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How much is it going to cost me? Bidirectional relations between adolescents' moral personality and prosocial behavior

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ABSTRACT

Keywords:

Prosocial behavior
Sympathy
Self-regulation
Values
Moral personality
Moral identity

The current study examined bidirectional relations between adolescents' moral personality (prosocial values, self-regulation, and sympathy) and low- and high-cost prosocial behavior toward strangers. Participants included 682 adolescents (M age of child = 14.31, $SD = 1.07$, 50% female) who participated at two time points, approximately one year apart. Cross-lag analyses suggested that adolescents' values were associated with both low- and high-cost prosocial behavior one year later, self-regulation was associated with high-cost prosocial behavior, and sympathy was associated with low-cost prosocial behavior. Findings also suggested that low-cost prosocial behavior was associated with sympathy one year later, and high-cost prosocial behavior was associated with values. Discussion focuses on reciprocal relations between moral personality and prosocial behavior, and the need to consider a more multidimensional approach to prosocial development during adolescence.

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Adolescence is a key time period during which moral identity and prosocial behavior are developed and diversified. Prosocial behavior is defined as voluntary behavior intended to help or benefit another (Eisenberg, Fabes, & Spinard, 2006) and is considered a central component of one's moral identity. While the definition of prosocial behavior may seem simple and direct, it actually attempts to capture a multifaceted behavioral construct and a dynamic and reciprocal process. For example, helping may be directed at different targets, from a family member, to a friend, to a complete stranger; and both predictors and outcomes vary depending on the target to whom the behavior is directed (e.g., Padilla-Walker & Christensen, 2011). Another way that prosocial behavior is conceptually diverse is that the personal cost of prosocial behavior varies greatly, ranging from small one-time favors to consistent volunteering over a number of years. In each of these cases behavior is prosocial, but the context of the behavior is altered in that the amount of time and energy required is vastly different. To further add to the complexity of this process, theory suggests that there are bidirectional or reciprocal relations between adolescents' moral personality and prosocial behavior (or moral identity; Eisenberg et al., 2006; Hart, Atkins, & Ford, 1998).

Indeed, a growing body of research suggests that myriad emotional personality traits (e.g., self-regulation, sympathy) and moral judgments and evaluations (e.g., personal values) promote prosocial behavior. Further, numerous theoretical approaches address the roots of moral action, including prosocial behavior. Blasi's (1983, 2004) *self model* and other work on

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moral identity posits that moral behavior may be central to an individual's sense of self and that individuals will naturally want to act in ways that are consistent with their moral ideals. Other researchers have found that moral (or prosocial) individuals often possess a number of personality traits and self-concepts that promote prosocial behavior, such as being communal, sacrificial, and trustworthy (Walker & Frimer, 2007; Walker & Hennig, 2004). Further, Hart et al. (1998) suggest that not only does moral personality interact to influence one's moral identity (which is reflected in prosocial behavior), but that the development of one's moral identity is also reciprocally associated with the development of moral personality. In support of this reciprocal process, a small but growing body of research suggests that prosocial behavior promotes a diversity of positive outcomes (e.g. Haroz, Murray, Bolton, Betancourt, & Bass, 2013; Irshad & Atta, 2013), potentially reinforcing or bolstering moral personality. The current study aligns with this theory of moral identity in which moral personality (values, self-regulation, sympathy) interplays with context and opportunity (potential for helping) in bringing about both high- and low-cost prosocial behavior, which in turn should further promote moral personality. Thus, the current study will examine bidirectional relations between adolescents' moral personality and both low- and high-cost prosocial behavior toward strangers.

Defining low- and high-cost prosocial behavior toward strangers

Relational theoretical approaches to prosocial behavior suggest that there may be different predictors of prosocial behavior as a function of the nature of the relationship between the giver and the receiver (Amato, 1990; Eberly & Montemayor, 1999; Padilla-Walker & Christensen, 2011). This theoretical approach suggests that adolescents are more likely to behave prosocially to those with whom they have a relationship (family and friends) because of shared norms or relationship expectations and increased opportunities to serve. Regardless of target, prosocial behavior may further be delineated by low- and high-cost behavior, which have different predictors and outcomes (Eisenberg & Spinrad, 2014). Some prosocial behavior toward those in relationships may be high-cost because of emotional investment and the complexity of role expectations, but much of prosocial behavior toward strangers may be considered high cost because it is often more challenging to help those not in one's in-group or whom one does not see and interact with regularly.

Although prosocial behavior toward strangers is less commonplace, there may still be a meaningful distinction between low- and high-cost prosocial behavior toward strangers. For example, giving up one's seat on the bus to a stranger does not require interaction or even communication with the stranger, while repeatedly helping those one does not know by volunteering at a soup kitchen takes more time and personal investment. This would suggest that high-cost prosocial behavior toward strangers may be quite different than low-cost prosocial behavior, and may be particularly laudable given that it is both high cost and not in the context of a relationship. In previous literature on civic engagement or volunteering (classic examples of high-cost prosocial behavior), researchers have posited that there must be a cost associated with prosocial behavior. Indeed, Barrett, Dunbar, and Lycett (2002) note that the typical prosocial exchange actually requires the initiator to incur some sort of cost in order for the receiver to benefit from the behavior. However, researchers studying this topic have defined cost differently, with some defining high-cost as the expenditure of more personal resources (time, money, emotional capital, etc.), while others define high-cost as requiring more moral courage or personal burden (Kayser, Greitmeyer, Fischer, & Frey, 2010; Zhang & Epley, 2009). For this study, we have defined high-cost as requiring a greater amount of time and commitment. Indeed, while small helpful favors can certainly be beneficial, the extended devotion of time to help needy others or causes (especially when the target is a stranger) is indicative of higher-cost prosocial behavior.

