

Parenting Styles or Practices? Parenting, Sympathy, and Prosocial Behaviors Among Adolescents

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ABSTRACT. In the present study, the authors examined the relations among parenting styles, parental practices, sympathy, and prosocial behaviors in adolescents. The participants were 233 adolescents (M age = 16.7 years; 69% girls; mostly White) from public high schools in the Midwestern region of the United States who completed measures of prosocial behaviors, parenting styles, parenting practices, and sympathy. Overall, the authors found evidence that parenting practices were significantly associated with adolescents' prosocial behaviors. However, the associations between parenting practices and prosocial behaviors occurred mostly through the indirect relations with sympathy. The relations among parenting practices, sympathy, and prosocial behaviors varied as a function of the specific parenting practice and the specific prosocial behavior. Implications for future research on the study of prosocial development and parenting among adolescents are discussed.

Keywords: adolescence, altruism, parenting, prosocial behaviors, sympathy

IDENTIFYING PARENTING VARIABLES predictive of children's moral behaviors has been of great interest to scholars. In much of the prior research, investigators have focused on parenting styles (such as responsiveness and demandingness), which generally tap into the emotional climate and parental control of parent–child interactions (see Eisenberg & Murphy, 1995; Maccoby & Martin, 1983). However, there is growing interest in identifying specific parenting practices, rather than assessing general interaction styles, to better predict social behaviors (Barber, Stolz, & Olsen, 2005; Darling & Steinberg, 1993; Grusec & Goodnow, 1994). To date, most researchers studying parenting practices have focused on the role of disciplinary practices (inductive, power assertive, love withdrawal) in transgressive contexts (Hoffman, 1983; Rollins & Thomas, 1979). However, in relatively few studies have researchers examined parenting practices

associated with moral behaviors in prosocial contexts. Furthermore, research on the potential mediating role of sympathy on the relations between parenting and moral behaviors is lacking, especially among adolescents. We designed the present study to examine the relations among parenting styles, parental practices, sympathy, and prosocial behaviors in adolescents.

Traditionally, there are two major dimensions of parenting styles that have been theoretically linked to prosocial and moral development (see Barber et al., 2005; Baumrind, 1991; Maccoby & Martin, 1983). The first is *parental warmth or responsiveness* (also referred to as *support*), which refers to the degree of positive affection present in parent-child relationships. The second is *demandingness* (or *control*), which refers to the degree of strictness and behavioral standards expressed by parents for their children. Many scholars have noted that parents who express high levels of responsiveness tend to be more child-centered and are more accepting of their children, have positive evaluations of their children, and foster close, interpersonal relationships with their children (including more secure attachments; De Wolff & van IJzendoorn, 1997; Hoffman, 1983). Furthermore, responsive parents often express and model well-regulated moral emotions (e.g., sadness, sorrow), which might facilitate sympathy and prosocial behaviors (i.e., behaviors primarily intended to benefit others; Barnett, 1987; Eisenberg & Murphy, 1995). Moreover, parents who place strict demands on their children are likely to set high behavioral conduct standards and may be more apt to monitor their children. The characteristics of a demanding parent might be expected to lead to strongly internalized moral values (Grusec & Goodnow, 1994). Conversely, an aloof or hostile parenting style reflects harsh and neglectful parent-child interactions, which might lead to antisocial and aggressive outcomes (Maccoby & Martin). Although there are a number of other influences on prosocial and moral development, a supportive and demanding parent is viewed as an important resource associated with positive developmental outcomes.

In general, there is supportive empirical evidence for the expected associations among responsiveness and demandingness and prosocial development. Researchers have shown relatively consistent associations between responsiveness and socially competent and prosocial behaviors in adolescence (Dekovic & Jaansens, 1992; Eberly, Montemayor, & Flannery, 1993; Eberly & Montemayor, 1998; Laible & Carlo, 2004; Laible, Carlo, & Roesch, 2004; Laible, Carlo, Torquati, & Ontai, 2004; Lamborn, Mounts, Steinberg, & Dornbusch, 1991);

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although in other studies, researchers have found nonsignificant results or that the relations are not always direct (e.g., Carlo, Roesch, & Melby, 1998; Eberly & Montemayor, 1999). To a somewhat lesser extent, there is also supportive evidence for the link between demandingness and prosocial behaviors (see Eisenberg, Fabes, & Spinrad, 2006). For example, Baumrind (1991) found that authoritative parenting (i.e., the combination of responsive and demanding parenting) was positively associated with prosocial behaviors among adolescents. Moreover, parents' use of inductive disciplinary practices (i.e., child-centered disciplinary practices that use verbal reasoning and explanations and have been linked to authoritative parents) has been linked to children's displaying high levels of moral reasoning, markers of moral conscience, and prosocial behaviors (Krevans & Gibbs, 1996; see Eisenberg et al., 2006). However, the existing evidence for the links between parenting styles and prosocial behaviors is quite limited, especially among adolescents (Carlo, Fabes, Laible, & Kupanoff, 1999). As a result, some scholars have suggested that parenting practices, rather than parenting styles, may better predict behavioral outcomes (Carlo et al., 1998; see Darling & Steinberg, 1993). The assumption is that the broad dimensions of parenting styles might not adequately capture the complexity of children's development. Indeed, one might expect that by the time a child reaches adolescence, parents might express responsiveness and demandingness in ways different from their means of expression earlier in the child's life.

Research on parental practices associated with children's prosocial and moral behaviors has traditionally focused on parental disciplinary actions in transgressive situations (see Hoffman, 1983; Eisenberg et al., 2006). Although researchers conducted a number of studies in the 1970s and 1980s on practices associated with prosocial behaviors, many of those studies were not specific to parenting practices, but were focused on other socialization agents (see Eisenberg et al., 2006). However, on the basis of social learning and social cognitive theories (Bandura, 1986), specific socialization mechanisms (e.g., observational learning, rewards) have been linked with the acquisition of new behaviors. For example, over time, receiving social rewards (rather than material rewards) is believed to orient children toward the value of the desired behavior rather than the value of receiving material goods, whereas material rewards might undermine prosocial behaviors. Indeed, there is some empirical evidence that supports these assertions (Dix & Grusec, 1983; Fabes, Fultz, Eisenberg, May-Plumlee, & Christopher, 1989; Grusec & Redler, 1980; see Staub, 1979). However, few studies exist in which researchers focused on the relations between social and material rewards and prosocial behaviors in adolescence.

Another socialization mechanism identified with the acquisition of moral behaviors is observational learning (or modeling). According to Bandura (1986), children who are exposed to models of prosocial behavior will be more likely to emulate those acts (especially if the model is admired or closely identified with). In a similar vein, providing children with hands-on experiences in pro-

social acts may facilitate future prosocial behaviors because such experiences provide rehearsal opportunities. Following these notions, one would expect that parents who model and encourage prosocial behaviors might promote prosocial behaviors in their children. Evidence on the power of observational learning is well documented (especially among children; see Eisenberg et al., 2006), though direct examination of the relations between parental modeling and prosocial behaviors among adolescents is lacking. Moreover, with regard to the relations between experiential learning and prosocial behaviors, there is accumulating evidence that service learning experiences are associated with future spontaneous prosocial acts (see Dubois & Karcher, 2005; Lawford, Pratt, Hunsberger, & Pancer, 2005; McClellan & Youniss, 2003).

Another dimension of practices associated with prosocial and moral development is parent-child discussions about moral issues. Developmental scholars have suggested that parents who engage in conversations about moral issues with their children are more apt to have children who internalize their parents' moral values and standards (Laible, 2004; see Thompson, 2006). Such conversations are expected to foster an orientation to the needs of others, broaden children's social perspective, and directly transmit parents' notions regarding moral issues (Dunn, Cutting, & Demetriou, 2000). Furthermore, frequent conversations between parents and children might be expected to facilitate close, interpersonal relationships, which should foster empathy, sympathy, and interpersonal prosocial behaviors. Although much has been discussed by scholars regarding the central role of parent-child conversations, direct empirical evidence is lacking, particularly on the effects of conversations in adolescents' prosocial behaviors.

Although frequent conversations regarding moral issues might have beneficial consequences for prosocial behaviors in children, the quality of the conversations might be important to assess. Child-centered conversations that show a respect for the child's perspective and promote a shared mutual understanding (rather than imposing one's authority) might be better expected to foster prosocial moral tendencies in children. This type of conversation has been termed *discursive communication* (Habermas, 1979; Kurtines, Mayock, Pollard, Lanza, & Carlo, 1991). Despite the potential importance of moral discursive communication, there is no existing research on the relations between discursive communication and prosocial behaviors. Thus, our hypotheses regarding these latter relations primarily were based on theory.

