2017). The more important a value is to us, the more we strive to fulfill this motivational goal by behaving accordingly. Acting in accordance with our values is inherently rewarding, not least because by pursuing them, we are more likely to achieve our goals and affirm those values that are central to our self-identity (Bardi & Schwartz, 2003).

The most comprehensive and commonly used theory of human values is that of Schwartz (1992), which identified the structure that underlies the conflicts and compatibilities between values, based on an underlying motivational continuum. He divided this structure into ten basic values that can also be collapsed into four higher order values, organized on two orthogonal bipolar dimensions where the poles reflect opposing motivations (see Fig. 1). On the first dimension, self-enhancement values (power and achievement), which focus on the pursuit of self-interest, oppose self-transcendence values (universalism and

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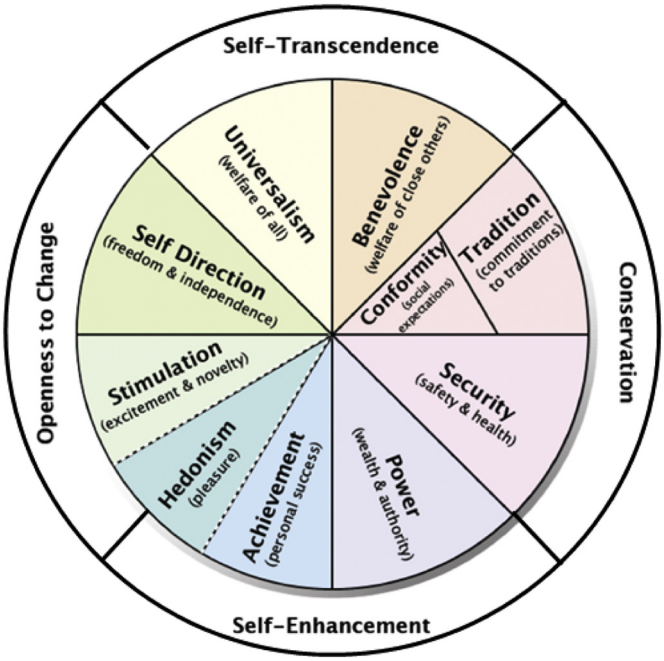


Fig. 1. The circular model of the structure of relations among ten basic human values and the four higher order values. Adapted with permission from "Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries." By Schwartz, 1992, Advances in experimental social psychology, 25, p.1–65.

benevolence), which express concerns for the welfare and interests of others. On the second dimension, openness-to-change values (stimulation, self-direction, and hedonism), which focus on autonomy of thought and action and pursuit of change through new ideas, experiences and actions, oppose conservation values (conformity, tradition and security), which emphasize resistance to change and conforming to social norms.

Prior research has indicated relations between the four higher order values and prosocial behavior among adults. Specifically, self-enhancement values relate negatively (Daniel, Bilgin, Brezina, Strohmeier, & Vainre, 2015; Sagiv, Sverdlik, & Schwarz, 2011; Schwartz, 1996) and self-transcendence values relate positively to prosocial behavior among adults (Caprara & Steca, 2007; Daniel et al., 2015; Maio, Pakizeh, Cheung, & Rees, 2009; Rechter & Sverdlik, 2016; Sagiv, Sverdlik, & Schwarz, 2011; Schwartz, 2010). However, past studies did not find consistent associations between the openness-to-change and conservation values and prosocial behavior (Daniel, Dys, Buchmann, & Malti, 2014); this may be due to associations being dependent on context and the specific prosocial behavior that is examined (Sanderson & McQuilkin, 2017).

As the studies mentioned above examined adult subjects, one may raise the question of their applicability to children. Moral identity consolidates gradually during childhood, leading to increasing consistency of cognition, emotion, and behavior (Daniel et al., 2014; Malti & Ongley, 2014). As a result, one may ask whether the values of children are associated with their prosocial behavior in a similar way to associations found in adult samples.

