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The Effects of Perceptions of Parents' Use of Social and Material Rewards on Prosocial Behaviors in Spanish and U.S. Youth

Gustavo Carlo[1], Paula Samper[2], Elisabeth Malonda[2], Ana M. Tur-Porcar[2], and Alexandra Davis[1]

Abstract

We examined the links between perceived parental use of social and material rewards and prosocial behaviors across youth from two countries. Six hundred forty adolescents (297 girls; $\bar{X}$ age = 15.32 years) from Valencia, Spain, and 552 adolescents (321 girls; $\bar{X}$ age = 13.38 years) from the United States completed measures of their perceptions of parental use of rewards, prosocial behaviors, and empathy. Results generally showed that perceived use of social rewards was directly and indirectly positively related to prosocial behaviors via empathic tendencies. In contrast, perceived use of material rewards was directly and indirectly negatively related to prosocial behaviors via empathic tendencies. There were significant differences such that material rewards had relatively more significant relations to prosocial behaviors in U.S. youth than in Spanish youth. Discussion focuses on the generalizability of parenting and prosocial development models across cultures and the relative links of social versus material rewards to prosocial behaviors.

[1]University of Missouri, Columbia, MO, USA
[2]University of Valencia, Spain

Corresponding Author:
Gustavo Carlo, Department of Human Development and Family Science, University of Missouri, Columbia, MO 65211, USA.
Email: carlog@missouri.edu

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Developmental scholars have long noted the influence of parenting practices on children's prosocial and moral development (Eisenberg & Valiente, 2002; Grusec & Goodnow, 1994; Hoffman, 2000; Maccoby & Martin, 1983; Smetana, Campione-Barr, & Metzger, 2006). Warm, supportive practices have been consistently linked to higher levels of prosocial behaviors (i.e., actions that benefit others), whereas harsh, disciplining practices have been deemed detrimental to children's prosocial behaviors. Furthermore, theorists have speculated that parents may be most influential on children's moral development when parents discipline children's transgressions because such situations are emotionally impactful (Hoffman, 1983; Kochanska & Aksan, 2006). Indeed, there is accumulated evidence that parental disciplining practices such as inductions (i.e., punishment while using reasoning and explanations to explain wrongdoing) and power assertion (i.e., punishment that imposes one's authority and higher status with little or no reasoning) are associated with children's prosocial and moral outcomes (Hoffman, 2000). However, given the fact that most children do not frequently engage in misconduct, there has been growing attention to parents' influence on children's prosocial and moral development in nontransgressive contexts. One common, nontransgressive socialization context of particular interest is when parents reward their children for prosocial actions. Despite this interest, relatively few studies focus on parents' use of rewards in socializing children's prosocial behaviors.

Theorists and scholars suggest that early adolescence is an important period of biological, interpersonal, and intrapersonal changes that may affect prosocial behaviors, and prior research suggests that prosocial behaviors that increased during childhood begin to decrease in adolescence (Carlo, 2014). These notions and findings suggest the need for more studies that focus on prosocial behaviors in adolescence. Although there is growing research on prosocial development in adolescence, most existing research focuses on adolescents from the United States. In addition, investigations on the socialization of prosocial behaviors in adolescence are relatively rare, especially studies that compare socialization models of prosocial behaviors across youth from different countries. Thus, the present study was designed to examine the relative effects of adolescents' perceptions of parents' use of social versus material rewards on adolescents' empathic tendencies and prosocial behaviors across samples of youth from Spain and the United States.

Socialization, Motivation, and Moral Internalization Approaches to Prosocial Development

Social-cognitive scholars assert that learning occurs in many different contexts and through various mechanisms (Bandura, 1986). A common parenting practice used to foster and promote prosocial behaviors in children is the use of rewards when children engage in desirable actions. There are two main forms of rewards: social and material (Carlo, McGinley, Hayes, Batenhorst, & Wilkinson, 2007; Eisenberg, Fabes, & Spinrad, 2006; Grusec & Goodnow, 1994). Social rewards include the use of praise and affection to transmit messages of love and approval. Material rewards, on the other hand, involve the application of a concrete, physical resource (e.g., money, gift). In both cases, parents acknowledge children's desirable behaviors, and their intent is to foster future similar actions. Often, the reward is applied after the child has expressed or engaged in the desired action.

Although the use of both social and material rewards may be somewhat effective in promoting future prosocial behaviors, there are important conceptual reasons to expect that social rewards may be relatively more effective than material rewards. Grusec and others (Eisenberg et al., 2006; Grusec & Goodnow, 1994) have noted that the frequent use of material rewards may result in children's developing an attention to external regulation by authority figures, extrinsic attributions and motives, and expectations for approval from external sources. In contrast, the frequent use of social rewards might result in internalized and intrinsic motives (e.g., sympathy, moral reasoning, moral values) to engage in prosocial actions. Over time, this latter mechanism might enhance the tendency to exhibit prosocial behaviors even in the absence of external regulatory forces. Of additional interest is that the use of rewards often occurs in a positive emotional context, which might effectively engage children's attention to the parental moral messages.