The notion that parenting styles or practices per se might not directly predict prosocial behaviors is also of interest. Given the central importance of empathy and sympathy in prosocial development (Eisenberg et al., 2006; Hoffman, 1983), one may expect that specific parenting practices and styles might predict trait sympathy, which in turn, might predict prosocial behavior. That is, specific practices may foster perspective taking (e.g., consideration of other people's points of view) and emotional sensitivity to others' situations—the two main components of sympathy. This, in turn, may facilitate prosocial actions. Substantial prior

evidence indicates that sympathy is strongly associated with prosocial behaviors, including altruism (Carlo, Hausmann, Christiansen, & Randall, 2003; Eisenberg, Zhou, & Koller, 2001). Moreover, evidence for the link between parenting practices and sympathy has been documented in previous studies (although mostly with younger children; Eisenberg, Fabes, Schaller, Carlo, & Miller, 1991). Thus, we also examined whether sympathy mediated the relations between parenting styles or practices and prosocial behaviors.

The often-reported wide individual and group differences in specific forms of prosocial behaviors suggest the need to study the correlates of specific forms of prosocial behaviors (see Carlo & Randall, 2001; Eisenberg, 1986). For example, previous research has indicated that there are individual differences in the extent to which individuals help in emotionally evocative and dire situations (Carlo, Eisenberg, Troyer, Switzer, & Speer, 1991), in front of others, anonymously, when asked to help (Eisenberg, Cameron, Tryon, & Dodez, 1981), and when there is a cost to the self (see Batson, 1991; Schroeder, Penner, Dovidio, & Piliavin, 1995). In some studies, researchers have found that individuals who frequently engage in *altruism* (i.e., behaviors intended primarily to benefit others with little regard for self-consequences) are prone to sympathy, higher level moral reasoning and perspective taking, ascribe social responsibility to themselves, and exhibit fewer aggressive behaviors (Eisenberg et al., 2006). Individuals who frequently help in emotionally evocative situations also are prone to sympathy and higher levels of moral reasoning and perspective taking (Carlo et al., 1991). In contrast, adolescents who frequently engage in helping behaviors in front of others have been shown to be most concerned with gaining other people's approval (Carlo & Randall, 2002). Furthermore, as a result of capital growth, work opportunities, and greater social mobility, many adolescents have increased opportunities to help others anonymously (e.g., donating money), to engage in compliant helping, and to help in emergency situations. However, although there is some research on the correlates of those latter types of prosocial behaviors in childhood (especially compliant and anonymous types of helping) and in college students (especially helping in emergency situations; see Batson, 1991; Eisenberg et al., 2006), little is known with regard to the characteristics of adolescents who help under those circumstances.

To address this gap, we examined parenting styles and practices associated with specific forms of prosocial behaviors in adolescence. However, given that in most prior research examining the links between parenting styles and practices and prosocial behaviors researchers used more global, undifferentiated measures of prosocial behaviors, specific *a priori* hypotheses regarding these relations were difficult to develop. Therefore, we developed some preliminary hypotheses based primarily on prior theory (Batson, 1991; Carlo & Randall, 2001; Eisenberg et al., 2006; Staub, 1979). In general, we expected conversations, discursive communication, experiential learning, and social rewards to be related positively to most forms of prosocial behaviors. In contrast, we expected material rewards to be associated negatively (or to be unrelated) to most forms

of prosocial behaviors, except those that are enacted in public settings (which might be motivated by the desire to gain others' approval). Furthermore, we hypothesized that child-centered communication practices (i.e., discursive practices) and social rewards (e.g., praise) that are likely to promote internalized norms and principles might foster specific types of prosocial behaviors such as altruism (see Eisenberg et al., 2006). Conversely, material rewards, which are associated with extrinsically motivated behaviors, might be more apt to induce prosocial behaviors motivated by the desire to gain others' approval (i.e., public). Moreover, in general, we expected that both responsiveness and demandingness would be positively related to different forms of prosocial behaviors. Because some scholars suggest that the combination of responsiveness and demandingness might better predict behavioral outcomes, we also explored whether the interactive effects of these styles predicted prosocial behaviors. We hypothesized that sympathy might mediate the relations between parenting styles/practices and prosocial behaviors, and that parenting styles might predict parenting practices, which in turn might predict sympathy, which in turn might predict prosocial behaviors. Finally, in light of previously reported gender differences in adolescents' prosocial tendencies (see Eisenberg et al., 2006; Fabes, Carlo, Kupanoff, & Laible, 1999), we tested for gender effects in these relations.

Method

Participants

Participants were 233 adolescents (M age = 16.7 years, SD = .87; 69% girls) from public high schools in the Midwestern region of the United States, and they all received class credit for their participation. Participants completed a survey packet consisting of several measures of their behaviors, beliefs, and attitudes about their parents. Adolescents reported, on average, that religion was "somewhat important" in their lives (M = 2.99, SD = 1.36; 5-point Likert-type scale, 1 = *not important*, 5 = *very important*). They also reported that they participated in a private religious activity (e.g., prayer, meditation), a religious worship service, or a religious youth group about once a month, M s = 2.88, 2.59, and 2.08, respectively (on all questions 1 = *never*, 5 = *more than once a week*).

Although survey data also were obtained from parents, only 81 parents returned completed survey packets. However, we report additional demographics using these data. The parents reported on the adolescents' ethnicity (73 White, 3 Black, 2 Mexican American, 2 Asian American) and religious affiliation (40 Protestant, 13 as None, 11 Catholic, 1 Jewish, and 16 as Other). Average household income was reported as \$45,000–\$75,000 (M = 4.57, SD = 1.75; 1 = *less than \$10,000*, 5 = *\$60,001–\$75,000*).

Measures

Parenting Practices Measure (PPM). Items on this measure assessed the types of practices that the adolescent's parent (the parent they felt closest to) used in the context of promoting prosocial behaviors, using a 5-point Likert-type scale (1 = *does not describe my parent well*, 5 = *describes my parent very well*). We conducted a combination of literature review (see Carlo & Randall, 2001; Eisenberg & Murphy, 1995; Hoffman, 2000) and focus groups with parents to identify those practices that promote prosocial behaviors. We conducted six focus groups with either White, English-speaking Mexican American, or Spanish-speaking Mexican American mothers of early adolescents. Mothers were asked two basic questions: "What types of prosocial behaviors do your children show?" and "What types of parenting practices do you engage in that promote these behaviors?" We transcribed practices that were specifically used to promote prosocial behaviors (e.g., sharing, helping, comforting, donating) verbatim from an audio tape. These practices were examined for common themes, and in general, the themes identified mapped onto those same types of practices uncovered in the literature review. Specific examples of practices identified in the focus groups and literature review were also used to create the items of the PPM. The original version of the PPM contained 38 items tapping into seven types of practices: social rewards (e.g., praise), material rewards (e.g., money, privileges), modeling (e.g., parents doing charitable activities), experiential learning (e.g., parents encouraging children's charitable work), inductive reasoning (e.g., encouraging sensitivity to another's viewpoint), discursive communication (e.g., encouraging a shared mutual understanding on issues), and rule setting (e.g., clear expectations on prosocial values).

Exploratory factor analyses, using Varimax rotation (eigenvalues greater than 1.0 and item loadings greater than .40 were used for interpretation), were conducted to examine the structure of the PPM. One item was found to be multi-vocal, loading onto two factors, and was dropped from the factor with the lower loading because the fit was stronger on the factor with the higher loading and the item was also theoretically tied to this higher factor. On the basis of these analyses, we reduced the measure to five factors: Social Rewards (4 items; e.g., "My parent praises me when I help someone in need"; "My parent expresses his or her gratitude when I help around the house"; factor loadings ranged from .69 to .77, $\alpha = .86$); Material Rewards (5 items; e.g., "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"; factor loadings ranged from .44 to .85, $\alpha = .76$); Conversations (5 items; e.g., "My parent talks to me about children with problems, emphasizing compassion and empathy"; "My parent discusses moral themes with me when we watch television shows or movies"; factor loadings ranged from .60 to .68, $\alpha = .72$); Discursive Communication (3 items; e.g., "My parent tries to understand my point of view when discussing

moral issues”; “My parent allows me to contribute my own opinion when he or she makes decisions about moral issues”; factor loadings ranged from .72 to .86, $\alpha = .81$); and Experiential Learning (8 items; e.g., “My parent enrolls me in community organizations [e.g., church, food bank, animal shelter] to get me involved in charitable activities”; “My parent teaches me to help others by putting me in activities that give me hands-on experience”; factor loadings ranged from .43 to .81, $\alpha = .86$). These five factors were used in subsequent analyses.