Predictors of low- and high-cost prosocial behavior

The distinction between low- and high-cost prosocial behaviors is rarely made in the literature, nor is it often clear who the target of prosocial behavior is in most existing measures (Padilla-Walker & Carlo, 2014). For example, it is quite common for measures to include items representing low-cost behavior such as giving up one's seat on a bus, high-cost items such as volunteering, and more ambiguous items such as helping (which could be low- or high-cost). It is also common for measures to be ambiguous regarding the target of the behavior, either not distinguishing target, or conflating friends and strangers. Although it is difficult to make conclusions regarding predictors of low-cost prosocial behavior toward strangers from existing research, in general research has found that values (Hardy, Carlo, & Roesch, 2010; Padilla-Walker & Carlo, 2007), self-regulation, (Eisenberg et al., 2006; Padilla-Walker & Christensen, 2011), and sympathy are all aspect of one's moral personality that are consistent predictors of prosocial behavior.

Alternatively, there is a small body of research that focuses specifically on high-cost prosocial behavior. Since high-cost prosocial behavior requires more of the initiator, studies have shown it to be less prevalent among children and young adults (Eisenberg-Berg & Neal, 1981; Salter, Dickey, & Gulas, 1978). Indeed, Eisenberg-Berg and Neal (1981) showed that when children were asked to reason about a high-cost prosocial dilemma, they were more hedonistic and were less likely to say they should help. In two recent studies, empathy, mature moral reasoning, and a prosocial identity were associated with high-cost prosocial behavior among adolescents and emerging adults (Gneezy, Imas, Brown, Nelson, & Norton, 2012; Paciello, Fida, Cerniglia, Tramontano, & Cole, 2013), again showing that both moral personality and judgment interact and contribute to prosocial behavior. Other studies that focus specifically on volunteering and civic engagement during adolescence suggest that both personality and contextual factors facilitate volunteering. Indeed, Atkins, Hart, and Donnelly (2005) found that personality traits (including positive emotionality, emotion regulation, empathy, and internalized prosocial values) earlier in

childhood predicted volunteering in adolescence, possibly because adolescents' moral identity was being formed from a young age with the assistance of parents. Although there is a larger body of research on high-cost prosocial behavior, much of it does not focus on children or adolescents. Given research suggesting that adolescence is the age when high-cost prosocial behavior is engaged in with any frequency, and that high-cost prosocial behavior during adolescence is associated with future high-cost prosocial behavior (Atkins et al., 2005), this is an important developmental age on which to focus.

Outcomes associated with low- and high-cost prosocial behavior

Although prosocial behavior is most often treated as a positive behavioral outcome in and of itself and is central to one's moral identity, research has found that prosocial behavior during adolescence is associated with a number of additional positive developmental outcomes. Indeed, prosocial behavior has been correlated with lower levels of delinquent behavior, aggression and victimization, as well as higher levels of self-esteem, empathy, positive coping skills, and self-regulation (Carlo, Crockett, Wolff, & Beal, 2012; Irshad & Atta, 2013; Laible, Carlo, & Roesch, 2004; Laible, McGinley, Carlo, Augustine, & Murphy, 2013). Haroz et al. (2013) also found that high levels of prosocial behavior were associated with increased resilience among adolescents and a reduction in anxiety and depression symptoms. Adolescents engaging in prosocial behavior also show decreased course failure, school drop-out, truancy, suspension, teen pregnancy, and substance use (Allen, Philliber, Herrling, & Kuperminic, 1997; Carlo, Crockett, Wilkinson, & Beal, 2011; Moore & Allen, 1996).

In research that has specifically considered cost, high-cost prosocial behavior has been linked to developmentally mature moral judgment and higher moral reasoning in young children (Eisenberg & Shell, 1986). In addition, Aknin, Hamlin, and Dunn (2012) showed that children were not as happy after engaging in low-cost giving as they were after high-cost giving. Further, Eisenberg et al. (1999) showed that low-cost prosocial behavior during childhood did not predict sympathy for others or prosocial behavior in early adulthood. Gneezy et al. (2012) similarly found that low-cost helping was not related to a prosocial identity and that it did not lead to consistent prosocial behavior over time. Taken together this research suggests that prosocial behavior in general, and high-cost prosocial behavior specifically, is associated with positive behavioral outcomes, although all of these studies were not longitudinal and thus did not always consider direction of effects.