Similarly, self-determination and motivation theorists (Deci, Koestner, & Ryan, 1999; Henderlong & Lepper, 2002; Ryan & Deci, 2000) have noted that social rewards may be more effective in promoting intrinsic motives for engaging in social behaviors than material rewards. According to these scholars, individuals may be intrinsically or extrinsically motivated to act, and such motives stem from social and cultural experiences. Furthermore, these theorists identify three conditions (autonomy, relatedness, and competence) that facilitate intrinsic motives. Of particular relevance to the present study, parents' use of social rewards may be expected to promote relatedness and competence, and therefore intrinsic motives. In contrast, material rewards may be more strongly associated with thwarting autonomy, and thereby promote extrinsic motives. Thus, together, these theoretical perspectives suggest

that the use of material rewards may be associated with children who are less motivated to engage in intrinsically motivated prosocial actions but may engage in such actions for extrinsic reasons (e.g., to gain others' approval), whereas the use of social rewards may promote more intrinsically motivated prosocial actions and mitigate extrinsically motivated prosocial actions.

Despite the extensive theoretical foundation for the influence of parents' use of rewards on children's prosocial behaviors, few empirical investigations exist. However, a number of findings from experimental studies suggest that social rewards lead to subsequent intrinsically motivated prosocial behaviors (Eisenberg & Valiente, 2002; Grusec, Goodnow, & Kuczynski, 2000). Other research with young children also supports the notion that social rewards may promote intrinsically motivated prosocial actions and that material rewards may foster extrinsically motivated actions (see Eisenberg & Valiente, 2002). In one study on adolescents (Carlo et al., 2007), researchers reported that U.S. teens' perceptions of parents' use of social rewards was positively linked to adolescents' sympathy, which in turn predicted several forms of prosocial behaviors. Specifically, social rewards were directly positively related to several common forms of prosocial behaviors (e.g., dire, emotional, compliant). In contrast, material rewards were not significantly associated with sympathy, and were directly negatively related only to altruistic prosocial behaviors. The findings suggest that social and material rewards may have distinct relations to different forms of prosocial behaviors in U.S. young teens.

The Role of Cultural Orientations on Prosocial Development

In the present study, we examined the hypothesized relations across two samples of adolescents from different nationalities: Spain and the United States. Although it is important to acknowledge the wide variability within each country, there are some general similarities within and across the countries as well. For example, both countries are modernized democracies, have strong economies, and are composed of predominantly Christian religious populations. However, some scholars have noted some general discrepancies as well such that Spain is relatively less individualistic oriented and lower on masculinity than the United States (Hofstede, 2001; Oyserman, Coon, & Kemmelmeier, 2002). Furthermore, Spain is generally characterized as a society that values the family and religion as major and central social institutions (Centro de Investigaciones Sociológicas, 2004; Samper, 1999). Cultural scholars have identified a set of cultural values strongly associated with Spanish culture that includes familism (i.e., duty

to, identification with, and support from, family), humility, *simpatia* (i.e., kindness even in the face of adversity) and the notion of *bien educado* (i.e., well mannered, good moral character person), and respectfulness, and these values have been linked to prosocial and moral development (Halgensuth, Ispa, & Rudy, 2006; Ramirez-Esparza, Gosling, & Pennebaker, 1998; Sabogal, Marin, Otero-Sabogal, Marin, & Perez-Stable, 1987; see Carlo & de Guzman, 2009). Thus, Spain is considered a moderately collectivist, family- and feminine-oriented society (Fernández-Berrocal, Salovey, Vera, Ramos, & Extremera, 2001) that emphasizes cultural values consonant with prosocial behaviors. Despite these broad characterizations, both these countries are undoubtedly changing as the United States experiences major demographic changes (e.g., ethnic diversification) and Spain experiences population and economic changes resulting from joining the European Union (de Prada, Actis, & Pereda, 2005).

Of particular interest are possible nationality group differences in parenting practices and prosocial behaviors associated with those general orientations. For example, the relative collective orientation of Hispanic populations has been linked to relatively high levels of some forms of prosocial behaviors (e.g., cooperative, compliant, dire, emotional, public), but individualist-oriented individuals may be more prone to other specific forms of prosocial behaviors (e.g., altruistic; see Knight & Carlo, 2012). Moreover, prior research suggests that youth from the United States exhibit relatively high levels of competitive behaviors (Knight & Carlo, 2012), which is consistent with the characterization of the United States as a relatively individualistically oriented society. Furthermore, materialism is linked to individualist-oriented societies, which suggests that the use of material rewards may be more prevalent among parents from the United States than from Spain. Given the previously reported high levels of parental control in Hispanic populations (Halgensuth et al., 2006), youth from Spain may perceive material rewards differently from youth in the United States. Moreover, even within the United States, Latinos have been shown to exhibit less prosocial behaviors as a function of acculturative status such that more acculturated U.S. Mexicans show no significant differences in prosocial behaviors than European Americans, but both groups show significantly less prosocial behaviors than Mexicans who live in Mexico (see Knight & Carlo, 2012). Thus, comparisons of Hispanic youth from Spain with youth living in the United States may demonstrate significant differences in perceptions of parenting, prosocial behaviors, and in the relations between these variables. Therefore, we explored these relations across diverse youth from Spain and the United States.

The Multidimensionality of Prosocial Behaviors

Prosocial development researchers have identified several types of prosocial behaviors, each with distinct correlates (Carlo & Randall, 2001; Padilla-Walker & Carlo, 2014). Public prosocial behaviors (i.e., helping in front of an audience), for example, have been linked to gaining the approval of others and to lower level prosocial moral reasoning (Carlo & Randall, 2002). Compliant helping is defined as prosocial behaviors when requested. Anonymous prosocial behaviors are conducted without others' knowledge. Actions that benefit others under emotionally evocative situations are deemed emotional prosocial behaviors, whereas when such behaviors are expressed under emergency situations, they are referred to as dire prosocial behaviors. Several studies have demonstrated distinct correlates of each of these forms of prosocial behaviors in adolescents, including relations to parenting and empathic tendencies (see Carlo, 2014). To date, studies examining possible nationality group differences in these specific forms of prosocial behaviors are rare (see Carlo, 2014). Thus, the present study was designed to directly address this gap.