Studies of values-behavior associations among children are scarce, mostly due to lack of suitable methods for investigating the values of children. However, with recent methodological developments, researchers have been able to measure values in children as young as 5 years of age (see Collins, Lee, Sneddon, & Döring, 2017; Döring, Blauensteiner, Aryus, Drögekamp, & Bilsky, 2010; Lee, Ye, Sneddon, Collins, & Daniel, 2017). Only one study was found to examine relations between values and prosocial behavior among young children (5 to 12 years of age; Abramson et al., 2017). In line with adult studies, they found the expected positive relations between prosocial behavior and self-transcendence values, negative relations with self-enhancement values, and no significant relations with openness-to-change or conservation values (Abramson et al., 2017). However, they focused on a specific resource allocation task (dividing chocolate coins with an anonymous child) to measure costly and non-costly sharing behavior. Further research is needed to examine relations between values and everyday social behavior.

Based on the literature, we hypothesized that (H1) self-enhancement values relate negatively and (H2) self-transcendence values relate positively to everyday prosocial behavior. The inconsistency of research examining relations between prosocial behavior and the openness-to-change and conservation values do not give a clear basis to formulate hypotheses, especially as might apply to children; however, we suggest that age may play an important role in moderating these relations.

1.2. Moderating role of age on values-prosocial behavior relations

Age may be a powerful moderator of the relations between values and prosocial behavior (Schwartz, 2010), especially among children. Prosocial behavior, which is normative in most cultures, increases in frequency during childhood (Eisenberg et al., 2015). Not only that, the antecedents of prosocial behavior also tend to shift with age (Malti et al., 2016; Yu et al., 2016).

We now know that the moral self emerges earlier than traditional theories predicted (Thompson, 2009) and continues to develop throughout childhood and adolescence (Hardy & Carlo, 2011; Krettenauer & Victor, 2017). Research shows that even at the age of 3–4, children can understand the unique importance of caring norms (Malti & Ongley, 2014) and moral rules (Nunner-Winkler, 2007). Starting at the age of 6, children develop a more advanced perspective-taking ability and a more nuanced understanding of moral reasoning and moral emotions (Malti & Ongley, 2014). Similarly, it is shown that at the age of 4–5, children can understand peers' social relations (Slaughter, Dennis, & Pritchard, 2002) and distinguish between classmates in terms of social behavior. Ratings for peer behaviors, such as cooperative play, are among the most stable and present the highest correlations with both teacher ratings and observations (Ladd & Mars, 1986).

One mechanism promoting development of the moral self is the positive reciprocal relations children have with their parents. When relations are characterized by positivity and mutuality, toddlers and very young children are more likely to comply with their parents (Kochanska, 2002). Compliance reflects external regulation of the self and is not necessarily self-chosen, or internalized. With age, internal responsibility for moral actions emerge (Krettenauer, 2013), moral rules become increasingly personally binding (Nunner-Winkler, 2007) and moral understanding shifts from external regulation to moral internalization (Hardy & Carlo, 2011). As a result, prosocial behavior of older children is more likely to be driven by autonomous motivation, rather than external control.

Krettenauer (2013) described the development of the moral self as a composition of three layers in which the child is an intentional, volitional and identified agent. Each layer relies on the foundation of the former one, adding to and not replacing it. The focus of this investigation is the volitional and identified layers as they develop during middle childhood. The volitional moral self, which develops around the age of six, allows children to regulate their desire and antisocial impulses. At this stage, behavior might still be fully initiated by external forces (e.g., fear of punishment). When an integrated moral self is achieved, the decision to act morally is independent and reflects value internalization and free will. The exact period in which this moral self is achieved is not fully clear (Krettenauer, 2013); however, it is suggested that it begins to form in early adolescence.

Therefore, based on the developmental literature, we hypothesized

that (H3) values reflecting the tendency to conform and obey social norms (conservation values) are more likely to motivate prosocial behavior in younger children, whereas (H4) values that reflect autonomous and independent motivations (openness-to-change values) are more likely to motivate prosocial behavior in older children. These hypotheses have not been proposed or tested before.