Prosocial Tendencies Measure. Participants completed the Prosocial Tendencies Measure–Revised (PTM–R; Carlo et al., 2003) to assess how likely they were to engage in prosocial behaviors across a variety of situations. Participants rated the extent to which statements described them using a 5-point Likert-type scale (1 = *does not describe me at all*, 5 = *describes me greatly*). The PTM–R assesses six types of prosocial behaviors: altruistic (4 reverse-coded items; e.g., “I tend to help with charity work best when it looks good on my resume,” $\alpha = .76$), public (3 items; e.g., “I tend to help best when people are watching me,” $\alpha = .83$), emotional (5 items; e.g., “I tend to comfort people when they are very upset,” $\alpha = .90$), dire (3 items; e.g., “I tend to help people who are in a real crisis or emergency,” $\alpha = .82$), anonymous (4 items; e.g., “I tend to donate money without anyone knowing,” $\alpha = .86$), and compliant (2 items; e.g., “I tend to help without hesitation when people ask,” $\alpha = .67$). We conducted a confirmatory factor analysis to examine the model fit of the six-factor PTM–R. After three multivocal items and one poorly loading item were dropped, the model fit well according to descriptive fit indexes, $\chi^2(129, N = 233) = 2,426.94, p < .01$, standardized root mean square residual (SRMR) $< .05$, root mean square error of approximation (RMSEA) $= .05$ (Hu & Bentler, 1998; 1999; see Figure 1). The item loadings on the latent prosocial variables were large and positive (standardized loadings ranged from .60–.90). Previous researchers have reported extensive reliability and validity evidence for the PTM–R, including good test–retest reliabilities, convergent validity (with behavioral and other self-report measures of prosocial behaviors), and discriminant validity (e.g., weakly to modestly related to social desirability and prosocial moral reasoning; Carlo et al., 2003; Carlo & Knight, 2006).

Parenting Style Inventory II. The Parenting Style Inventory II (PSI–II; Darling, Cumsille, & Peña-Alampay, 2005; Darling & Toyokawa, 1997) was designed to assess parenting styles. Three subscales are computed in this measure: Demandingness (degree to which parents have expectations and standards they expect their child to fulfill), Responsiveness (degree of emotional sensitivity and responsiveness), and Autonomy-Granting (degree to which parents allow and encourage their children to develop their own ideas, beliefs, and points of view). Participants responded to each item following the prompt “How much do you agree or disagree with this sentence?” using a 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). Only the two main dimensions of

Demandingness (5 items; e.g., “My mother really expects me to follow family rules,” $\alpha = .67$) and Responsiveness (5 items; e.g., “I can count on my mother to help me out if I have a problem,” $\alpha = .82$) subscales were used in analyses, consistent with the bulk of literature in this area (Eisenberg et al., 2006; Maccoby & Martin, 1983).

Sympathy. To assess the emotional and cognitive component of sympathy, we administered both empathic concern scales (i.e., feelings of concern for a needy other) and perspective taking scales (i.e., understanding another’s situation) to adolescents. Each 5-point scale (1 = *does not describe me well*, 5 = *describes me very well*) consisted of seven items (sample item for empathic concern: “I often have tender, concerned feelings for people less fortunate than me”; sample item for perspective taking: “Before criticizing somebody, I try to imagine how I would feel if I were in their place”). The scales were two of the four subscales from the Interpersonal Reactivity Questionnaire (Davis, 1983). On the basis of the premise that perspective taking often is required for empathic concern and that these processes often are interrelated (Eisenberg et al., 2006), we formed a composite of sympathy by averaging the empathic concern and perspective-taking scores (these subscales were interrelated significantly, $r[233] = .48, p < .001$). Evidence for reliability and validity of the scales with samples of adolescents has been reported elsewhere (Carlo, Eisenberg, & Knight, 1992; Carlo et al., 2003).

Results

Preliminary Analyses, Descriptives, and Correlational Analyses

To examine whether those adolescents whose parents returned survey packets were different from those whose parents did not return the packets, we conducted independent sample *t* tests using these two groups and the main study variables. These groups differed on only 2 of 14 variables: dire prosocial behaviors (the group whose parents had not completed the parental survey packets reported more dire prosocial behaviors) and parental demandingness (the group whose parents completed the parental survey packets reported more parental demandingness). However, the magnitude of the effect for these two findings was quite small ($\eta^2 = .02$ for both dire and demandingness).

Table 1 shows the descriptive statistics and the relations among the five parenting practices, sympathy, the six prosocial behaviors, and gender. The five practices were all moderately and positively correlated with one another. The interrelations among the six prosocial behaviors were typically moderate and positive, although some correlations were negative or nonsignificant. Social Rewards and Conversations were positively related to public, compliant, dire, and emotional prosocial behaviors and negatively related to altru-

ism. Material Rewards was positively related to public prosocial behaviors and negatively related to altruism. Conversations were positively related to all prosocial behaviors and negatively related to altruism. Discursive Communication was related positively to compliant, dire, and emotional prosocial behaviors. Experiential Learning was associated positively with anonymous, compliant, and dire prosocial behaviors. In contrast, there were no significant relations between parenting styles and prosocial behaviors, except that responsiveness was positively related to compliant prosocial behaviors. Sympathy was moderately positively related to all practices and prosocial behaviors with the exception of Material Rewards (no relation), public prosocial behaviors (negative relation), and altruism (marginal positive relation). Regarding the correlations among gender and the main study variables, girls reported higher levels of compliant, emotional, and dire prosocial behaviors, sympathy, and parental responsiveness.

Main Data Analytic Approach

Using confirmatory factor analysis, we first established the six latent variables of the PTM-R (as reported earlier). Next, we tested models examining the mediation of sympathy between each parenting practice/style and the six latent prosocial variables by constructing direct paths from (a) each practice or style to the observed sympathy variable and (b) the observed sympathy variable to the six latent prosocial variables.¹ Direct paths from each practice or style to the six latent prosocial variables were also included in the models. In addition, to examine whether parenting styles facilitate the use of parenting practices, we tested models examining whether parenting styles predicted prosocial behaviors through each parenting practice (and through sympathy). We constructed direct paths from the style to a practice, the practice to sympathy, and sympathy to the six latent prosocial variables. Directs paths from the style and practice to each latent prosocial variable were also included. We controlled for gender in all of the above models by including a direct path from gender to each of the prosocial behaviors and sympathy. In each model, gender was positively related to sympathy and to emotional prosocial behaviors (girls reported greater sympathy and emotional prosocial behaviors; these paths are not depicted in the figures).

We reported the following indexes to evaluate model fit: (a) χ^2 ; (b) the SRMR (Hu & Bentler, 1998; 1999), with values less than or equal to .08 indicating reasonable model fit; and (c) the RMSEA (Hu & Bentler, 1998; 1999), with values less than or equal to .06 indicating reasonable model fit. Reported model parameters are statistically significant at the .05 level. In addition, indirect paths as outlined above also were tested for significance. As recommended by MacKinnon, Lockwood, Hoffman, West, and Sheets (2002), we computed standard errors for all significance tests of indirect effects using the bootstrap

TABLE 1. Means, Standard Deviations, and Correlations for Parenting Practices, Sympathy, Prosocial Behaviors, and Gender

Variable	<i>M</i>	<i>SD</i>	1	2	3	4
1. Social rewards	3.67	0.95	—			
2. Material rewards	2.09	0.88	.40**	—		
3. Conversations	3.10	0.91	.54**	.38**	—	
4. Discursive communication	3.19	1.10	.56**	.21**	.41**	—
5. Experiential learning	2.31	0.84	.39**	.39**	.49**	.20**
6. Responsiveness	3.83	1.19	.54**	.19**	.28**	.33**
7. Demandingness	3.46	1.14	.04	.03	.09	-.17**
8. Sympathy	3.61	.58	.19**	.00	.27**	.13*
9. Altruism	2.99	0.95	-.25**	-.26**	-.26**	-.09
10. Anonymous	3.51	1.21	.05	.02	.21**	-.03
11. Compliant	4.11	0.79	.20**	.06	.23**	.20**
12. Dire	4.22	0.73	.20**	.09	.22**	.13*
13. Emotional	3.92	1.20	.16*	.07	.19**	.15*
14. Public	2.71	0.98	.20**	.21**	.21**	.08
15. Gender	1.70	0.46	.10	-.03	.04	.07

Note. Gender was coded as 1 = boys, 2 = girls.