The Present Study

Based primarily on moral socialization and self-determination theories (e.g., Deci et al., 1999; Grusec & Goodnow, 1994) and the prior research in European American youth (e.g., Carlo et al., 2007), we expected social rewards to be positively related to intrinsic and empathy-inducing forms of prosocial behaviors (i.e., compliant, dire, and emotional prosocial behaviors). In contrast, material rewards were expected to be positively linked to extrinsic forms of helping (i.e., public prosocial behaviors). Because anonymous prosocial behaviors reflect minimal concern to gain recognition, we also expected positive relations between social rewards and such actions. However, because social rewards are theorized to foster intrinsic motivated helping, we also hypothesized that social rewards would be negatively linked or unrelated to public prosocial behaviors. Perhaps more importantly, we expected that trait sympathy and perspective taking would mediate the relations between social and material rewards and prosocial behaviors.

Prior theories of prosocial development stress the importance of sociocognitive and socioemotive traits, such as sympathy and perspective taking, as mediators of the relations between parenting and prosocial behaviors (Eisenberg et al., 2006; Hoffman, 2000). However, cross-cultural studies designed to examine the generalizability of the mediating role of empathic traits on the relations between parenting and prosocial behaviors are rare (but

see Carlo, Mestre, Samper, Tur, & Armenta, 2011). Sympathy (or empathic concern) refers to feelings of sorrow or concern toward a needy or distressed other. Closely related, perspective taking, which is defined as understanding another person's thoughts, feelings, or social situation, is deemed to facilitate empathic concern and prosocial behaviors (Davis, 1983; Eisenberg et al., 2006; Hoffman, 2000). Although perspective taking can sometimes lead to harmful behaviors (e.g., such skills could be used to take advantage or manipulate others), generally such tendencies are considered important to respond sympathetically and in turn prosocially toward a distressed other (Carlo, 2014).

Therefore, based on the notion that the perceived use of social rewards over time may promote intrinsic motives and other-oriented tendencies, we expected that the perceived use of social rewards would be positively related to trait sympathy and its strong correlate, perspective taking. In contrast, we hypothesized that the perceived tendency to use material rewards would be unrelated or negatively related to empathic tendencies because such practices might promote extrinsic motives and self-focused orientations. Moreover, we hypothesized that trait perspective taking and sympathy would account for the significant relations between perceived social rewards and compliant, dire, and emotional types of prosocial behaviors.

Method

Participants and Procedure

The sample from Spain was 640 students (297 girls, $\bar{X}$ age = 15.32 years, *SD* = .47; age range = 10-16) from public and private schools located in different geographic zones within the school district of the city of Valencia. Most were from two-parent households (73%; 33% single-parent households). The majority self-identified as Spanish (76%). The others were from Latin America (e.g., 7% from Ecuador, 2% Colombia, 2% Bolivia) and from Eastern European countries (e.g., 2% Romania). Mothers' education levels were 35% less than high school diploma, 39% high school diploma or equivalent, and 26% at least some university education. Fathers' education levels were 35% high school diploma or less, 40% high school diploma or equivalent, and 24% at least some university education. Trained experimenters administered surveys in classrooms (completion time of approximately 50 minutes).

The sample from the United States included 552 students (321 girls, $\bar{X}$ age = 13.38 years, *SD* = 2.94; range = 9-19) from public schools in the Southwest and the Midwest United States. The U.S. sample is merged data

from the Family Care Project (e.g., Armenta, Knight, Carlo, & Jacobson, 2011; $N = 319$) and the Socialization of Prosocial Behaviors Project (e.g., Carlo et al., 2007; $N = 233$) to directly compare the expected hypotheses in youth across the two countries. The adolescents came from diverse racial backgrounds (32.8% European American, 38.1% U.S. Mexicans, 0.9% African American, and 28.2% from other racial backgrounds, including Native American and Asian). The majority of the adolescents came from two-parent, married households (68.8%; 11.1% divorced). Mothers' education levels were 13.9% high school diploma or less, 10.6% some college, 15.9% graduated from a 2-year college, and 12.2% graduated from a 4-year college. Fathers' education levels were 53.2% high school diploma or less, 15.1% some college, 7.4% graduated from a 2-year college, and 8.4% graduated from a 4-year college. For the Socialization of Prosocial Behaviors Project, surveys were administered to students in their classrooms by trained experimenters. For the Family Care Project, students were surveyed in the home by trained experimenters. Surveys were completed in approximately 50 minutes.

Measures

The empathic tendencies measures have been translated, adapted for use, and validated in samples of adolescents from Spain (e.g., Mestre, Samper, & Frías, 2002; Mestre, Samper, Frias, & Tur, 2009). The prosocial parenting practices and the prosocial behavior measure was translated and adapted for use by adolescents from Spain by bilingual, prosocial behavior experts for the present study. For these latter measures, there were few minor discrepancies, and those were discussed and resolved by the research team.