Current study

Taken together, research and theory suggest that moral personality (e.g., values, self-regulation, sympathy) is associated with prosocial behavior (which may be an indicator of moral identity), and that prosocial behavior is, in turn, associated with moral personality. Although this collective literature suggests a reciprocal process, few have examined bidirectional relations in a single study or have distinguished between low- and high-cost prosocial behavior. Thus, the current study had two research questions. First, we sought to understand how moral personality was differentially associated with low- and high-cost prosocial behavior toward strangers over time. Given existing research (Atkins et al., 2005; Gneezy et al., 2012; Hart et al., 1998; Paciello et al., 2013), we thought it possible that values, self-regulation and sympathy would be more strongly associated with high- than low-cost prosocial behaviors, as high-cost prosocial behavior may be more indicative of a well-developed sense of moral identity. Second, we sought to understand whether low- and high-cost prosocial behavior were differentially associated with moral personality over time. Given existing research and theory suggesting that high-cost prosocial behavior is associated with a myriad of positive outcomes (Carlo, Crockett et al., 2012; Carlo, Mestre et al., 2012; Hart et al., 1998; Irshad & Atta, 2013; Laible et al., 2004) we expected that high-cost prosocial behavior would be more strongly associated with values, sympathy, and self-regulation than low-cost prosocial behavior.

Methods

Participants

The participants for this study were taken from Waves 4 and 5 of the Flourishing Families Project (FFP). The FFP is a longitudinal study of family life involving 682 families (28% single parent, mother-headed) with a child between the ages of 13 and 16 at Wave 4 (*M* age of child = 14.31, *SD* = 1.07, 50% female). Data were gathered from two locations, one in the Pacific Northwest (*n* = 500) and another from the Mountain West (*n* = 181). Ninety-five percent of two-parent families were currently married (never divorced), while 27% of single-parents had never been married, 9% were separated, 51% were divorced, and 6% were widowed. In terms of ethnicity, 79% of families were European American, 10% were African American, and 11% were from other ethnic groups or were multiethnic. In terms of income, 14% made less than \$25,000 per year, 16% made between \$25,000 and \$50,000 a year, and 70% made more than \$50,000 per year.

Procedure

Adolescents were recruited during the first eight months of 2007 for Wave 1, with one-year intervals at each additional wave. At Wave 1, families with an adolescent were randomly selected from targeted census tracts that mirrored local school districts using a purchased national telephone survey database (Polk Directories/InfoUSA). Of the approximately 1025 eligible families contacted, 682 agreed to participate, resulting in a 61% response rate. Of the 682 families who participated at Wave 1,

91% had complete data at Wave 5 (see Padilla-Walker, Harper, & Bean (2011) for additional information on procedure). At each wave of data collection, researchers visited the family's home, administered questionnaires, and conducted an assessment interview that included video-taped interactions (not used in current study), as well as questionnaires that were completed in the home. It is important to note that there were very few missing data at either time point (<3%), and we used the Full Information Maximum Likelihood feature of AMOS to handle missing data.

Measures

Values. Adolescents reported on their prosocial or benevolent values at Wave 4 and 5 using four items from the Portrait Values Questionnaire (PVQ; Schwartz, Melech, Lehmann, Burgess, & Harris, 2001). Participants rated how much they thought a description of a fictional person was similar to themselves. A 6-point Likert scale was used with response categories ranging from 1 (*not like me at all*) to 6 (*very much like me*), with higher scores indicative of greater endorsement of prosocial values (Wave 4 $\alpha = .84$, Wave 5 $\alpha = .79$). Sample items included, "It's very important to this person to help the people around them. This person wants to care for the well-being of others." In the final model, these items were used to create a latent variable representing adolescents' prosocial values.

Self-regulation. Adolescents reported on their own cognitive self-regulation at Wave 4 and 5 using four items from the Novak and Clayton (2001) self-regulation measure. Adolescents responded to how much they agreed or disagreed with statements such as "Once I have a goal, I make a plan how to reach it." Responses ranged from 1 (*never true*) to 5 (*always true*), with higher scores representing higher ability to self-regulate (Wave 4 $\alpha = .72$, Wave 5 $\alpha = .76$). In the final model these items were used to create a latent variable representing adolescents' self-regulation.

Sympathy. Adolescents reported on their own sympathy at Wave 4 and 5 using a seven item scale of empathic concern (Davis, 1983; e.g., "When I see someone being taken advantage of, I feel kind of protective towards them"). Based on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), higher scores were indicative of greater levels of sympathy (Wave 4 $\alpha = .80$, Wave 5 $\alpha = .75$). In the final model this scale was represented as a mean scale score because negatively worded items would not load on a latent variable.

Prosocial behavior. Adolescents reported on their own prosocial behavior toward strangers at Wave 4 and 5 using 9 items modified from the Kindness and Generosity subscale of the Values in Action Inventory of Strengths (Peterson & Seligman, 2004). Based on a 5-point Likert scale ranging from 1 (*not like me at all*) to 5 (*very much like me*), higher scores were indicative of higher levels of prosocial behavior. Typically this measure has been used with all nine items averaged to represent prosocial behavior toward strangers. However, given the nature of the items and the goals of the current study, exploratory factor analysis revealed two factors: one that was indicative of low-cost (5 items, Wave 4 $\alpha = .85$, Wave 5 $\alpha = .83$; e.g., "I really enjoy doing small favors for people I do not know") and one that was indicative of high-cost prosocial behavior (4 items, Wave 4 $\alpha = .73$, Wave 5 $\alpha = .71$; e.g., "I volunteer in programs to help others in need, like food or clothes drives"). In the final model these items were used to create two latent variables, one representing low- and one representing high-cost prosocial behavior.

