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# What Will My Parents Think?

## Relations Among Adolescents' Expected Parental Reactions, Prosocial Moral Reasoning, and Prosocial and Antisocial Behaviors

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*Prior researchers confirmed socialization models depicting parenting practices and social cognitions associated with prosocial and antisocial behaviors. However, little research has focused on processes underlying the link between parenting and these behaviors. Per Grusec and Goodnow's internalization model, children and adolescents develop expectancies regarding their parents' reactions to their behaviors. Adolescents' expected parental reactions to prosocial behaviors were hypothesized to predict prosocial behaviors; expectations regarding antisocial behaviors were expected to predict antisocial behaviors. For this study, 80 adolescents and their parents reported adolescents' antisocial and prosocial behaviors. Adolescents completed a measure of prosocial moral reasoning and an assessment of how appropriately they expected each parent to react to prosocial and antisocial behaviors. Expected parental reactions to antisocial behavior predicted lower levels of delinquency and aggression (adolescent report). Expected parental reactions to prosocial behavior predicted higher levels of prosocial behavior (adolescent report) and lower levels of delinquency and aggression (mother report).*

Recent reports of dramatic incidents of violence and aggression by adolescents have resulted in a resurgence of interest in understanding the correlates of prosocial and antisocial behaviors, especially with regard to the impact parents may have on those behaviors. The influence of parenting on prosocial and antisocial behavior has been well documented in prior research, particularly research on parenting styles and parental disciplinary

practices. Although positive child outcomes have been consistently associated with warm, responsive parenting and discipline strategies including parental inductions (Hoffman, 1983; Maccoby & Martin, 1983), we still have much to learn about the processes underlying the impact of parenting on children's behavior.

From a parent's perspective, discipline means ensuring that a child receives consequences for a behavior in hopes that this will influence the likelihood of the child engaging in that behavior in the future. Often, parents wish to decrease the likelihood of aversive behaviors and do so by showing their disapproval; when they wish to increase the likelihood of desirable behaviors, they reward those behaviors. Therefore, most studies of discipline have simply assessed the type of discipline used by parents and the level of prosocial and/or antisocial behavior of the children either concurrently or longitudinally. While this approach provides information regarding the discipline styles associated with specific child outcomes, few researchers have endeavored to investigate the specific mechanisms by which future behaviors might increase or decrease as a result of the consequences that followed from prior experiences.

According to social-cognitive theory, consequences influence antecedent behaviors by creating expectations that in the future, acting in similar ways will produce similar outcomes (Bandura, 1986). Even very young children behave as active agents and experience consequences for their actions. With the gradual accumulation of a repertoire of behaviors and consequences, individuals begin to formulate expected consequences for specific behaviors. An anticipated reward or punishment will increase or decrease the likelihood of a particular action; therefore, these expectations influence the decision-making process (Bandura, 1986). Indeed, research based on social information-processing theories suggests that children and adolescents generate possible consequences of their antisocial (Crick & Dodge, 1994) and prosocial (Nelson & Crick, 1999) actions before selecting a behavioral response.

Parents issue many consequences for children's behavior. Over time, children and adolescents should naturally anticipate the reactions their parents might have to their future behaviors before choosing to engage in those behaviors. Based on Crick and Dodge's (1994) social information-processing model, children would not only generate those reactions but also evaluate them. Following their model, it would be expected that in most cases, children weigh the desirability of the expected parental reactions before acting. A few researchers have investigated parents' expressly stated behavioral expectations and have found these expectations to be associated with children's socially responsible and prosocial behavior (Eisenberg & Fabes, 1998).

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Children's perceptions of their parents' expectations, however, have received minimal attention. By the time children reach adolescence, they should have developed internalized expectancies about others' reactions to their own behaviors (Bandura, 1986). Furthermore, advances in formal operational thinking including abstraction and forethought skills during adolescence might facilitate the application of those expectations to particular behavioral opportunities. Therefore, adolescents' perceptions of their parents' reactions to various behaviors should affect their choice of behaviors. This study was an attempt to examine the relations between adolescents' expectations of how their parents will react to prosocial and antisocial behaviors and adolescents' actual behaviors.