Prosocial parenting practices. The *Prosocial Parenting Practices* measure assesses youth perception of their parents' use of social and material rewards in the context of promoting prosocial behaviors in their youth (Carlo et al., 2007). The Social Rewards subscale taps into positive, nonmaterial reactions to youth when they engage in prosocial actions (five items, "My parent praises me when I help someone in need," "My parent expresses his or her gratitude when I help around the house"; αs = .82, .75, the United States and Spain, respectively). In contrast, the Material Rewards subscale measures the extent to which adolescents perceive their parents provide gifts or money to their teens' prosocial actions (four items, "My parent has set up a reward system to get me to help around the house" (e.g., a point system or allowance), "My parent buys me a gift for doing something nice to someone";

αs = .82, .78, the United States and Spain, respectively). The measure uses a 5-point Likert-type scale (1 = *does not describe my parent well*, 5 = *describes my parent very well*).

Prosocial behaviors. The Prosocial Tendencies Measure–Revised (PTM-R; Carlo, Hausmann, Christiansen, & Randall, 2003) was designed to assess different prosocial behaviors including emotional, dire, compliant, public, and anonymous. The measure was completed by adolescents and includes Likert-type items with five response options (1 = *does not describe you at all* to 5 = *describes you very well*). Public prosocial behaviors were defined as behaviors intended to benefit others enacted in the presence of others (three items; sample item, "I can help others best when people are watching me"). Anonymous prosocial behaviors were defined as the tendency to help others without other people's knowledge (four items; "I think that helping others without them knowing is the best type of situation"). Dire prosocial behaviors refer to helping others under emergency or crisis situations (three items; "I tend to help people who are in real crisis or need"). Emotional prosocial behaviors are behaviors intended to benefit others enacted under emotionally evocative situations (five items; "It makes me feel good when I can comfort someone who is very upset"). Compliant prosocial behaviors refer to helping others when asked to (two items; "When people ask me to help them, I don't hesitate"). Cronbach's alphas for these short scales ranged from .60 to .80 (the United States) and .61 to .79 (Spain). Additional evidence on the psychometric properties of the measure to use with Spanish and U.S. youth is presented elsewhere (Carlo, Knight, McGinley, Zamboanga, & Jarvis, 2010; Mestre, Carlo, Samper, Tur-Porcar, & Mestre, 2015).

Empathic concern and perspective taking. The affective and cognitive components of empathy were assessed using the empathic concern (i.e., sympathy) and Perspective Taking subscales of the Interpersonal Reactivity Index (Davis, 1983). Each scale has items such as "The problems of others worry me" (sympathy; α = .73 and .53, the United States and Spain, respectively; seven items) and "When I must decide, I listen to different opinions" (perspective taking; α = .76 and .64, the United States and Spain, respectively; five items after dropping two reversed scored items) on a 5-point scale from 1 (*does not describe you well*) to 5 (*describes you very well*). Similar reliability coefficients and evidence on the validity of these measures to use with Spanish adolescents have been presented in previous studies (e.g., Mestre et al., 2002; Mestre et al., 2009).

Results

Descriptives and Correlations

Means, standard deviations, and mean-level differences in the main study variables. Table 1 presents the means, standard deviation, and correlations separately for each country. There were significant mean-level differences between Spanish and U.S. youth on all the main study variables (all $ps < .05$) such that U.S. youth reported higher levels of perceived material and social rewards, perspective taking, and each form of prosocial behavior than Spanish youth. In contrast, Spanish youth reported higher levels of sympathy than U.S. youth (see Table 1). The Spanish sample was also older than the U.S. sample; therefore, age was included as a covariate on all subsequent analyses.

Relations among the main study variables. As hypothesized, a general examination of the correlations shows that social rewards was significantly positively related to perspective taking and each of the prosocial behaviors for both Spanish and U.S. youth. Sympathy was positively related to social rewards but only for Spanish youth (not significant for U.S. youth). In contrast, a more complex pattern emerged for material rewards such that perceptions of these rewards was positively related to perspective taking, public, compliant, and dire prosocial behaviors for both groups. However, such rewards were negatively related to sympathy for both U.S. and Spanish youth. Furthermore, these rewards were positively related to emotional prosocial behaviors for U.S. youth but negatively related for Spanish youth. Material rewards was also positively related to anonymous prosocial behaviors for Spanish youth and not significantly related for U.S. youth.

Relations between gender and age to the main study variables. Generally, as expected, girls scored higher than boys on most forms of prosocial behaviors (except boys scored higher than girls on public) and on social rewards (for Spanish youth). For anonymous prosocial behaviors, Spanish boys scored higher than Spanish girls but U.S. girls scored higher than U.S. boys. Boys scored higher than girls on perceptions of parental use of material rewards across both groups. There were also a number of significant correlations with age. For example, in general, older youth reported lower levels of perceived parental material and social (though not significant for Spanish youth) rewards. As expected, older U.S. youth reported higher levels of sympathy and some forms of prosocial behaviors (emotional, dire, compliant, anonymous) than younger U.S. youth. In contrast, there were no significant relations between age and prosocial behaviors for Spanish youth (except a positive relation for public).

Table 1. Descriptives and Correlation Matrix for Material and Social Rewards, Empathic Concern, Perspective Taking, and Prosocial Behaviors.