Results

Descriptive statistics

Although latent variables were created for the final model; means, standard deviations, and correlations for all mean scale variables are presented in Table 1. It should be noted that values, self-regulation, and sympathy at Wave 4 were all significantly associated with both low- and high-cost prosocial behavior at Times 4 and 5, and low- and high-cost prosocial behavior at Wave 4 were both associated with values, self-regulation, and sympathy at Wave 5.

Table 1
Means, standard deviations, and correlations for all study variables.

	1	2	3	4	5	6	7	8	9	10
1. Values (Wave 4)	—									
2. Self-regulation (Wave 4)	.46**	—								
3. Sympathy (Wave 4)	.61**	.42**	—							
4. Low-cost PB (Wave 4)	.55**	.42**	.62**	—						
5. High-cost PB (Wave 4)	.41**	.46**	.46**	.58**	—					
6. Values (Wave 5)	.63**	.38**	.54**	.47**	.42**	—				
7. Self-regulation (Wave 5)	.31**	.48**	.31**	.31**	.30**	.38**	—			
8. Sympathy (Wave 5)	.53**	.36**	.71**	.51**	.41**	.58**	.34**	—		
9. Low-cost PB (Wave 5)	.52**	.35**	.56**	.68**	.51**	.61**	.35**	.62**	—	
10. High-cost PB (Wave 5)	.41**	.41**	.41**	.47**	.71**	.48**	.41**	.48**	.61**	—
M (SD)	4.66(.91)	3.04(.59)	3.62(.78)	3.36(.83)	2.97(.88)	4.69(.85)	3.03(.59)	3.75(.75)	3.52(.79)	3.04(.87)

Note. PB = Prosocial behavior; ** $p < .01$.

Cross-Lag analyses between moral personality and prosocial behavior

First we examined whether measures were invariant over the two time points. Following standard measurement invariance procedures (Widaman, Ferrer, & Conger, 2010) we found that measures met the necessary level of “strong invariance” allowing for examination of change over time, with the exception of self-regulation, which only met the criteria for weak invariance. Our final measurement model suggested that the model fit the data well, $\chi^2(668) = 327.68$, $p < .001$; CFI = .99, RMSEA = .02, and all factor loadings were above .70.

Next, we conducted a structural model with values, self-regulation, and sympathy at Wave 4 predicting low- and high-cost prosocial behavior at Wave 5; and low- and high-cost prosocial behavior at Wave 4 predicting values, self-regulation, and sympathy at Wave 5 (see Fig. 1). Control variables were adolescent age, ethnicity (non-white had higher coded value) and family structure (single parent had higher coded value). Multiple group models were explored for both child gender and data collection site, but constraining paths to be equal across these variables did not result in significantly lower model fit. Thus, gender was used as a control in the model (data collection site was not significantly associated with any variables, so was dropped), and this single-group model was fully saturated.

Results suggested that values at Wave 4 were positively associated with low- ($\beta = .13$, $p < .01$) and high-cost ($\beta = .12$, $p < .05$) prosocial behavior at Wave 5; and self-regulation at Wave 4 was positively associated with high-cost prosocial behavior at Wave 5 ($\beta = .09$, $p < .05$). Results also suggested that sympathy at Wave 4 was positively associated with low-cost prosocial behavior at Wave 5 ($\beta = .13$, $p < .001$). In turn, high-cost prosocial behavior at Wave 4 was associated with values at Wave 5 ($\beta = .16$, $p < .001$); and low-cost prosocial behavior at Wave 4 was associated with sympathy at Wave 5 ($\beta = .19$, $p < .001$). In terms of controls, gender was negatively associated with sympathy ($\beta = -.06$, $p < .001$) at Wave 5. Age was positively associated with values ($\beta = .10$, $p < .001$), self-regulation ($\beta = .05$, $p < .05$), and both low- ($\beta = .02$, $p < .05$) and high-cost ($\beta = .03$, $p < .01$) prosocial behavior at Wave 5. Being in a single-parent household was negatively associated with high-cost prosocial behavior ($\beta = -.04$, $p < .01$) and being non-white was negatively associated with values ($\beta = -.03$, $p < .05$) and positively associated with self-regulation ($\beta = .05$, $p < .05$) at Wave 5.

Discussion

Existing research does not often distinguish between low- and high-cost prosocial behavior, although studies that do suggest utility in such a distinction (Eisenberg & Shell, 1986; Gneezy et al., 2012). This has practical implications for parents and educators who may want to promote prosocial behavior and moral identity in adolescents, especially if the goals of intervention programs are targeted toward specific types of high-cost prosocial behavior (e.g., volunteering, community involvement). Thus, the purpose of the current study was to examine bidirectional relations between adolescents' moral

Note. PB = Prosocial Behavior. 4 = Wave 4, 5 = Wave 5. Control variables, latent variables, and endogenous error correlations are not shown in figure for parsimony.

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

Fig. 1. Cross-lag analyses between moral personality and prosocial behavior.

personality (values, self-regulation, and sympathy) and low- and high-cost prosocial behavior. Findings suggested a number of bidirectional relations, suggesting that adolescents' moral personality influences future prosocial behavior, but that initial levels of prosocial behavior also continue to shape adolescents' moral personality.