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

procedure implemented in Mplus 4.1. If the 95% confidence interval for the standard error fell outside of zero for the indirect effect, sympathy was said to be a significant mediator of the relation between the parenting practice/style and the prosocial behavior tested.

Structural Equation Modeling Analyses Examining Sympathy as a Mediator

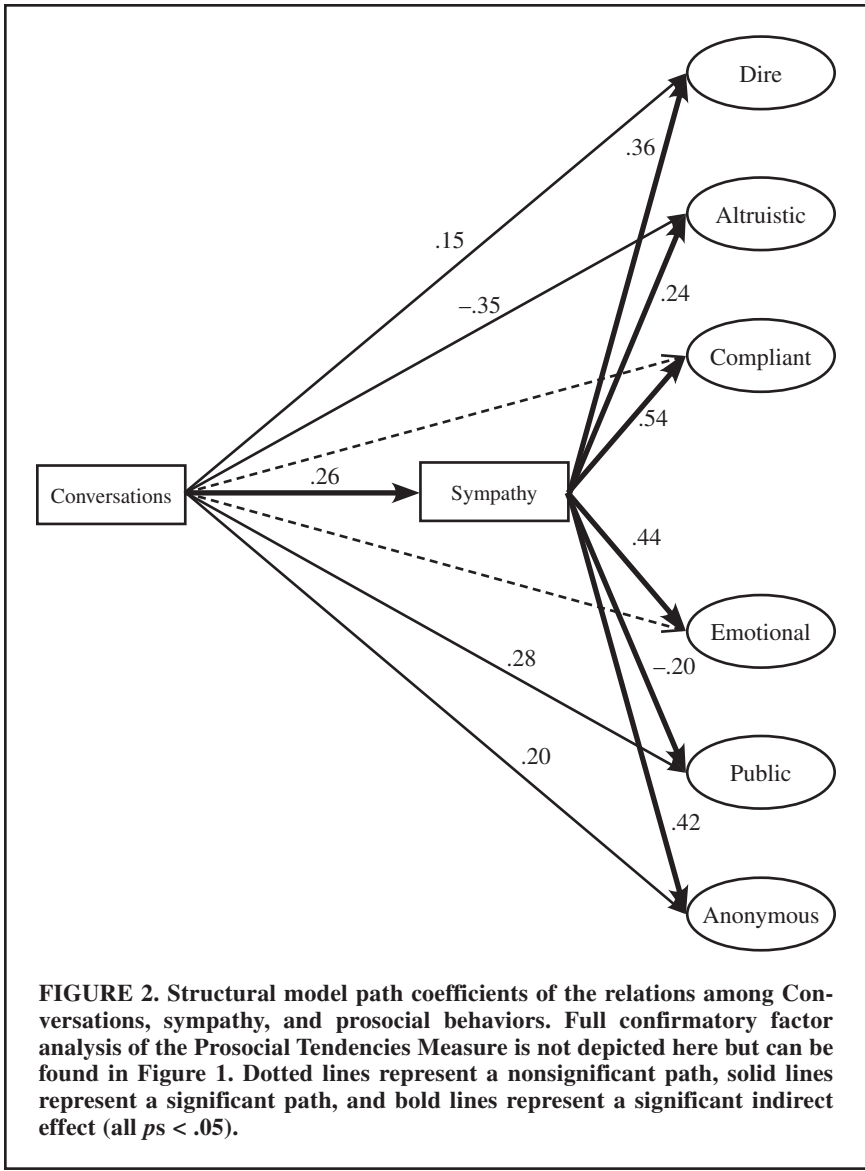
The Conversations model (see Figure 2) had adequate fit, $\chi^2(219, N = 233) = 385.71$, $p < .01$, SRMR $< .05$, RMSEA $< .06$. We found significant and positive direct paths between Conversations and dire, public, and anonymous prosocial behaviors. A significant and negative direct path was found between Conversations and altruism. Examining the indirect model, the direct path from Conversations to sympathy was positive and significant. The direct paths from sympathy to altruistic, dire, compliant, emotional, and anonymous prosocial behaviors were significant and positive. The direct path from sympathy to public prosocial behaviors, however, was negative and significant. Results from the tests of the indirect paths showed that the 95% confidence intervals for the standard error estimates of the indirect effects fell outside of zero for the altruistic (.012, .099), dire (.026, .106), compliant (.051, .170), emotional (.042, .147), public (–.065, –.004), and anonymous (.047, .165) paths. Thus, sympathy mediated the relations between Conversations and all six prosocial behaviors. In a model excluding sympathy

	5	6	7	8	9	10	11	12	13	14	15
—											
.16*	—										
.12	.52**	—									
.19**	.12	.08	—								
-.13	-.06	.01	.11	—							
.30**	.00	.08	.34**	-.14*	—						
.21**	.13*	.10	.48**	-.01	.36**	—					
.13*	.01	-.01	.38**	-.15*	.34**	.62**	—				
.08	.05	.02	.32**	-.11	.17**	.45**	.44**	—			
.06	.03	-.01	-.13*	-.65**	.12	.15*	.12	.21**	—		
-.05	.17**	.07	.27**	.00	.11	.14*	.19**	.16*	-.06	—	

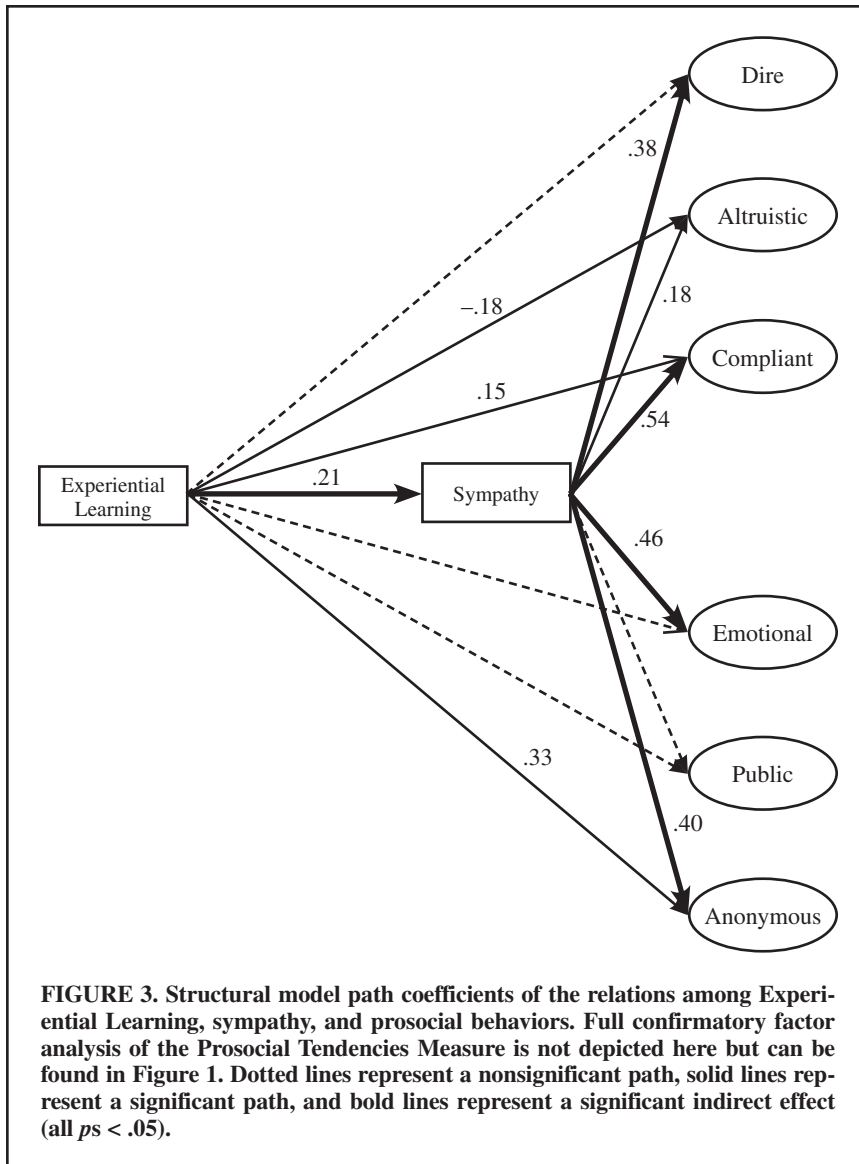
and gender, Conversations accounted for 5–10% of the variance in the six latent prosocial behaviors.