Variable		1	2	3	4	5	6	7	8	9	10
1.	Material rewards										
2.	Social rewards	.43*/.58*									
3.	Empathic concern	−.10*/−.18*	.18*/.04								
4.	Perspective taking	.11*/.15*	.27*/.34*	.41*/.35*							
5.	Public	.33*/.31*	.12*/.29*	−.01/.18*	.11*/.14*						
6.	Emotional	−.08*/.12*	.22*/.32*	.46*/.48*	.33*/.46*	−.05/.32*					
7.	Dire	.08*/.09*	.30*/.33*	.39*/.39*	.34*/.44*	.13*/.24*	.55*/.58*				
8.	Compliant	−.03/−.04	.27*/.19*	.34*/.46*	.36*/.40*	−.04/.13*	.57*/.49*	.55*/.54*			
9.	Anonymous	.23*/−.02	.13*/.13*	.08*/.53*	.15*/.33*	.22*/.28*	.13*/.40*	.28*/.46*	.20*/.43*		
10.	Age	−.10*/−.53*	−.01/−.31*	−.07/.58*	.03/−.02	.09*/−.06	−.03/.11*	.01/.13*	−.03/.25*	.07/.36*	
11.	Gender	−.15*/−.16*	.25*/.01	.35*/.15*	.14*/.13*	−.20*/−.06	.24*/.14*	.09*/.11*	.21*/.15*	−.08*/.12*	−.04/.16*
$\bar{X}$		1.99/2.63	3.29/3.83	3.47/3.32	3.15/3.46	2.03/3.46	3.50/3.82	3.43/4.05	3.72/3.89	2.40/3.14	15.32/13.38
SD		0.58/1.12	0.89/0.86	0.58/0.75	0.75/0.78	0.91/0.99	0.70/0.82	0.86/0.77	0.97/0.91	0.85/0.93	0.47/2.94

Note. Gender was coded as boys = 1, girls = 2. A series of *t* tests demonstrated significant mean-level differences between the two nationality groups on all variables. Therefore, we present the coefficients for Spain/the United States.

*$p < .05$.

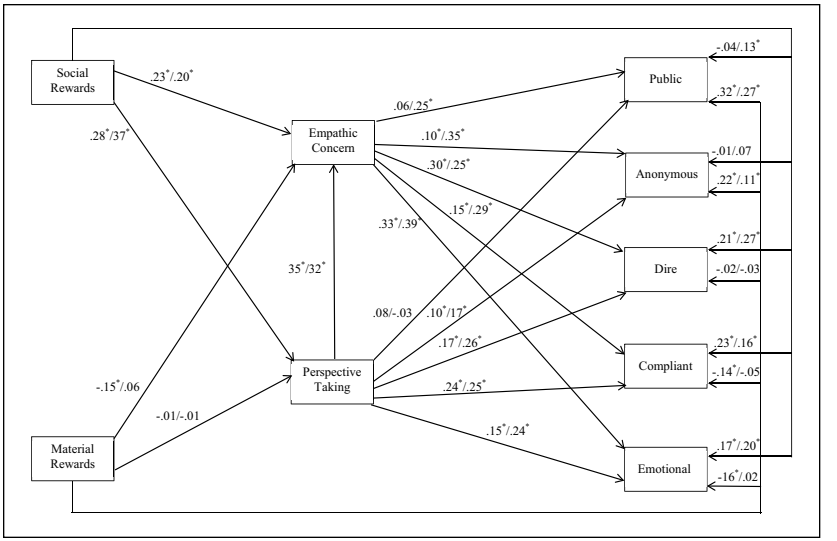

Figure 1. Path model of the relations among parental use of rewards, empathic tendencies, and prosocial behaviors across youth from Spain and the United States.
Note. Standardized coefficients are depicted. Youth age and gender were statistical controls. Significant covariation between social and material rewards, between empathic concern and perspective taking, and between each of the prosocial behaviors are not depicted.
*$p < .05$.

Main Model Tests

Path analyses were conducted to assess the conceptual model using maximum likelihood estimation in SPSS AMOS (Byrne, 2010). The model included the direct (i.e., unmediated) relations between material and social rewards and the five prosocial tendencies. The error variances of the prosocial tendencies were allowed to correlate with one another. Empathic concern and perspective taking were included as mediators in the associations between material and social rewards and the six prosocial tendencies. The model fit in Structural Equation Modeling (SEM) is considered good if the comparative fit index (CFI) is .95 or greater (fit is adequate at .90 or greater), and the root mean square error of approximation (RMSEA) is less than or equal to .06 (fit is adequate at .08 or less; Byrne, 2010; Hu & Bentler, 1999). We also statistically controlled for age and participant gender (not depicted in Figure 1). Fit for the overall model (see Figure 1) was acceptable ($\chi^2 = 15.83$, $df = 2$, $p < .001$; CFI = .97; RMSEA = .08).

Multigroup analyses. Multigroup analyses were then conducted to examine differences in the path model between the U.S. and Spanish adolescents. A chi-square difference test was conducted to examine significant change in the chi-square statistic for the constrained model as compared with the unconstrained model. Model fit was also examined for the constrained and unconstrained models. The unconstrained model (χ^2 = 15.83, *df* = 2, $p < .001$; CFI = .97; RMSEA = .08; Akaike information criterion [AIC] = 690.45) and the constrained model (χ^2 = 119.65, *df* = 28, $p < .001$; CFI = .97; RMSEA = .05; AIC = 821.36) were significantly different, $\Delta\chi^2(26) = 103.82$, $p < .001$.