Prosocial values

There is a relatively large body of research that has examined the role of prosocial values in promoting adolescents' prosocial behavior. More specifically, adolescents' prosocial values (Hardy et al., 2010; Padilla-Walker & Carlo, 2007), accurate perception and acceptance of parental values (Padilla-Walker, 2007), and internal regulation of values (Barry, Padilla-Walker, Madsen, & Nelson, 2008) have all been linked to prosocial behavior, prosocial tendencies, and moral identity during adolescence and young adulthood. However, we are not aware of any research that has examined these relations as a function of the cost of the behavior. The most consistent associations found in the current study were in relation to prosocial values, and suggested that values were associated with both low- and high-cost prosocial behavior a year later. Assuming that values are associated with corresponding behaviors (Bardi & Schwartz, 2003; Padilla-Walker, Fraser, & Harper, 2012) and are essential to one's moral identity (Hart et al., 1998), one might expect that having a prosocial value orientation would be more strongly predictive of high-cost prosocial behavior given the advanced levels of reasoning and processing that may go into engaging in higher cost behavior. However, the current study did not support this assertion. It could be that adolescents who value helping and being kind to others are more likely to attend to even small opportunities to help, in that being prosocial might be a more salient aspect of their moral identity and personality, readily displayed in a variety of behaviors.

However, it may be that the way values were measured in the current study did not capture the nuances at play in these relations. For example, the current measure of values did not assess the degree of internalization of values. It is possible, for example, that internally regulated values may be more strongly associated with high-cost prosocial behavior than are externally regulated values. Indeed, one study found that internally regulated values were more strongly related to altruistic prosocial behavior (which is generally higher cost) than externally regulated values, while there were fewer clear-cut differences on other types of prosocial behavior (Barry et al., 2008). In addition, it is possible that values specific to civic engagement and volunteering (rather than general benevolence) would more clearly distinguish between prosocial behavior that is low- and high-cost. Thus, it is clear from the current study that prosocial values are an important longitudinal predictor of prosocial behavior, but future research should continue to increase the specificity with which values are measured in an attempt to capture the nuances of this process. These findings have important implications for the need to pay heed to the multidimensional nature of not only prosocial behavior, but common predictors as well. As levels of specificity increase, implications for intervention will be clearer and more effective at promoting desired behaviors in teens.

It should also be noted that there were bidirectional relations between prosocial values and prosocial behavior, but only high-cost prosocial behavior predicted values a year later, which is consistent with previous research. For example, research has found that civic engagement predicted later adult voting and volunteering (Hart, Donnelly, Youniss, & Atkins, 2007) and that community service through humanitarian organizations was associated with a prosocial value orientation. Thus, while it appears that personal values promote a variety of types of prosocial behavior, it may be particularly important to engage teens in high-cost prosocial behavior in an attempt to further promote moral identity via personal values. Although other aspects of moral personality such as sympathy and self-regulation are considered to be relatively stable (Eisenberg et al., 2006), adolescents' values are more malleable and this is an age when teens might be beginning to make decisions about what is important to them and how they want to prioritize their lives. Given that this process continues into young adulthood (Arnett, 2000), it will be important to continue to examine how adolescents form their prosocial values, and how that might be associated with current and future prosocial behavior.

Self-regulation

Although not as commonly studied as other aspects of moral personality, one's ability to regulate has been linked consistently to prosocial behavior both in childhood (Eisenberg et al., 2006) and adolescence (Carlo, Crockett, et al., 2012; Carlo, Mestre, et al., 2012; Padilla-Walker & Christensen, 2011). The current study adds to these findings by suggesting that one of the potential differences in predictors of adolescents' low- and high-cost prosocial behavior is self-regulation, in that self-regulation predicted high-cost prosocial behavior over time, but not low-cost prosocial behavior, and there was no evidence of bidirectionality in relation to self-regulation. This path from self-regulation to high-cost prosocial behavior is consistent with Self-Determination Theory, which suggests that over time adolescents' values and behaviors become increasingly internally regulated (which is a function of one's ability to self-regulate) rather than externally regulated (Deci & Ryan, 1991; Grolnick, Deci, & Ryan, 1997). This ability to regulate and plan for the future may be particularly important for high-cost prosocial behavior, as investment in such behavior may require an individual to be able to see the long-term benefits of such actions, and be willing to put off short term desires in pursuit of a greater cause. Given that the current study assessed cognitive self-regulation, these findings highlight the role of cognitions in high-cost prosocial behavior, which is consistent with past research suggesting that cognitive processes such as moral reasoning are also stronger predictors of high- than low-cost prosocial behavior (Eisenberg & Shell, 1986). Future research should examine other aspects of self-regulation to determine if the ability to control oneself behaviorally and emotionally is also associated with high-cost

prosocial behavior. It seems likely that if one can control his or her own emotions and avoid personal distress reactions in high-cost situations (which are often emotionally difficult), prosocial behavior would be more likely (Eisenberg et al., 2006).