2. Material and methods

The current study examined relations between values and prosocial behavior among Australian children, importantly focusing on the moderating role of age on these relations. Only one previous study examined relations between values and prosocial behavior in children, in a laboratory setting examining a sharing behavior (Abramson et al., 2017). Our research expands this knowledge by testing age effects in the relations between values and an index of three everyday prosocial behaviors, using peer nominations in a natural everyday setting – a school – to capture a broader range of the prosocial behavior realm. As social behavior has multiple dimensions (Sanderson & McQuilkin, 2017), it is important to measure multiple prosocial behaviors in everyday contexts. Moreover, Abramson et al.'s (2017) study was conducted with one sample of Israeli children, so elaboration of the results to more populations is needed. Australia was chosen as a very different context and one in which different values are emphasized in society. Australians have been found to attribute a relatively high importance to self-focused values (Schwartz, 2008), some of which are negatively related to prosociality. In addition, we measured prosocial behavior using peer nominations to overcome the risk of correlation inflation, due to shared-method variance that might arise when both values and behavior are measured by self-report.

2.1. Participants and procedures

Australian primary school children (N = 586, 51% female) between the ages of 6 and 12 years (M_{age} = 8.93 years, SD = 1.76) participated in the study with parental consent and individual assent. Children with cognitive disabilities were excluded. The values instrument was administered in the school's computer lab following a brief introduction. The survey completion time was about 20 min for older children (7 to 12-year-olds) and 30 to 40 min for younger children who needed assistance with computer mouse movement (6-year-olds). The school was located in a middle-class suburban area, where 63% of adults have more than 12 years of education.

2.2. Measures

Values were measured using the revised Animated Values Instrument (AVI-r, Lee et al., 2017). This instrument is based on best-worst scaling theory (see Louviere, Flynn, & Marley, 2015), an extension of paired comparison to the multiple-choice situation. Specifically, the AVI-r embeds each animated values scenario into 21 small comparison sets of five animations, based on a balanced incomplete block experimental design. The design characteristics meant that every animated value scenario is seen five times and paired with every other scenario once. For each sub-set, children are asked to choose which scenario they "most want to be like" and which they "least want to be like". A screenshot of a subset is provided in Fig. 2.

Scoring for each item is based on the frequency of choice, as an estimate of the latent value importance. Specifically, each item was scored by subtracting the number of times it was chosen as "least want to be like" from the number of times it was chosen as "most want to be like" and then divided by five (the number of times it appeared in the instrument). This resulted in scores for each item that range from −1 to +1, with higher scores indicating greater value importance and zero being the mid-point of the scale. To obtain higher order value scores we first averaged items that reflected the basic values scores and then averaged the basic values scores that represent each higher order value (Schwartz, 1992).

Prosocial behavior was measured using peer (classmate) nominations (McDonald, Benish-Weisman, O'Brien, & Ungvary, 2015). Children were given a roster listing all of the names of their classmates and asked to circle the names of every classmate who fit a criterion. As mentioned, three items assessed prosocial behavior (i.e., "cooperative," "helpful," "kind"; α = 0.91). A child's score for each behavior item was computed as the number of nominations the child received from their classmates for that item, divided by the total number of classmates who could have nominated that child for that item. The final scores for each item were standardized across all the participating students within a class. The three items were aggregated to form a prosocial behavior index.

3. Results

We first tested whether the Schwartz (1992) higher order structure of values was supported by the data in each age group, using confirmatory, theory-based ordinal multidimensional scaling (MDS) in PROXSCAL SPSS22 (see Supplementary materials (S1) for a detailed explanation of the procedures). The two-dimensional maps shown in Fig. 3a–c show support for the theoretical tradeoffs between higher order values for each age group, with only one value, benevolence being collocated with the conservation values in the older age groups. However, in the youngest group (Fig. 3a), self-transcendence and conservation values are less distinct than for other age groups. This offers some support for our hypothesis that when they are young, children's motivation to help and care for others is strongly related to the need to keep social norms and obey social rules.

Next, we examined relations between values and prosocial behavior and the moderating role of age on those relations in the following sections. Descriptive statistics and zero order correlations of the main variables are presented in Table 1.

3.1. Relations between values and prosocial behavior

Hypotheses 1 and 2 were confirmed. Self-enhancement values were negatively correlated and self-transcendence values positively correlated with prosocial behavior (see Table 1; $p < .01$). We also found positive relations between prosocial behavior and conservation values ($p < .01$). No significant relations were found for openness-to-change values.