The Experiential Learning model (see Figure 3) had adequate fit, $\chi^2(219, N = 233) = 384.94, p < .01$, SRMR < .05, RMSEA < .06. We found significant and positive direct paths between Experiential Learning and compliant and anonymous prosocial behaviors. A significant and negative direct path was found between Experiential Learning and altruism. Examining the indirect model, the direct path from Experiential Learning to sympathy was positive and significant. The direct paths from sympathy to altruistic, dire, compliant, emotional, and anonymous prosocial behaviors were significant and positive. The direct path to public prosocial behaviors was negative and significant. Results from the tests of the indirect paths showed that the 95% confidence intervals for the standard error estimates of the indirect effects fell outside of zero for the dire (.021, .102), compliant (.034, .161), emotional (.034, .142), and anonymous (.031, .147) paths. Thus, sympathy mediated the relations between Experiential Learning and dire, compliant, emotional, and anonymous prosocial behaviors. In addition, the indirect effect for the altruism path approached significance ($p < .10$). In a model excluding sympathy and gender, Experiential Learning accounted for 1–16% of the variance in the six latent prosocial behaviors.

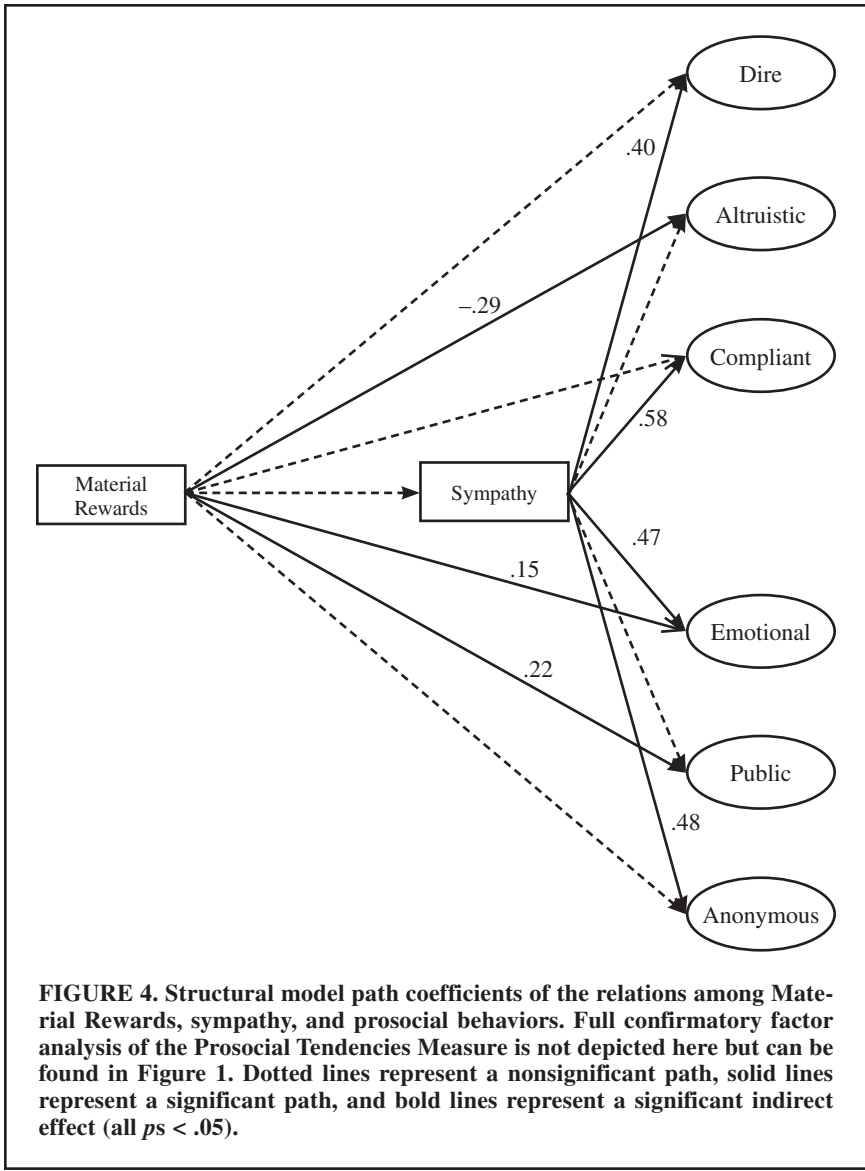
The Material Rewards model (see Figure 4) had adequate fit, $\chi^2(219, N = 233) = 383.57, p < .01$, SRMR < .05, RMSEA < .06. We found a significant and positive direct path between Material Rewards and emotional and public prosocial behaviors.



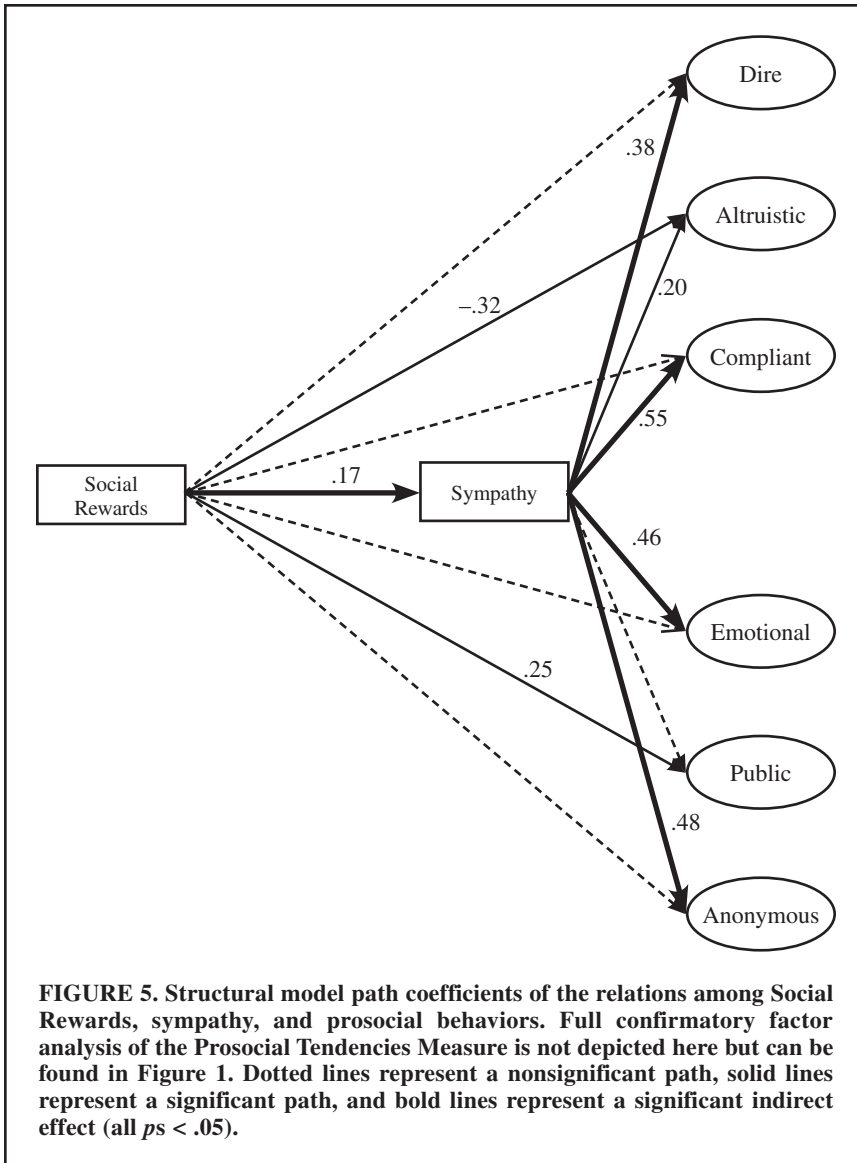
In addition, we found a significant and negative direct path between Material Rewards and altruism. Examining the indirect model, the direct path from material rewards to sympathy was not significant, and mediation was therefore not examined. Sympathy was, however, significantly and positively related to dire, compliant, emotional, and anonymous prosocial behaviors. In a model excluding sympathy and gender, Material Rewards accounted for 1–9% of the variance in the six latent prosocial behaviors.