Sympathy

One's tendency to feel sympathy, or concern for the situation of another, has been one of the most consistent predictors of prosocial behavior in the literature (Eisenberg et al., 2006), although this has been found to vary somewhat as a function of the target of the behavior (Padilla-Walker & Christensen, 2011) and whether or not the target is considered to be a member of the initiator's in-group (Sturmer and Snyder, 2010). While we expected sympathy to be more strongly predictive of high-cost prosocial behavior, the current findings suggested that sympathy was actually only associated with low-cost prosocial behavior one year later. Taken together with the findings above regarding self-regulation, this is logical in that emotional responses are often immediate and require little cognitive planning. Thus, an adolescent's tendency to help another in a low-cost situation may be much more automatic in response to an immediate emotional response, but that same emotion may not be enough to motivate an adolescent to engage in high-cost prosocial behavior. Research has long considered the interplay between emotion and cognition as they relate to moral behavior (e.g., Malti, Gummerum, & Keller, 2008), and future research should continue to consider this interplay in relation to the cost of prosocial behavior. Indeed, it may be that having high levels of both sympathy and self-regulation fosters high-cost prosocial behavior more than does either aspect of moral personality in isolation, as emotion may provide the added motivation needed to act on values and cognitions, and vice versa.

It is also notable that only adolescents' low-cost prosocial behavior was associated with higher levels of sympathy over time, suggesting reciprocal relations between low-cost prosocial behavior and sympathy. This builds upon past correlational research and is especially important given the relative stability of sympathy and prosocial behavior once children have reached adolescence (Gregory, Light-Hausermann, Rijdsdijk, & Eley, 2009). These findings suggest utility in parents and educators providing opportunities for adolescents to engage in even small acts of helping as a means of increasing sympathy. Although one would expect this to be more effective when engaging in high-cost prosocial behavior (which was not found in the current study), it follows that helping others and seeing the benefits of one's behavior may make adolescents more aware of the needs and feelings of others.

Limitations and future directions

This study was not without limitations, and raises a number of fruitful avenues for future research. First, although the study benefits from the strength of a longitudinal design, all measures were self-reported from the adolescent. While aspects of moral personality and judgment such as sympathy, self-regulation, and values may arguably be best assessed by self-report, future research should examine prosocial behavior in a number of different ways, including observations if possible. This is especially important because social desirability or moral self-regard may lead to higher self-reports of high-cost prosocial behavior in particular. Second, although the current study had a large number of participants, they were relatively homogeneous in regard to ethnicity and socio-economic status. Indeed, given that research has found that having more human capital, measured by financial resources, time, and communication skills, leads to greater volunteering during adolescence (Atkins et al., 2005; Hart et al., 1998), it is likely that these patterns differ as a function of a number of demographic variables that should be considered in future studies.

Although the current study contributes to the growing literature highlighting the importance of the multidimensionality of prosocial behavior (Padilla-Walker & Carlo, 2014), continued specificity of measurement and conceptualization would benefit the field. For example, the current study assessed volunteering in general, but did not make distinctions between different types of high-cost volunteering, which may be an important distinction. In addition, the current study focused on low- and high-cost behavior toward strangers, which may be assumed to be in one's out-group. However, it is still possible for adolescents to consider strangers to be members of their in-group, such as a gay or lesbian teen who volunteers helping strangers who are gay and suffering from HIV (e.g., Sturmer & Snyder, 2010). We also focused on several aspects of moral personality, but clearly there are many more aspects of both moral personality and moral judgment that are importantly related to moral identity and prosocial behavior that should be considered in future research. Furthermore, the current study focused only on prosocial behavior toward strangers. Although much of prosocial behavior toward strangers may be considered to be higher cost than prosocial behavior toward those with whom adolescents have a relationship, it will be important for future research to also consider the target of the prosocial behavior, and how this factors into the perceived cost. Thus, a more nuanced approach to prosocial behavior will consider not only different types of high-cost prosocial behavior, but also the target of the prosocial behavior and whether the adolescent considers the target of his or her helping to be an in-group member.

Despite limitations, the current findings are an important step in highlighting the multidimensionality of prosocial behavior and the reciprocal relations between moral personality and indicators of moral identity. Findings highlighted bidirectional relations between adolescents' moral personality and prosocial behavior, especially in the case of values and sympathy. This suggests a more dynamic process than is typically captured in unidirectional research, and has important implications for intervention programs targeted at increasing prosocial behavior and decreasing antisocial behavior. Indeed, the desired outcome (i.e., prosocial behavior) might also be an important component to the intervention, in that engaging in prosocial behavior is associated with a number of positive outcomes (Atkins et al., 2005; Carlo et al., 2011; Laible et al., 2013).

These findings add to others suggesting the need for prosocial interventions, especial for youth in poverty who are particularly deficient in opportunities to develop their moral identity via service opportunities (Hart et al., 1998). In addition, findings highlighted differences as a function of the cost of the prosocial behavior, with self-regulation being associated with high-cost prosocial behavior and sympathy with low-cost prosocial behavior (and values associated with both). As mentioned above, it will be important for continued research to more carefully measure and examine these constructs to accurately determine the salience of the cost of prosocial behavior and how this might differ by individual and methodology. This type of nuanced approach will continue to inform the field of the specificity needed to understand how to more effectively promote prosocial behavior during the formative years.