3.2. Age as a moderator of the relationship between values and prosocial behavior

To examine the role of age as a moderator of the relations between values and prosocial behavior, we conducted hierarchical regression analyses, predicting prosocial behavior by value importance. We tested the four higher order values in separate regression models to avoid possible multicollinearity (Schwartz et al., 2012). As previous studies have demonstrated the importance of gender in relations between values and social behavior (e.g., Benish-Weisman & McDonald, 2015), gender was included as a control variable, but was not the main focus of this study. In step one, our predictors were values, age and gender. In step two, we added the two-way interactions (values X age, values X gender, age X gender). In step three, we added the three-way interaction (values X age X gender). For full table see Supplemental materials (Table S2). We found two significant interactions between values and age. For openness-to-change (B = 0.1, SE B = 0.04, β = 0.14, $p < .05$); and conservation values (B = 0.09, SE B = 0.04, β = 0.13, $p < .05$). To examine the moderating role of age we probed these interactions using the Process program (Hayes, 2017) to test the significance of the slopes reflecting the relationship between values and prosocial behavior for three age levels (youngest, middle, eldest: −1

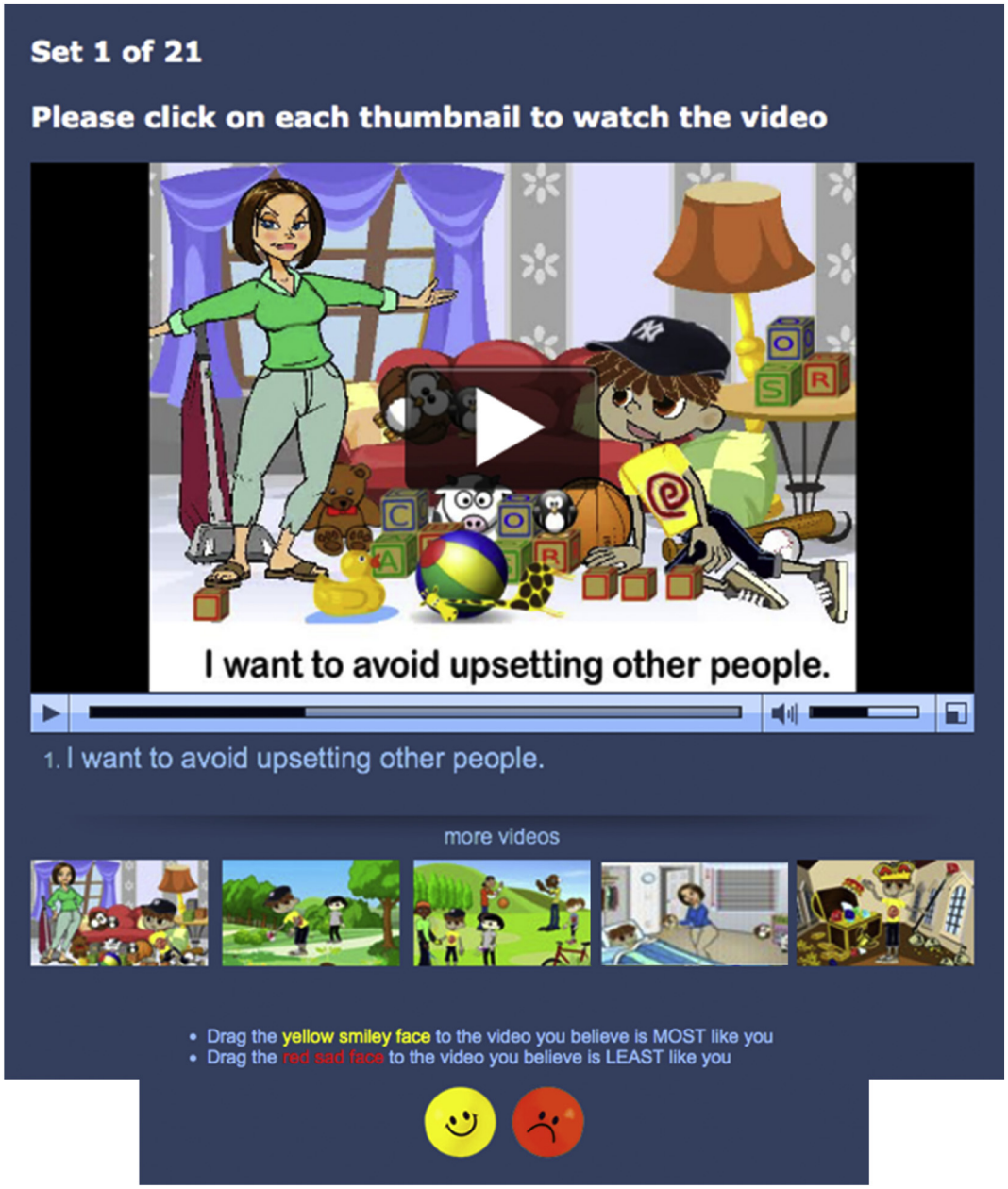


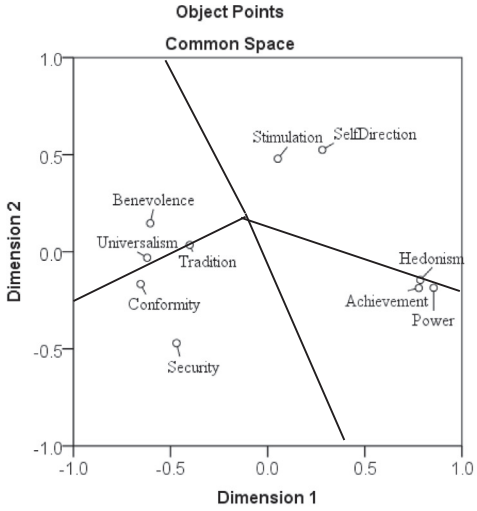
Fig. 2. AVI-r question example set 1 of 21.

SD, the mean, +1 SD, respectively). First, as expected, age moderated the associations between openness-to-change values and prosocial behavior. As shown in Fig. 4, for younger children, there was a significant negative association between openness-to-change values and prosocial behavior ($B = -0.66$, $p = .03$), but for older children, the