Research on expected parental reactions to adolescents' prosocial and antisocial behaviors is relatively sparse. It is well documented that different parents use different discipline techniques for different children under different circumstances. In fact, one key to effective discipline seems to be flexibility (Grusec & Goodnow, 1994). That is, children and adolescents with more positive and fewer negative outcomes tend to have parents who use different discipline techniques for different transgressions and for children of different ages and temperament. In addition, children judge different types of discipline (e.g., withdrawal of privileges, physical punishment, love withdrawal, and induction) as more or less appropriate for different types of transgressions (e.g., hitting a peer versus not cleaning up a bedroom; Siegal & Barclay, 1985; Siegal & Cowen, 1984) and for different moral domains (Smetana, 1995). However, researchers have not directly examined adolescents' expectations of whether parents would respond favorably or unfavorably to prosocial and antisocial behaviors and whether those expectations are associated with future prosocial and antisocial behaviors.

Grusec and Goodnow (1994) proposed that whether particular parental interventions are perceived as acceptable or appropriate by children is a mediator between parental discipline methods and children's internalization of values. Their model provided a road map to explain the relations between discipline encounters and the extent to which children internalize their parents' values. The authors postulated that children must not only understand the message being conveyed by the disciplinary action but also accept the message before internalization can occur. One major factor affecting children's acceptance of the message is whether the children perceive the discipline method to be appropriate. Adolescents who expect their parents to respond appropriately to their prosocial or antisocial behaviors would be more likely to internalize those values than adolescents who expect their parents to respond inappropriately to

those behaviors. Whether children consider parental intervention to be appropriate further depends on multiple variables, including the type of misdeed, the type of discipline, the degree of response, the manner in which the discipline is administered, the clarity and consistency of the message, the perceived significance to the parents, the degree of threat to the children's autonomy or security, individual characteristics of the parents and children, and perceived similarity of the parents' reasoning to the children's own reasoning about the situation (Grusec & Goodnow, 1994). Expected parental reactions are central to Grusec and Goodnow's model; therefore, appropriateness of the parental reaction was selected as the focus of this study. Based on Grusec and Goodnow's model, it was hypothesized that adolescents' aggressive, delinquent, and prosocial behaviors would be predicted by how appropriately adolescents expected their parents to respond to antisocial and prosocial behaviors. That is, in general, adolescents who expect their parents would react appropriately to their prosocial and antisocial behaviors should engage in more prosocial and fewer antisocial behaviors.

Another social cognition that has been linked to prosocial and antisocial behaviors is prosocial moral reasoning. Prosocial moral reasoning is defined as thinking about situations in which one's needs are in conflict with the needs of others in a context that is relatively free of formal rules, guidelines, or regulations (Eisenberg & Fabes, 1998). Higher levels of prosocial moral reasoning include internalized values consistent with benefiting others and society and with empathic motives. In contrast, lower levels of prosocial moral reasoning often refer to self-focused concerns and gaining others' approval. By adolescence, individuals are capable of expressing the range of prosocial moral-reasoning types, and these types have been linked to social behaviors. In general, more sophisticated levels of prosocial moral reasoning have been shown to predict higher levels of prosocial and lower levels of aggressive behavior in adolescents (Carlo, Koller, Eisenberg, Da Silva, & Frohlich, 1996; Eisenberg, Carlo, Murphy, & Van Court, 1995).

Conceptually, both prosocial moral reasoning and anticipating parental reactions require similar cognitive skills (e.g., abstraction, forethought, hypothetical-deductive thinking skills). If adolescents' judgments of the appropriateness of expected parental reactions are simply a function of how well they are able to reason about the particular moral behavior and consequences, we would expect prosocial moral reasoning to be the only significant predictor in the final stages of a hierarchical multiple regression. If, however, the appropriateness judgments are a separate construct, then expected parental reactions would be expected to significantly predict prosocial and antisocial behaviors, even after

controlling statistically for a prosocial moral-reasoning level. The relations between adolescent behaviors and expected parental reactions should therefore be attenuated, although not eclipsed, by the predictive power of the adolescents' level of prosocial moral reasoning. Adolescents using more sophisticated prosocial moral reasoning and expecting more appropriate maternal and paternal reactions to behaviors, therefore, should be more likely to exhibit prosocial behaviors and less likely to exhibit antisocial behaviors.

## METHOD

### Participants

Adolescents (mean age = 14.2 years,  $SD= 1.6$ ) and their parents from a medium-sized Midwestern urban community participated in the study. Surveys were completed by 80 adolescents, 76 of their mothers, and 58 of their fathers. Most adolescents (95%) were White, and there were slightly more female adolescents than male adolescents (51% female). Mean education for mothers was 14.6 years (range = 8 to 28) and for fathers, it was 15.4 years (range = 11 to 24). Mean combined parental income (per year) was approximately \$36,100. Most of the adolescents lived with both of their parents (67.5%), many lived with one parent (27.5%), and a few lived with neither parent (5%).