The Social Rewards model (see Figure 5) had adequate fit, $\chi^2(219, N = 233) = 394.58, p < .01$, SRMR < .05, RMSEA < .06. We found a significant and positive direct path between Social Rewards and public prosocial behaviors, whereas we found a significant and negative direct path between Social Rewards and altruism. Examining the indirect model, the direct path from Social Rewards to sympathy was positive and significant. The direct paths from sympathy to altruistic,

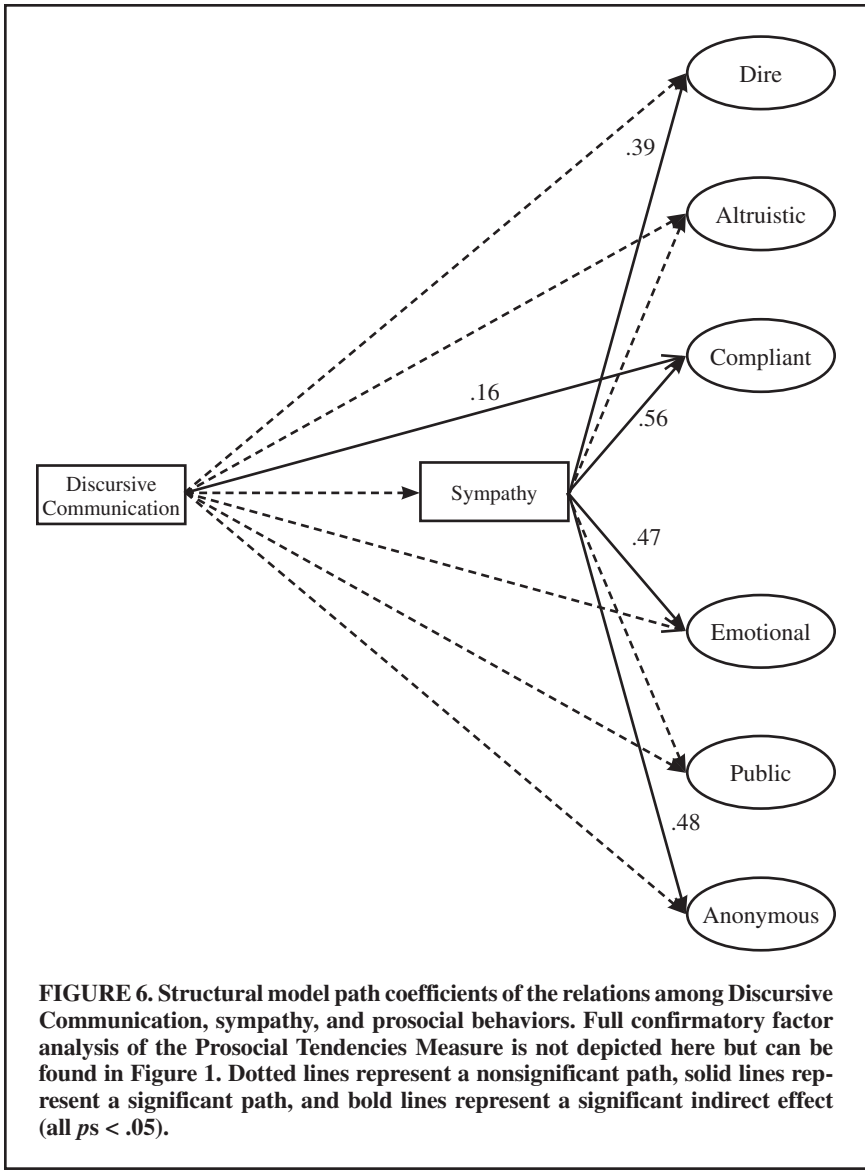


dire, compliant, emotional, and anonymous prosocial behavior were significant and positive. Results from the tests of the indirect paths showed that the 95% confidence intervals for the standard error estimates of the indirect effects fell outside of zero for the dire (.010, .075), compliant (.019, .120), emotional (.016, .106), and anonymous (.018, .129) paths. Thus, sympathy mediated the relations between Social Rewards and dire, compliant, emotional, and anonymous proso-



cial behaviors. The indirect effect for the altruism path approached significance ($p = .10$). In a model excluding sympathy and gender, Social Rewards accounted for 1–8% of the variance in the six latent prosocial behaviors.

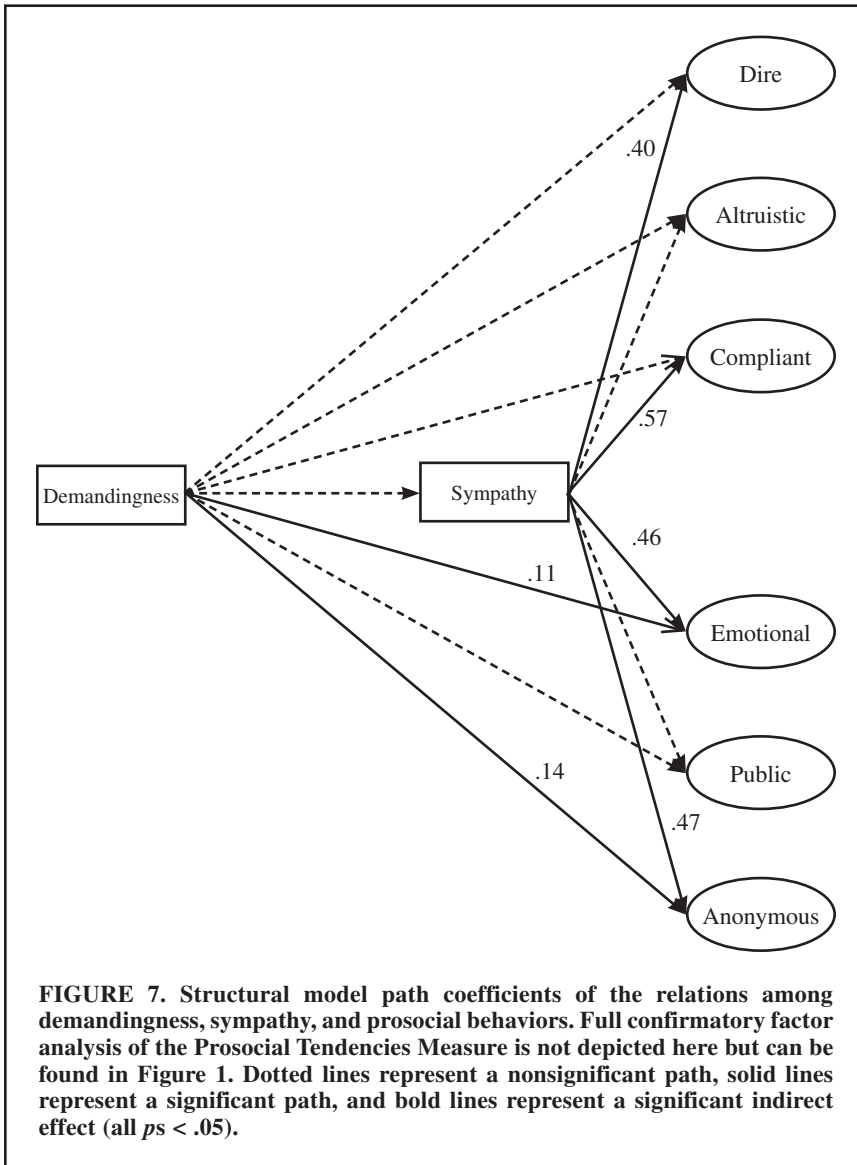
The Discursive Communication model (see Figure 6) had adequate fit, $\chi^2(219, N = 233) = 377.55, p < .01, SRMR < .05, RMSEA < .06$. We found a significant and positive direct path between Discursive Communication and compliant prosocial



behaviors. Examining the indirect model, the direct path from Discursive Communication to sympathy was positive and approached significance. The direct paths from sympathy to dire, compliant, emotional, and anonymous prosocial behavior were significant and positive. Results from the tests of the indirect paths showed that the 95% confidence intervals for the standard error estimates of the indirect effects did not fall outside of zero for all six indirect paths tested. The indirect effects for the

dire, compliant, emotional, and anonymous paths, however, approached significance ($ps < .10$). In a model excluding sympathy and gender, Discursive Communication accounted for less than 1–6% of the variance in the six latent prosocial behaviors.

The parental demandingness model (see Figure 7) had adequate fit, $\chi^2(219, N = 233) = 389.22, p < .01$, SRMR < .05, RMSEA < .06. We found significant



and positive direct paths between parental demandingness and emotional and anonymous prosocial behaviors. Examining the indirect model, the direct path from demandingness to sympathy was not significant, and mediation was therefore not examined. Sympathy was, however, significantly and positively related to dire, compliant, emotional, and anonymous prosocial behaviors. In a model excluding sympathy and gender, parental demandingness accounted for less than 1–3% of the variance in the six latent prosocial behaviors.