Although we were primarily interested in the comparison of youth from the United States with those from Spain, we conducted an additional multigroup analysis across the three major ethnic groups (U.S. non-Latinos, U.S. Mexicans, and Spanish adolescents). The results demonstrated that the unconstrained model (χ^2 = 13.74, *df* = 3, $p = .003$; CFI = 1.00; RMSEA = .06) and the constrained model (χ^2 = 166.92, *df* = 57, $p < .001$; CFI = .97; RMSEA = .04) were significantly different, $\Delta\chi^2(54) = 153.18$, $p < .001$. Therefore, we conducted a chi-square difference test to examine potential differences between the U.S. Mexican sample and the U.S. non-Latino sample. The unconstrained model (χ^2 = 9.40, *df* = 2, $p = .009$; CFI = 1.00; RMSEA = .10; AIC = 313.40) and the constrained model (χ^2 = 37.75, *df* = 25, $p = .05$; CFI = .99; RMSEA = .04; AIC = 295.75) were not significantly different, $\Delta\chi^2(23) = 28.35$, $p = .20$. Because these groups were not significantly different, the U.S. Mexican and U.S. non-Latino groups were collapsed for further analyses, and the results are reported separately for the U.S. and Spanish samples (see Figure 1).

As hypothesized, for the U.S. sample, social rewards were positively associated with perspective taking and empathic concern, while material rewards were not associated with empathic concern or perspective taking. In addition, perspective taking was positively associated with empathic concern. Empathic concern was positively associated with public, anonymous, dire, compliant, and emotional prosocial behaviors. Perspective taking was positively associated with anonymous, dire, compliant, and emotional prosocial behaviors. There were also direct associations between parental rewards and prosocial behaviors. Social rewards were positively associated with emotional, compliant, dire, and public prosocial behaviors. Material rewards were positively associated with anonymous and public prosocial behaviors.

Similarly, for the Spanish sample, social rewards were positively associated with empathic concern and perspective taking as expected. Material rewards were negatively associated with empathic concern and were not associated with perspective taking. Perspective taking was positively associated

with empathic concern. Empathic concern was positively associated with anonymous, dire, emotional, and compliant prosocial behaviors. Perspective taking was positively associated with anonymous, dire, compliant, and emotional prosocial behaviors. There were also direct links for the Spanish sample between parental rewards and prosocial behaviors. Social rewards were positively associated with emotional, compliant, and dire prosocial behaviors. Material rewards were negatively associated with emotional and compliant prosocial behaviors and positively associated with anonymous and public prosocial behaviors.

In addition, chi-square difference tests were then conducted for each path separately in order to determine which specific paths were significantly different between the Spanish and U.S. samples. The results demonstrated that the path from empathic concern to public prosocial behaviors was significantly different, $\Delta\chi^2(1) = 5.62$, $p = .02$, such that empathic concern was positively associated with public prosocial behaviors only for U.S. adolescents. The path from empathic concern to compliant prosocial behaviors was also significantly different, $\Delta\chi^2(1) = 4.68$, $p = .03$, such that empathic concern was positively associated with compliant prosocial behaviors for both groups, but the relation was significantly stronger for U.S. youth. The path from perspective taking to emotional prosocial behaviors was also significant, $\Delta\chi^2(1) = 4.48$, $p = .03$, such that the positive association was significantly stronger for U.S. rather than Spanish adolescents. In addition, the path from social rewards to public prosocial behaviors was significant, $\Delta\chi^2(1) = 6.80$, $p = .01$, such that social rewards were positively associated with public prosocial behaviors only for the U.S. adolescents. Finally, the path from material rewards to emotional prosocial behaviors was significant, $\Delta\chi^2(1) = 7.49$, $p = .01$, such that the association between material rewards and emotional prosocial behaviors was significantly negative only for the Spanish adolescents.

Tests of indirect effects. Bias corrected bootstrap confidence intervals (CIs) were used to test the significance of the mediational effects (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). For the Spanish sample, the indirect effects (see Table 2) were significant for the relations between material rewards and dire prosocial behaviors, indirect effect = −.04, 95% CIs = [−.080, −.012], $p = .01$; material rewards and emotional prosocial behaviors, indirect effect = −.04, 95% CIs = [−.077, −.015], $p = .01$; social rewards and anonymous prosocial behaviors, indirect effect = .06, 95% CIs = [.034, .089], $p = .01$; social rewards and compliant prosocial behaviors, indirect effect = .12, 95% CIs = [.055, .093], $p = .01$; social rewards and dire prosocial behaviors, indirect effect = .13, 95% CIs = [.092, .178], $p = .01$; social rewards and emotional prosocial behaviors, indirect

Table 2. Direct, Indirect, and Total Effects of Material and Social Rewards on Adolescents' Prosocial Behaviors.

Predictor	Anonymous	Emotional	Dire	Compliant	Public
Material rewards					
Direct effect	.22**/.11*	−.16**/.01	−.01/−.03	−.13*/−.04	.34**/.27**
Indirect effects	−.01/.03	−.03**/.03	−.04**/.02	−.02/.02	−.01/.02
Total effects	.21**/.14*	−.19**/.04	−.04/−.01	−.15**/−.02	.33**/.29**
Social rewards					
Direct effect	.01/.06	.19**/.21**	.19**/.28**	.21**/.16**	−.06/.14*
Indirect effects	.06**/.14**	.12**/.17**	.13**/.15**	.12**/.15**	.05*/.02*
Total effects	.06/.20**	.32**/.38**	.32**/.43**	.33**/.31**	−.01/.17**

Note. Coefficients are presented first for Spain and second for U.S. youth.
*$p < .05$.**$p < .01$.

effect = .12, 95% CIs = [.087, .167], $p = .01$; and social rewards and public prosocial behaviors, indirect effect = .05, 95% CIs = [.024, .082], $p = .02$.