### Procedure

Families on a community research pool list who had an adolescent between the ages of 11 and 18 were sent recruitment letters. In most cases, mothers and adolescents completed questionnaires at the university and packets were sent home to the fathers. Some who could not attend the session completed the packets at home and returned the questionnaires by mail. Approximate completion times for the parent and adolescent packets were 30 and 45 minutes. Families were paid \$10 for participation.

### Materials

Adolescents and their parents first completed a simple demographic questionnaire containing questions about gender, age, race, education, income, and occupation. Next, they each separately reported on several aspects of the adolescents' general and specific socialization. Assessment included measures of behaviors, emotions, and reasoning, as described as follows.

*Behavioral measures.* Information was obtained about adolescents' aggressive, delinquent, and prosocial behaviors from the adolescents and their parents. The overall score for each behavioral measure was computed as the sum of the ratings for each item in that scale. Therefore, higher scores on the measure indicate more of the specific type of behavior. Reports of aggressive behavior were obtained using a subscale of the Weinberger (1991) Adjustment Inventory; the full scale was administered, although only the Suppression of Aggression subscale was used for these analyses.

Each of the seven statements was rated on a 5-point scale from *does not describe me well* to *describes me very well* (for the parents' forms, the statements read *does not describe my child well* to *describes my child very well*). The rated behaviors included mostly reactive aggressive behaviors (e.g., getting even, fighting back, letting people have it), although not all items were specific to physical aggression (e.g., yelling). Mothers and fathers generally rated their adolescents as more aggressive than the adolescents rated themselves. Adolescents' mean rating on the Weinberger Suppression of Aggression subscale was 12.78 ( $SD=5.48$ ), whereas mothers' and fathers' ratings of the adolescents were 17.21 ( $SD=7.07$ ) and 18.35 ( $SD=6.21$ ). Psychometric properties of the Suppression of Aggression subscale have been reported elsewhere (Eisenberg et al., 1995; Weinberger, 1991). For this sample, the Cronbach's alphas for adolescent, mother, and father report were .91, .91, and .89, respectively.

Reports of delinquent behavior were gathered via a subscale of the Youth Version of the Child Behavior Checklist (Achenbach, 1991). Nine items were rated on the same 5-point scale as the aggression measure and included delinquent behaviors such as skipping school, lying or cheating, substance use, and associating with deviant peers. Achenbach reported adequate psychometric properties of this scale with samples of adolescents (see also Carlo, Roesch, & Melby, 1998). For this sample, the mean scores were 14.77 ( $SD=5.96$ ) for the adolescent report, 12.93 ( $SD=5.45$ ) for the mother report, and 13.65 ( $SD=5.63$ ) for the father report. Internal consistency coefficients of this scale for adolescent, mother, and father reports were .84, .86, and .83.

Prosocial behaviors were reported using 10 items from a scale developed by Rushton, Chrisjohn, and Fekken (1981). Participants rated each item on a 5-point scale from *never* to *very often*, indicating how frequently they engaged in prosocial behaviors such as donating goods to charity, carrying someone's belongings, comforting someone who was upset, and doing volunteer work. Scores for the adolescents averaged 28.85 ( $SD= 5.45$ ) for the mother's report, 25.04 ( $SD= 6.32$ ) for the father's report, and 29.46 ( $SD= 6.60$ ) for the adolescent's report. Previous studies report adequate internal consistency and con-

struct validity with adolescents (e.g., Eisenberg et al., 1995; Eisenberg, Miller, Shell, McNalley, & Shea, 1991). Acceptable Cronbach's alphas emerged from this sample as well: .78 for adolescents, .72 for mothers, and .81 for fathers.

*Expected parental reactions.* A new scale, intended to assess how adolescents expect their parents to react to different behaviors, was created for this study. Each individual item described either an antisocial (eight items) or a prosocial behavior (seven items) in which adolescents might engage. Adolescents rated items as to how appropriately or inappropriately they anticipated their parents would react to those behaviors. Examples of the expected reactions to prosocial behaviors included asking how they think their parents would react to their joining a volunteer organization, asking their parents to help raise money for a school club, lending someone money for lunch, and helping a neighbor around the house. Examples of the expected reactions to antisocial behaviors included asking how they think their parents would react to their staying after school for starting a fight, lying about finishing their homework, blaming someone else for something they did wrong, and coming home late. For example, one antisocial item began, "If I had to stay after school for starting a fight, my parent would react . . ." The adolescent then marked on a 5-point scale from *very inappropriately* to *very appropriately* to complete the sentence (higher scores indicate adolescents expect more appropriate reactions). No specific parental reaction was given; adolescents were left to postulate the reaction their parents would have and judge that reaction's appropriateness. A parenthetical statement within the instructions described "appropriately" as "how properly or effectively they might handle the situation."