relationship was significantly positive ($B = 0.97$, $p = .002$). No significant effect was found for children in the mid-range ($B = 0.15$, $p = .45$). As shown in Fig. 5, a mirror image appeared when we probed the interaction of age and conservation values. For younger children we found a significant, positive relation between conservation values and prosocial behavior ($B = 0.83$, $p = .007$), a marginally positive relation for children in the mid-range ($B = 0.37$, $p = .08$), and no significant relation for older children ($B = -0.1$, $p = .74$). Therefore, our hypotheses 3 and 4 were also confirmed. Finally, we tested a full model to examine all effects simultaneously (see Table S3). The interactions of age with openness-to-change values remained the same, but the interaction of age with conservation values was no longer significant. This result is not surprising as openness-to-change and conservation values are related. Therefore, looking at the effect of the interaction of each value with age on prosociality separately offers a more nuanced picture of these relations.

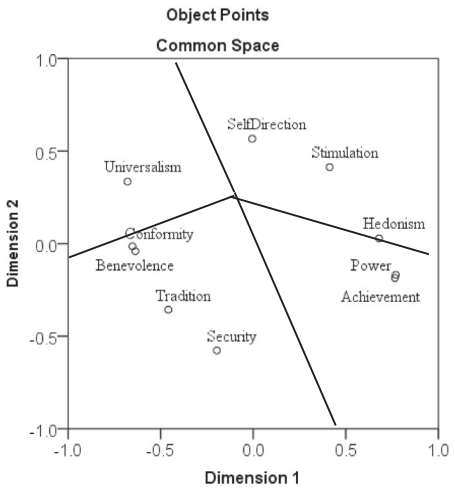
4. Discussion

Previous studies have established the existence of values in children as young as five; with one study showing that self-transcendence (self-enhancement) values are positively (negatively) associated with prosocial choice behavior in children. The present study extended this knowledge by providing evidence that children's self-reported values relate to peer reports of their everyday prosocial behavior, in predictable ways. We not only found the same self-transcendence and self-enhancement value relations with prosocial behavior as in past research, but also provide evidence of a predictable developmental influence on relations between the other bipolar values dimension (conservation versus openness-to-change).