For the U.S. sample, the indirect effects were significant for the associations between material rewards and public prosocial behaviors, indirect effect = .02, 95% CIs = [.001, .040], $p = .04$; social rewards and anonymous prosocial behaviors, indirect effect = .14, 95% CIs = [.095, .198], $p = .01$; social rewards and compliant prosocial behaviors, indirect effect = .15, 95% CIs = [.109, .198], $p = .01$; social rewards and dire prosocial behaviors, indirect effect = .15, 95% CIs = [.115, .194], $p = .01$; social rewards and emotional prosocial behaviors, indirect effect = .17, 95% CIs = [.126, .211], $p = .01$; and social rewards and public prosocial behaviors, indirect effect = .04, 95% CIs = [.008, .082], $p = .04$.

Discussion

The present study was designed to examine the differential relations between perceptions of parents' use of social and material rewards and different forms of prosocial behaviors in Spanish and U.S. youth. Generally, as expected, there was supportive evidence across both nationality groups that empathic tendencies mediated relations between perceived use of social rewards (and to a lesser extent material rewards) and most forms of prosocial behaviors. Furthermore, perceived use of social rewards was positively associated with both empathic concern and perspective taking, whereas perceived use of material rewards was not significantly or negatively related (for Spanish teens) to such empathic tendencies. Moreover, social rewards and material

rewards were distinctly related to specific forms of prosocial behaviors and some relations differed between Spanish and U.S. youth. These findings demonstrate culture-specific patterns of relations between parenting and specific forms of prosocial behaviors.

The Mediating Role of Empathic Tendencies Across Culture Groups

As hypothesized, there was evidence that individual differences in empathic tendencies accounted for the relations between perceived use of social and material rewards and prosocial behaviors across both cultures. However, empathic tendencies tended to have stronger mediating relations for social rewards rather than material rewards, and were generally stronger for U.S. youth than Spanish youth. Nonetheless, across both samples, empathic tendencies had a similar pattern of relations between perceived use of social rewards and all five forms of prosocial behaviors. Such findings are in accord with cognitive-developmental and social-cognitive theories and prior research findings on the importance of empathic tendencies in explaining prosocial behaviors among youth (see Carlo, 2014; Eisenberg et al., 2006). These findings also add to the growing evidence on the relative benefits of social rather than material rewards (Carlo et al., 2007), including prior research evidence from longitudinal and experimental study designs (see Grusec et al., 2000). Furthermore, the findings are consistent with prior notions that the use of social rewards may be particularly useful in promoting prosocial behaviors because such practices may foster intrinsic prosocial motives (Eisenberg & Valiente, 2002; Grusec et al., 2000). To our knowledge, the present findings are the first to directly demonstrate these associations across youth samples from individualistic and collectivistic nationality groups.

In contrast, the findings yielded evidence that empathic tendencies mediated the relations between perceived use of material rewards and some forms of prosocial behaviors among Spanish adolescents more so than in U.S. adolescents. For example, among Spanish youth, higher levels of perceived use of material rewards were linked to lower levels of empathic tendencies, and to lower levels of helping in emotional and dire circumstances. There were no significant indirect effects of perceived material rewards among U.S. youth. These findings are consistent with the theoretical assertions and prior research findings that material rewards may have relatively mitigating effects on helping behaviors (Eisenberg & Valiente, 2002). However, the differences in the pattern of these relations across the two nationality samples suggest culture-specific processes.

Perhaps the relatively prevalent significant effects of perceived use of material rewards among Spanish youth are due to a lesser value on those forms of rewards in a relatively more collectivist-oriented society. This notion is consistent with cultural scholars' assertions that helping others is valued and expected by the family and with research that familism values (i.e., obligation to, identification with, and support from, family) are strongly associated with helping behaviors in Latino families (Carlo & de Guzman, 2009). Because U.S. society is relatively more oriented toward competition and individualism (see Knight & Carlo, 2012), perhaps expectations of receiving material rewards are deemed more normative and therefore such practices may have less impact on prosocial behaviors in U.S. adolescents. Alternatively, reverse causal explanations are also feasible such that youth engagement in prosocial behaviors may influence adolescents' perceptions of parents' use of rewards. However, given the modest indirect effect sizes across both cultural groups on the effects of perceived use of material rewards, one should be cautious about over interpreting these findings. Indeed, across both nationality groups, perceptions of material reward use were not significantly, or negatively, associated with empathic tendencies suggesting that the use of such practices may have little effect on empathic tendencies in these youth.

Relations of Parenting Practices to Prosocial Behaviors Across Culture Groups

As expected, with regard to the direct effects of perceived parenting practices, use of material rewards had direct negative relations to compliant and emotional forms of helping for Spanish youth. These findings suggest that material rewards may have particularly inhibiting effects on helping behaviors in Spanish teens, which aligns with the above-proposed explanation that such rewards may be devalued in Spanish culture relative to U.S. culture. However, across both nationality groups, perceived use of material rewards was positively related to public and anonymous prosocial behaviors. The significant positive links between perceived use of material rewards and public helping are in accord with prior research that such actions may be selfishly motivated (Carlo et al., 2007; Carlo & Randall, 2002), and therefore such parenting practices may encourage such behaviors when they expect self-rewards. An explanation for the significant positive relations between perceptions of material reward use and anonymous helping, however, is less clear and requires further research. Nonetheless, the pattern of findings suggests the need to examine specific forms of prosocial behaviors such that perceived parental use of rewards had significant links to specific forms of prosocial behaviors.