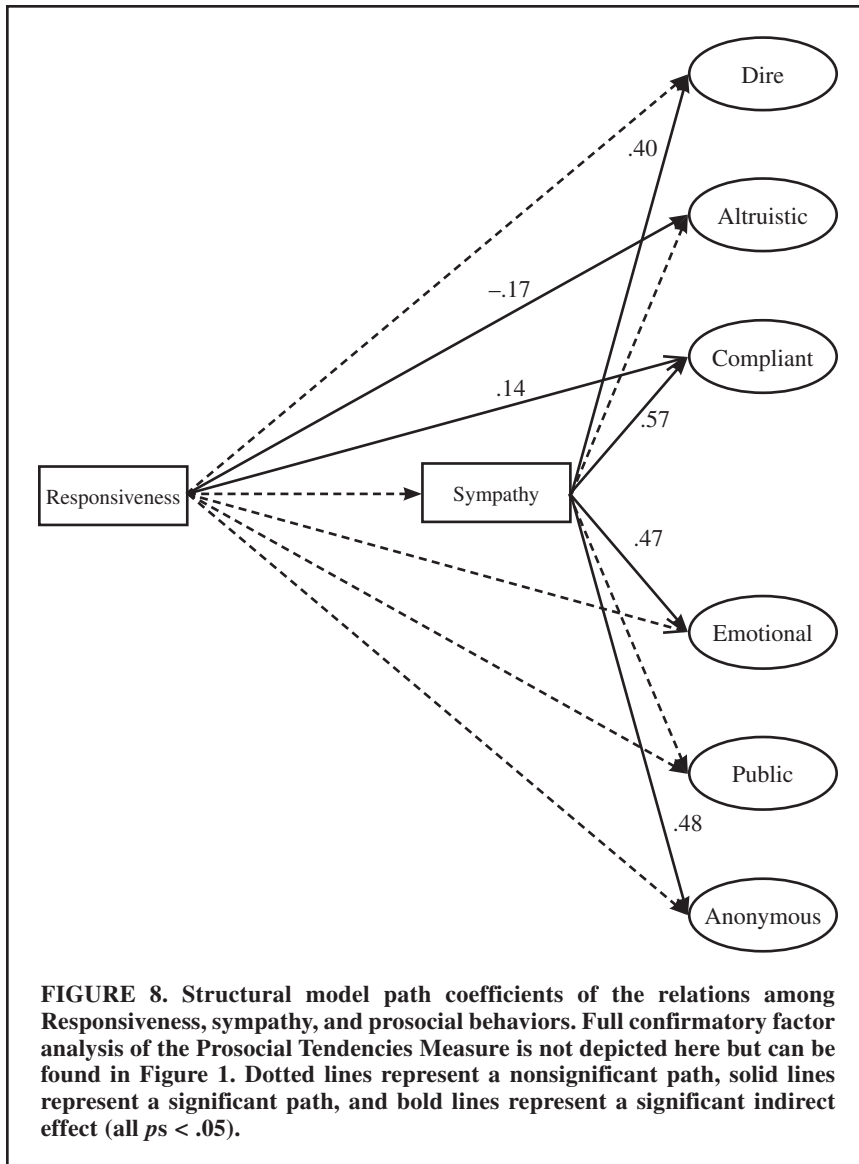
The parental responsiveness model (see Figure 8) had adequate fit, $\chi^2(219, N = 233) = 394.29, p < .01$, SRMR < .05, RMSEA < .06. We found a significant and positive direct path between parental responsiveness and compliant prosocial behaviors, whereas a significant and negative direct path existed between parental responsiveness and altruism. Examining the indirect model, the direct path from responsiveness to sympathy was not significant, and mediation was therefore not examined. Sympathy was, however, significantly and positively related to dire, compliant, emotional, and anonymous prosocial behaviors. In a model excluding sympathy and gender, parental responsiveness accounted for 1–5% of the variance in the six latent prosocial behaviors.

Structural Equation Modeling Analyses Examining Practices and Sympathy as Mediators

Models examining the indirect effect of parenting styles on prosocial behaviors through parenting practices and sympathy also fit well and provided support for this alternative pathway for parenting styles (model fit indexes are reported below). Indirect effects were found only for Conversations and Social Rewards practices. For both of these indirect effects, a positive path was found between the parenting style and parenting practice. The relations among styles and practices were strong (.41 for responsiveness and Conversations, .65 for responsiveness and Social Rewards). The strength of the other coefficients in the models corresponded to those depicted in Figures 2 and 5.

The responsiveness/conversations/sympathy indirect effect model had adequate fit, $\chi^2(235, N = 233) = 408.12, p < .01$, SRMR < .05, RMSEA < .06. Results from the tests of the indirect paths showed that the 95% confidence intervals for the standard error estimates of the indirect effects fell outside of zero for the altruism (.003, .049), emotional (.013, .074), dire (.007, .054), compliant (.016, .086), and anonymous (.013, .085) paths. Thus, conversations mediated the relations between responsiveness and sympathy, and sympathy mediated the relations between conversations and altruistic, emotional, dire, compliant, and anonymous prosocial behaviors. In addition, the negative indirect effect for the public path approached significance ($p < .07$).

The responsiveness/social rewards/sympathy indirect model had adequate fit, $\chi^2(235, N = 233) = 412.55, p < .01$, SRMR < .05, RMSEA < .06. Results from the tests of the indirect paths showed that the 95% confidence intervals for the standard



error estimates of the indirect effects fell outside of zero for the emotional (.002, .097), dire (.002, .067), compliant (.003, .109), and anonymous (.001, .119) paths. Thus, social rewards mediated the relations between responsiveness and sympathy, and sympathy mediated the relations between social rewards and emotional, dire, compliant, and anonymous prosocial behaviors.

Tests of Moderation

We examined another model to investigate potential interactions among the two parenting styles (demandingness and responsiveness). In this model, we constructed direct paths from demandingness, responsiveness, and their interaction to each of the six prosocial behaviors. Before computing the interaction term, we mean-centered each main effect to reduce nonessential collinearity (Aiken & West, 1991). We also controlled for gender in this model by including a direct path from gender to each of the prosocial behaviors. This model had adequate fit, $\chi^2(219, N = 233) = 385.71, p < .01$, SRMR < .05, RMSEA < .06. No significant interaction effects were found among the parenting styles. In addition, we found several direct effects: Significant positive paths existed between demandingness and anonymous prosocial behaviors, demandingness and compliant prosocial behaviors, and responsiveness and compliant prosocial behaviors, and a significant negative path existed between responsiveness and altruism.

Finally, to determine whether gender moderated the mediated models, we examined multiple group models. The same mediated models outlined in the main analyses (excluding the gender paths) we first estimated separately for boys and girls. Next, we constrained all regression coefficients to be equal across the two groups and conducted chi-square difference tests using these two nested models (i.e., the unconstrained and constrained models). The resulting chi-square tests were not significant, indicating that the relations among the constructs in each model were the same for boys and for girls.

Discussion

Overall, we found evidence that parenting practices were significantly associated with adolescents' prosocial behaviors. However, the findings showed that associations between parenting practices and prosocial behaviors were mostly through the indirect effect of sympathy. Thus, we found partial support for the mediating role of sympathy in the relations between parenting practices (but not parenting styles) and prosocial behaviors. Finally, the relations among parenting practices, sympathy, and prosocial behaviors varied as a function of the specific parenting practice and the specific prosocial behavior. The findings extend our understanding of the role of parenting practices and sympathy in adolescents' prosocial development.

In general, we noted relatively few significant relations between parenting styles and prosocial behaviors, and no significant relations between parenting styles and sympathy. Furthermore, the range of magnitude of effect sizes for parenting styles as predictive of prosocial behaviors was generally modest (ranged from 1–5% of the systematic variance). In contrast, we found a proportionally greater number of significant relations between parenting practices and prosocial behaviors, and several significant associations between parenting practices and sympathy.

Moreover, the range of magnitude of effect sizes for parenting practices was modest to moderate (ranging from 1–16% of the systematic variance). Taken together, the present findings suggest that the study of specific parenting practices is a useful approach for understanding the role of parents in prosocial development.

Of particular interest is the fact that although sympathy positively predicted prosocial behaviors (excepting its negative relation to public prosocial behaviors), specific parenting styles and practices were significantly associated with specific prosocial behaviors. Conversations with adolescents regarding prosocial behaviors positively predicted public, anonymous, and direct forms of prosocial behaviors, but somewhat unexpectedly, Conversations negatively predicted costly (altruistic) prosocial behaviors. These findings are in accordance with previous findings with young children (see Thompson, 2006) indicating that Conversations might promote prosocial behaviors, but these findings suggest that the positive effect of these discussions might be through their effects on children's sympathy. Taken together, the findings highlight the importance of sympathy in adolescents' prosocial behaviors and provide suggestive evidence for the importance of conversations in sympathy development.