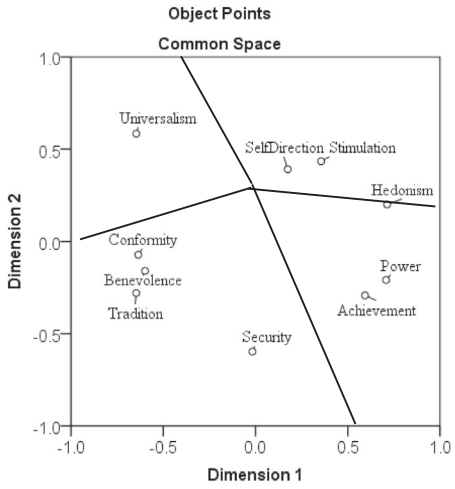
Replication of the findings from adult samples in children, with



a. Young children (ages 6-7), *Stress*= .09[1]



b. Middle children (ages 8-9), *Stress*=.06



c. Older children (ages 10-12), *Stress*= .19

Fig. 3. The MDS maps of values structure by age group.

Table 1
Descriptive Statistics and Correlations for Values and Prosocial Behavior.

	Mean	SD	SEV	STV	OPV	COV	Age
Self-enhancement values	–0.47	0.35					
Self-transcendence values	0.20	0.18	–0.59**				
Openness-to-change values	0.02	0.17	0.12*	–0.45**			
Conservation values	0.11	0.17	–0.49**	0.12**	–0.49**		
Age	8.93	1.76	–0.25**	0.21**	0.07	–0.06	
Prosocial Behavior	0	0.92	–0.17**	0.13**	–0.05	–0.14**	–0.00

Note. ** $p < .01$, SD = standard deviation; SEV = self-enhancement values; STV = self-transcendence values; OPV = openness-to-change values; COV = conservation values.

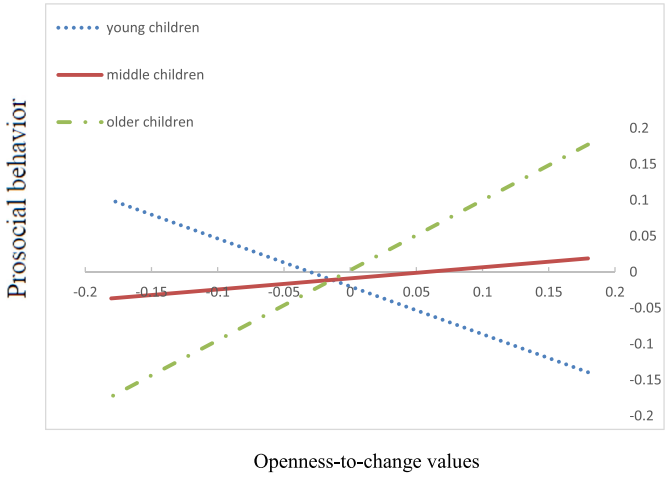


Fig. 4. The moderating role of age on the relations between openness-to-change values and prosocial behavior.

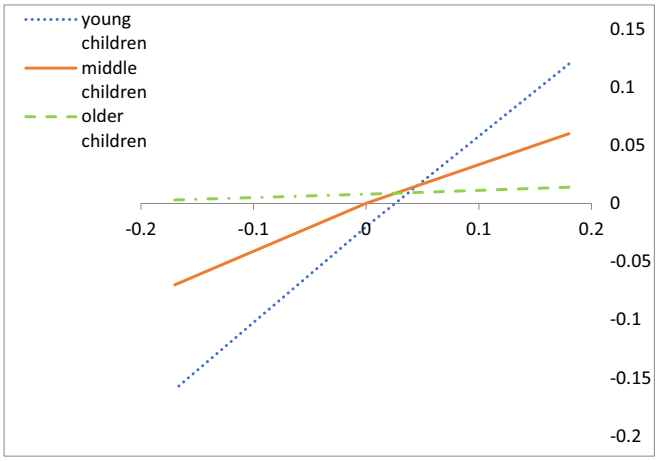


Fig. 5. The moderating role of age on the relations between conservation values and prosocial behavior.

regard to positive relations between self-transcendence and prosocial behavior and negative relations between self-enhancement and prosocial behavior, confirms the important role that values play in prosocial behavior across all age groups. Values appear to direct and influence social behavior, not only in adults and adolescents (e.g., Benish-Weisman, 2015), but also in children as young as six. However, further research is needed to establish causal direction between values and prosocial behavior in young children, as children may determine their goals by observing their behaviors and interpreting them.