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References

- Aknin, L. B., Hamlin, J. K., & Dunn, E. W. (2012). Giving leads to happiness in young children. *PLOS ONE*, 7(6), e39211.
- Allen, J. P., Philliber, S., Herrling, S., & Kuperminc, G. P. (1997). Preventing teen pregnancy and academic failure: experimental evaluation of a developmentally based approach. *Child Development*, 68, 729–742.
- Amato, P. (1990). Personality and social network involvement as predictors of helping behavior in everyday life. *Social Psychology Quarterly*, 53, 31–43.
- Arnett, J. J. (2000). Emerging adulthood: a theory of development from the late teens through the twenties. *American Psychologist*, 55, 469–480.
- Atkins, R., Hart, D., & Donnelly, T. M. (2005). The association of childhood personality type with volunteering during adolescence. *Merrill-Palmer Quarterly*, 51, 145–162.
- Bardi, A., & Schwartz, S. H. (2003). Values and behavior: strength and structure of relations. *Personality and Social Psychology Bulletin*, 29(10), 1207–1220.
- Barrett, L., Dunbar, R., & Lycett, J. (2002). *Human evolutionary psychology*. Princeton, NJ: Princeton University Press.
- Barry, C. M., Padilla-Walker, L., Madsen, S. D., & Nelson, L. J. (2008). The impact of maternal relationship quality on emerging adults' prosocial tendencies: indirect effects via regulation of prosocial values. *Journal of Youth and Adolescence*, 37(5), 581–591.
- Blasi, A. (1983). Moral development and moral action: a theoretical perspective. *Developmental Review*, 3, 178–210.
- Blasi, A. (2004). Moral functioning: moral understanding and personality. In D. K. Lapsley, & D. Narvaez (Eds.), *Moral development, self and identity: Essays in honor of Augusto Blasi*. Mahwah, NJ: Lawrence Erlbaum & Associates.
- Carlo, G., Crockett, L. J., Wilkinson, J. L., & Beal, S. J. (2011). The longitudinal relationships between rural adolescents' prosocial behaviors and young adult substance use. *Journal of Youth and Adolescence*, 40(9), 1192–1202.
- Carlo, G., Crockett, L. J., Wolff, J. M., & Beal, S. J. (2012). The role of emotional reactivity, self-regulation, and puberty in adolescents' prosocial behaviors. *Social Development*, 21, 667–685.
- Carlo, G., Mestre, M. V., McGinley, M. M., Samper, P., Tur, A., & Sandman, D. (2012). The interplay of emotional instability, empathy, and coping on prosocial and aggressive behaviors. *Personality and Individual Differences*, 53, 675–680.
- Davis, M. H. (1983). The effects of dispositional empathy on emotional reactions and helping: a multidimensional approach. *Journal of Personality*, 51, 167–184.
- Deci, E. L., & Ryan, R. M. (1991). A motivational approach to self: integration in personality. In R. A. Dienstbier (Ed.), *Nebraska symposium on motivation, 1990: Perspectives on motivation* (pp. 237–288). Lincoln: University of Nebraska Press.
- Eberly, M. B., & Montemayor, R. (1999). Adolescent affection and helpfulness toward parents: a 2-year follow-up. *The Journal of Early Adolescence*, 19, 226–248.
- Eisenberg-Berg, N., & Neal, C. (1981). Children's moral reasoning about self and others: effects of identity of the story character and cost of helping. *Personality and Social Psychology Bulletin*, 7, 17–23.
- Eisenberg, N., Fabes, R. A., & Spinrad, T. L. (2006). Prosocial development. In W. Damon, R. M. Lerner, & N. Eisenberg (Eds.), (6th ed.) *Social, emotional, and personality development: Vol. 3. Handbook of child psychology* (pp. 646–718). New York: Wiley.
- Eisenberg, N., Guthrie, I. K., Murphy, B. C., Shepard, S. A., Cumberland, A., & Carlo, G. (1999). Consistency and development of prosocial dispositions: a longitudinal study. *Child Development*, 70, 1360–1372.
- Eisenberg, N., & Shell, R. (1986). Prosocial moral judgment and behavior in children: the mediating role of cost. *Personality and Social Psychology Bulletin*, 12, 426–433.
- Eisenberg, N., & Spinrad, T. L. (2014). Multidimensionality of prosocial behavior: rethinking the conceptualization and development of prosocial behavior. In L. M. Padilla-Walker, & G. Carlo (Eds.), *Prosocial behavior: A multidimensional approach* (pp. 17–39). New York, NY: Oxford University Press.
- Gneezy, A., Imas, A., Brown, A., Nelson, L. D., & Norton, M. I. (2012). Paying to be nice: consistency and costly prosocial behavior. *Management Science*, 58, 179–187.
- Gregory, A. M., Light-Hausermann, J. H., Rijdsdijk, F., & Eley, T. C. (2009). Behavioral genetic analyses of prosocial behavior in adolescents. *Developmental Science*, 12, 165–174.
- Grolnick, W. S., Deci, E. L., & Ryan, R. M. (1997). Internalization within the family: the self-determination theory perspective. In J. E. Grusec, & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 135–161). New York: John Wiley & Sons.
- Hardy, S. A., Carlo, G., & Roesch, S. C. (2010). Links between adolescents' expected parental reactions and prosocial behavioral tendencies: the mediating role of prosocial values. *Journal of Youth and Adolescence*, 39(1), 84–95.
- Haroz, E. E., Murray, L. K., Bolton, P., Betancourt, T., & Bass, J. K. (2013). Adolescent resilience in Northern Uganda: the role of social support and prosocial behavior in reducing mental health problems. *Journal of Research on Adolescence*, 23, 138–148.
- Hart, D., Atkins, R., & Ford, D. (1998). Urban America as a context for the development of moral identity in adolescence. *Journal of Social Issues*, 54, 513–530.
- Hart, D., Donnelly, T. M., Youniss, J., & Atkins, R. (2007). High school community service as a predictor of adult voting and volunteering. *American Educational Research Journal*, 44, 197–219.
- Irshad, E., & Atta, M. (2013). Social competence as predictor of bullying among children and adolescents. *Journal of the Indian Academy of Applied Psychology*, 39, 35–42.
- Kayser, D. N., Greitemeyer, T., Fischer, P., & Frey, D. (2010). Why mood affects help giving, but not moral courage: comparing two types of prosocial behaviour. *European Journal of Social Psychology*, 40, 1136–1157.
- Laible, D. J., Carlo, G., & Roesch, S. (2004). Pathways to self-esteem: the role of parent and peer attachment, empathy, and social behaviors. *Journal of Adolescence*, 27, 703–716.