Prior research indicates that social rewards (rather than material rewards) are linked to greater internalization and higher levels of prosocial behaviors (see Eisenberg & Murphy, 1995; Staub, 1979). Consistent with this notion, we found indirect positive associations (through sympathy) between Social Rewards and all forms of prosocial behaviors except for public prosocial behaviors. Material Rewards was not significantly related to sympathy, was weakly positively related to emotional prosocial behaviors and public prosocial behaviors, and was negatively related to altruism. It is of interest that social rewards directly positively predicted public prosocial behaviors and negatively predicted altruism. Thus, the positive effects of social rewards, relative to material rewards, were a function of their predictive association with sympathy. Other scholars have suggested that social rewards (in contrast to material rewards) might foster intrinsically motivated forms of prosocial behaviors. The present findings lead us to suggest that one possible intrinsic motivator is trait sympathy.

Similarly, Experiential Learning had indirect positive associations (through sympathy) on the different types of prosocial behaviors. Given prior evidence on the relevance of service learning opportunities for promoting prosocial behaviors (see Dubois & Karcher, 2005), the present findings indicate that parents who provide hands-on experiences and involvement in prosocial activities foster sympathy and prosocial behaviors in adolescents. These findings could have implications for understanding the previously reported links between service-learning experiences (which provide experiential learning) and spontaneous prosocial behaviors (see Carlo, 2006). Perhaps service-learning experiences in adolescence promote sympathy, which in turn enhances prosocial activities in later life. Further research is needed, however, to examine whether service-learning experiences are associated with individual differences in sympathy.

Although scholars have posited that discursive communication might foster higher moral development (Kurtines et al., 1991), research on this issue is lacking. The present findings showed relatively weak relations between Discursive Communication and prosocial behaviors. Furthermore, the relation between this type of parenting practice and sympathy was nonsignificant. We are uncertain what to make of this pattern of findings. One possibility is that Discursive Communication might have stronger relations to different aspects of prosocial or moral development. For example, higher level, child-centered discussions might primarily impact moral cognitions (e.g., moral reasoning) rather than moral emotions. Alternatively, further development of the Discursive Communication subscale might be needed. Clearly, more research will be needed to replicate and further our understanding of the potential role of discursive communicative actions on prosocial behaviors.

In contrast to the findings on parenting practices, the general pattern of direct relations between parenting styles and prosocial behaviors was weak and nonsignificant. Furthermore, somewhat contrary to expectations, tests of the interaction of responsiveness and demandingness on prosocial behaviors were also nonsignificant. However, further tests of mediation showed that responsiveness (but not demandingness) was associated with Conversations and Social Rewards, which in turn were associated with sympathy, which in turn was associated with prosocial behaviors. These latter tests are consistent with assertions that responsiveness might facilitate positive parent-adolescent interactions associated with prosocial development (Carlo, 2006). With regard to demandingness, investigators have recently begun to disentangle several distinct types of control styles, such as psychological and behavioral control (Barber et al., 2005). Thus, psychological and behavioral control might have different effects on prosocial and moral development. Moreover, given existing evidence that shows nonsignificant direct relations between parenting styles and prosocial tendencies in adolescence (see Carlo et al., 1998; Eberly & Montemayor, 1999), it is also possible that styles have indirect or interactive effects with other variables (such as temperament) during adolescence (see Carlo et al., 1998, for evidence supporting this possibility). Finally, it is possible that peers become relatively more influential than parents during adolescence. However, the present findings and other prior studies yield evidence that parents appear to play a significant role in adolescents' prosocial development (Eberly et al., 1993; Laible & Carlo, 2004).

It is of interest that across several parenting practices and styles, altruism had direct negative relations. There are several possible explanations for these somewhat unexpected results. First, it is important to note that altruism, unlike other forms of prosocial behaviors, is action with a direct cost to the self. Although parenting practices may be associated with sympathy and most forms of prosocial behaviors, it is possible that parenting practices per se may not be sufficient to predict helping with a cost to the self. A number of other mediating (e.g., sympathy) and moderating (e.g., situational factors) variables may be necessary to

account for higher levels of altruism. Second, given the cross-sectional nature of the study design, it is possible that the unexpected relations are a function of direction of causality. For example, it is possible that some parents use more prosocial parenting practices (e.g., conversations) because they perceive their adolescent is low on selfless behaviors (i.e., altruism). Third, the contrast between the negative relations of parenting practices and sympathy and the positive mediating relations of parenting practices, sympathy, and altruism could reflect a suppressor effect. However, this is not a likely explanation because the zero-order relations between parenting practices and altruism were negative (in the same direction as in the model tests). The use of more sophisticated study designs (e.g., longitudinal) can help to ascertain the viability of some of these explanations.

The present findings also showed that specific forms of prosocial behaviors have specific correlates. For example, sympathy generally was positively associated with prosocial behaviors, but was negatively associated with public prosocial behaviors. Scholars have suggested that public prosocial behaviors might be selfishly motivated to gain others' approval (Carlo & Randall, 2001). Given the attention to other people's needs in sympathy responding, these findings were not surprising. Moreover, conversations, social rewards, and experiential learning all had indirect positive associations with altruism (in contrast, material rewards and discursive communicative actions had no indirect associations with altruism). These findings are consistent with the notion that frequent, moral conversations, the use of praise and social approval, and hands-on experiences might promote sympathy, which in turn, might foster altruism. It would be interesting to examine whether such practices are associated with the internalization of moral values and moral reasoning.

In light of theoretical expectations regarding gender differences in prosocial tendencies, we also examined gender effects. As expected, we found some gender differences in prosocial tendencies such that girls reported more sympathy, compliant prosocial behaviors, dire prosocial behaviors, and emotional prosocial behaviors than did boys. These findings are consistent with prior reported gender differences in these constructs and with the assertion that prosocial tendencies are more strongly encouraged in girls relative to boys (Carlo, 2006; Eisenberg et al., 2006; Fabes et al., 1999). In contrast, we found no gender differences in parenting practices or styles (except for a modest gender difference in responsiveness), suggesting that parents might use similar practices to foster prosocial behaviors across gender. Finally, it should be noted that the relations among parenting styles, parenting practices, sympathy, and prosocial behaviors were similar across boys and girls.

Despite the evidence for the importance of parenting practices in adolescents' prosocial development, the present study had several limitations. First, as mentioned previously, we were unable to infer with confidence the direction of causality and much caution is needed in interpreting the findings. Several scholars have noted the need to establish causal direction and sequential order of media-

tional effects (e.g., Baron & Kenny, 1986). The use of longitudinal study designs, interventions, and experimental manipulations can help address this limitation (Baron & Kenny; Cole & Maxwell, 2003; Kraemer, Stice, Kazdin, Offord, & Kupfer, 2001). Although some prior program intervention and experimental studies have provided limited evidence on specific practices that foster prosocial development (see Eisenberg et al., 2006, for a review), much more research is needed. A second limitation is the reliance on self-report measures. The current study focuses on adolescents' perceptions of parenting and behaviors rather than on parents' perceptions. Although previous research suggests that adolescent reports of their own behaviors and of their parents' behaviors are valid tools for assessment (Achenbach, 1991; Clarke, Lewinshon, Hops, & Seeley, 1992; Lamborn et al., 1991), the use of multiple methods is desirable to replicate the findings. Furthermore, it would be useful to distinguish between both paternal and maternal practices in future studies. Finally, the present sample was relatively small and not demographically diverse (e.g., SES, ethnicity, gender). Future studies will be needed to examine the generalizability of the findings in larger, more representative samples of adolescents.

The present study yielded evidence on the importance of parenting practices and sympathy in adolescents' prosocial behaviors. Of particular significance were the central role of parenting practices in predicting sympathy and the indirect relations between parenting practices and prosocial behaviors. However, given the relative dearth of research on parental socialization practices associated with prosocial tendencies, more research is needed to further our understanding of the role of parents in this domain. Such research will be critical in the development of more effective prevention and intervention programs aimed at fostering prosocial development in adolescents.

NOTE

1. A model testing the unique effects of the five parenting practices was tested in addition to the five models examining each of these practices separately. This model had adequate fit, $\chi^2(279, N = 233) = 473.55, p < .01$, SRMR < .05, RMSEA < .06. Findings were similar and in the same direction as in the previously tested models, however, several findings became marginally significant ($p < .10$) or nonsignificant. Furthermore, the indirect effects for material rewards became significant for direct, compliant, emotional, and anonymous prosocial behaviors. A model testing the unique effects of the two parenting styles revealed no differences between this model and a model examining the two styles individually. It is likely that the somewhat weaker findings are due to collinearity among the parenting practices.

AUTHOR NOTES

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