Prosocial behavior is highly normative in the context of social peer relations (Eisenberg et al., 2015). Along with self-transcendence values, for young children, prosocial behavior appears driven by external (i.e., conservation values) rather than internal motivations (i.e., openness-to-change values). However, for older children, prosocial behavior is only related to internal motivations (i.e., openness-to-change). Future studies should build on these findings to examine relations between values and prosocial behavior among different aged children in different contexts. For example, in contexts in which competitive behavior is encouraged, such as individual sports, we might find that the relation between conservation values and prosocial behavior in younger children is weaker. In this case, the child may be driven to compete to comply with social norms in this context, rather than for reasons of self-interest.

4.1. Age as a moderator of the relationship between values and prosocial behavior

In our study, age moderated the relations between conservation and openness-to-change values and prosocial behavior. The broad motivation for prosocial behavior among young children was enhanced by the desire to conform to social norms (conservation values) and negatively related to autonomous and independent motivations (openness-to-change values). We found the opposite effect for older children, where prosocial behavior was associated with the desire for independent thought and action, and not with the desire to conform to social norms.

The age effect found in this study echoes previous moral development theory. Krettenauer (2013) posited that starting at the age of six (equivalent to the younger children in our study), children begin to develop a volitional self. The volitional self enables children to control aggressive impulses that may prevent them from achieving their personal goals. Whereas, older children (mostly adolescents) are more likely to have an integrated self; at this point, they can prioritize moral actions not because of external forces, such as fear or punishment, but because moral goals are an integral part of their autonomous self. Our findings substantiate this hypothesis.

In addition, past studies found gradual increases in moral motivation (i.e., the personal commitment to uphold moral rules) with age. Older children were more likely than younger ones to share when they knew that sharing was morally required, and to feel positive about behaving morally and negative about behaving immorally (Nunner-Winkler, 2007). Moral motivation has been found to be increasingly associated with internalized moral principles and decreasingly associated with personal gain or avoidance of negative consequences (Eisenberg, VanSchyndel, & Spinrad, 2016).

The present study is one of the first to offer an integrative perspective on the theories of values and the moral self. The literature has been fragmented, with a lack of dialogue between these fields (Killen, 2016; Narvaez & Lapsley, 2009). Integrating a moral developmental perspective with values theory provides an explanatory mechanism to the role of age on the relations between values and prosocial behavior.

4.2. Limitations and implications

The present study has several noteworthy strengths. First, the large, multi-aged sample of children enabled us to examine our hypotheses with some confidence. Second, everyday prosocial behavior was measured by peer (classmate) nominations. This contributed to the external validity of the study, by allowing us to measure prosocial behavior in a natural, everyday setting rather than a laboratory setting or using a self-report measure. Third, peer nomination measurement also overcame the risk of correlation inflation due to shared-method variance that may occur using only self-report measures. Fourth, measuring values using the best worst scaling approach (Louviere et al., 2015) has several advantages over rating scales for measuring young children's values. It is considered easier to answer than more complex rating scales (Marley & Louviere, 2005), it removes patterning bias as the dichotomous answer pattern prevents respondents from using different parts of a scale, and it produces a set of relative values scores that do not require post-hoc standardization, as is recommended for values instruments that use rating scales (see Schwartz, 1992).

Some limitations should also be acknowledged. First, we used a cross-sectional design. Future longitudinal studies are needed to reveal possible reciprocal associations between values and prosocial behavior and examine development with age within individuals. Second, the study was conducted in one context, among Australian children attending a school located in a middle class suburb. More studies should be conducted in other cultures and social contexts to test the generalizability of the results.

Limitations notwithstanding, the present study provides evidence of the broad motivations of children to behave prosocially. It highlights

that values have a significant role in prosocial behavior in childhood and points to the importance of developmental stage in explaining these relations. These results can be used to guide the development of values-based interventions and education programs aimed at enhancing prosocial behavior in children (Caprara, Kanacri, Zuffianò, Gerbino, & Pastorelli, 2015). Educators need to acknowledge that prosocial behavior has different underlying motivations and that these may change with age. Any interventions that seek to increase prosocial behavior should design materials that tap into these different motivational goals.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.paid.2019.01.019.

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