- Laible, D., McGinley, M., Carlo, G., Augustine, M., & Murphy, T. (2013). Does engaging in prosocial behavior make children see the world through rose-colored glasses? *Developmental Psychology*. <http://dx.doi.org/10.1037/a0033905>.
- Malti, T., Gummerum, M., & Keller, M. (2008). Moral emotions and moral cognitions. *European Journal of Developmental Science*, 2(3), 203–205.
- Moore, C. W., & Allen, J. P. (1996). The effects of volunteering on the young volunteer. *Journal of Primary Prevention*, 17, 231–258.
- Novak, S. P., & Clayton, R. R. (2001). The influence of school environment and self-regulation on transitions between stages of cigarette smoking: a multilevel analysis. *Health Psychology*, 20, 196–207.
- Paciello, M., Fida, R., Cerniglia, L., Tramontano, C., & Cole, E. (2013). High cost helping scenario: the role of empathy, prosocial reasoning, and moral disengagement on helping behavior. *Personality and Individual Differences*, 55, 3–7.
- Padilla-Walker, L. M., & Carlo, G. (2007). Personal values as a mediator between parent and peer expectations and adolescent behaviors. *Journal of Family Psychology*, 21, 538–541.
- Padilla-Walker, L. M., & Carlo, G. (2014). Prosocial behavior: past, present, and future. In L. M. Padilla-Walker, & G. Carlo (Eds.), *Prosocial behavior: A multidimensional approach* (pp. 3–16). New York, NY: Oxford University Press.
- Padilla-Walker, L. M., & Christensen, K. J. (2011). Empathy and self-regulation as mediators between parenting and adolescents' prosocial behaviors toward strangers, friends, and family. *Journal of Research on Adolescence*, 21, 545–551.
- Padilla-Walker, L. M., Fraser, A. M., & Harper, J. M. (2012). Walking the walk: the moderating role of proactive parenting on adolescents' value-congruent behaviors. *Journal of Adolescence*, 35, 1141–1152.
- Padilla-Walker, L. M., Harper, J. M., & Bean, R. A. (2011). Pathways to parental knowledge: The role of family process and family structure. *Journal of Early Adolescence*, 31, 604–627.
- Padilla-Walker, L. M. (2007). Characteristics of mother-child interactions related to adolescents' positive values and behaviors. *Journal of Marriage and Family*, 69(3), 675–686.
- Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification*. Washington, DC: Oxford University Press.
- Salter, C. A., Dickey, M. J., & Gulas, D. L. (1978). Prosocial behavior as a function of location and cost of helping. *The Journal of Social Psychology*, 106, 133–134.
- Schwartz, S. H., Melech, G., Lehmann, A., Burgess, S., & Harris, M. (2001). Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross Cultural Psychology*, 32, 519–542.
- Stürmer, S., & Snyder, M. (2010). Helping “us” versus “them”: towards a group-level theory of helping and altruism within and across group boundaries. In S. Stürmer, & M. Snyder (Eds.), *The psychology of prosocial behavior: Group processes, intergroup relations, and helping* (pp. 33–58). Oxford, UK: Wiley-Blackwell.
- Walker, L. J., & Frimer, J. A. (2007). Moral personality of brave and caring exemplars. *Journal of Personality and Social Psychology*, 93, 845–860.
- Walker, L. J., & Hennig, K. H. (2004). Differing conceptions of moral exemplarity: just, brave, and caring. *Journal of Personality and Social Psychology*, 86, 629–647.
- Widaman, K. F., Ferrer, E., & Conger, R. D. (2010). Factorial invariance within longitudinal structural equation models: measuring the same construct across time. *Child Development Perspectives*, 4(1), 10–18.
- Zhang, Y., & Epley, N. (2009). Self-centered social exchange: differential use of costs versus benefits in prosocial reciprocity. *Journal of Personality and Social Psychology*, 97, 796–810.