Individual and Culture Group Effects on Parenting Practices, Empathic Tendencies, and Prosocial Behaviors

Examination of correlations and mean-level differences on age, gender, and nationality group to the main study variables revealed some interesting findings. For example, youth from the United States reported more perceived use of social and material reward, higher levels of prosocial behaviors, and perspective taking. Spanish youth, however, reported higher levels of sympathy. Such findings may reflect additional opportunities for U.S. youth to engage in prosocial behaviors or that Spanish youth may have tendencies to minimize or underestimate their expression of such actions because Hispanic culture emphasizes the value of humility (Carlo & de Guzman, 2009). The differences in perceptions of parental rewards are consistent with the abovementioned notion that there may be strong cultural norms for Spanish youth to help others because it is a valued expectation.

There were also several age and gender effects on the study variables across Spanish and U.S. youth. Consistent with prior research in North American youth (including U.S. Latinos), girls reported more prosocial behaviors than boys, except boys reported more public prosocial behaviors than girls (see Carlo, 2014). Interestingly, boys reported more perceived use of material rewards than girls, which may suggest that such practices may be applied to boys more so than girls. Finally, as might be expected, older teens perceived less use of both reward practices than younger teens, as such practices may be deemed by parents to be less appropriate in older youth. Also, as expected, older U.S. youth also generally reported higher levels of sympathy and prosocial behaviors than younger U.S. teens, but there were no such age effects in Spanish youth (except for public prosocial behaviors). These discrepant age effects across countries may reflect different developmental trajectories due to differing cultural norms or social opportunities, but longitudinal studies with age equivalent samples across culture groups will be needed to confirm and explain these findings.

Study Limitations

There were several study design limitations that warrant caution in interpreting the present findings. First, the lack of a longitudinal (or an experimental manipulation) study design seriously limits our ability to infer causality and direction of causal relations. Although there is prior evidence that supports the proposed model tests and the findings are generally in accord with the available limited research using longitudinal and experimental study designs (see Eisenberg & Valiente, 2002; Grusec & Goodnow, 1994), there is also

evidence for bidirectional effects among parenting, empathic tendencies, and prosocial behaviors (e.g., Carlo et al., 2010; Padilla-Walker, Carlo, Christensen, & Yorgason, 2012). Thus, the possible influence of early engagement in prosocial behaviors on subsequent parental practices and empathic tendencies should not be ignored. Moreover, it may be of interest to examine possible interactive effects of parental use of rewards in future studies. Second, the findings rely on youth self-report measures and youth report of parents' use of rewards. Despite prior research that suggests minimal social desirability demands in the measure of prosocial behaviors (Carlo et al., 2003) and evidence that child-report measures of parenting are strongly associated with other-report and observational measures of parenting (e.g., Gonzales, Cauce, & Mason, 1996), future research using multiple reporters (or observations) is desirable to reduce possible self-presentational and shared method variance demands. Third, alpha coefficients for the empathy scales were relatively low. Although low alpha coefficients are not uncommon in short scales and the coefficients are comparable with prior studies of Spanish youth (e.g., Mestre et al., 2002; Mestre et al., 2009), caution is needed in interpreting the present findings and replication efforts are needed. And fourth, the samples of youth from the United States and from Spain are not fully representative of youth from these countries, and there are wide individual differences within each nationality (including wide variations within each nationality in individualism and collectivism, and acculturative status). Replication studies using larger and more representative samples are needed to better generalize the present findings and direct assessment of the underlying mechanisms (e.g., measures of cultural values) that may directly account for nationality group differences is needed.

Conclusion

Despite these challenges, the present findings are generally in accord with cognitive-developmental and social-cognitive theories of prosocial development that emphasize the central role of adolescents' perceptions of parents' use of material rewards and the mediating role of empathic tendencies in prosocial tendencies among youth. Such findings provide suggestive evidence that such theories are generalizable to understanding prosocial development in Spanish youth. Moreover, the findings also yield evidence that perceptions of parenting practices may manifest themselves somewhat differently among youth from the United States and Spain. These latter findings add evidence to the need for culturally sensitive theories of parenting (Chao, 2001; Halgensuth et al., 2006; Knight & Carlo, 2012). Therefore, the present findings provide impetus for future research to account for culture-related

processes to better explain prosocial development across youth from different societies.

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Author Biographies

Gustavo Carlo is the Millsap Professor of Diversity and Multicultural Studies at the University of Missouri. His main research interest is in prosocial and moral behaviors in children and adolescents, particularly on the personality, parenting, and sociocultural correlates of prosocial behaviors.

Paula Samper is a Professor in the Department of Basic Psychology at the Universitat de Valencia, Spain. Her research interests are in parenting, peers, morality, and adolescents' development.

Elisabeth Malonda is a PhD Student in the Department of Basic Psychology at the Universitat de Valencia, Spain. Her research interests are in adolescent development, sex roles, delinquency, and moral development.

Ana M. Tur-Porcar is a Professor in the Department of Basic Psychology at the Universitat de Valencia, Spain. Her research interests include parenting, moral development, and adolescents' development.

Alexandra Davis is a Doctoral Candidate in the Department of Human Development and Family Science at the University of Missouri. She is an expert on contextual, interpersonal, and culture-related stressors, and prosocial and moral development.