Two forms were administered to each adolescent: one for expected maternal reactions and one for expected paternal reactions. Cronbach's alpha coefficients were computed for each subscale to assess the degree of internal consistency, and all four final scales were within an acceptable range (Expected Maternal Reaction to Prosocial Behaviors, .82; Expected Maternal Reaction to Antisocial Behaviors, .91; Expected Paternal Reaction to Prosocial Behaviors, .84; Expected Paternal Reaction to Antisocial Behaviors, .92). Overall scores for each subscale were computed as the sum of the ratings for each item of the subscale. Thus, low scores (adolescents who expect their parents to respond inappropriately to antisocial behaviors or prosocial behaviors) reflect adolescents who do not value their parents' responses to these behaviors. In contrast, high scores (adolescents who expect their parents to respond appropriately to antisocial or prosocial behaviors) reflect adolescents who value their parents' response to these behaviors.

To ascertain the criterion validity of the expectation measures, a set of simple correlations was performed. Neither of the expectation measures (for either parent referent) was significantly correlated with any of the demographic variables in this study (age, gender, number of parents in the home, number of siblings, parents' education, or parents' occupation).

*Prosocial moral reasoning.* Adolescents completed the preference measure of prosocial moral reasoning (PROM; Carlo, Eisenberg, & Knight, 1992). Participants were presented with six story dilemmas in which the needs of the protagonist are in conflict with the needs of a victim. For example, one story involves a decision for the protagonist either to go to a party or to stop and help a hurt child. However, if the protagonist helps, he or she (the gender of the protagonist is the same as the participant) will miss the party. After reading each of six story dilemmas, adolescents indicated whether the protagonist should help and then rated the importance of each of the nine reasoning items on a 7-point scale from *not at all* to *greatly* important as a factor in the decision to help. One of the reasoning items is a nonsense item intended to screen out suspicious data on the basis of socially desirable responding. Each of the remaining items reflects one of the levels of prosocial moral reasoning: two items each for hedonistic, approval-oriented, and internalized reasoning and one item each for needs-oriented and stereotypic reasoning. The weighted composite score reflected adolescents' preference for more sophisticated reasoning relative to lower level reasoning types (the five types—from lowest to highest—are hedonistic, approval-oriented, needs-oriented, stereotypic, and internalized). A complete description of the design and scoring of the PROM can be found in Carlo et al. The PROM has shown adequate validity and reliability with adolescents (Carlo et al., 1992, 1996; Eisenberg et al., 1995).

## RESULTS

Table 1 presents the means, standard deviations, and full correlation matrix for the variables. Within the correlation matrix, several relations should be highlighted. There were significant positive correlations between the expected reactions to prosocial and antisocial behaviors for each parent referent. That is, the more appropriately adolescents expected parents to react to antisocial behaviors, the more appropriately did the adolescent also expect parents to react to prosocial behaviors. This suggests that adolescents perceived a certain degree of consistency in reactions to different types of behaviors from each parent.

**TABLE 1: Descriptives and Correlations Among Aggression, Delinquency, Prosocial Behaviors, Prosocial Moral Reasoning, and Expected Parental Reactions to Antisocial and to Prosocial Behaviors**

	1	2	3	4	5	6	7	8	9	10	11	12	13	M	SD
1. Aggression (S)														12.78	5.48
2. Delinquency (S)	.64**													14.77	5.96
3. Prosocial behavior (S)	-.26	-.15												29.46	6.60
4. Aggression (M)	.61**	.51**	-.22											17.21	7.07
5. Delinquency (M)	.54**	.55**	-.23	.68**										12.93	5.76
6. Prosocial behavior (M)	-.17	.04	.37*	-.11	-.12									28.85	5.45
7. Aggression (F)	.20	.24	.23	.19	.24	-.04								18.35	6.21
8. Delinquency (F)	.59**	.63**	-.09	.39*	.73**	-.30	.45**							13.65	5.63
9. Prosocial behavior (F)	-.30	-.41*	-.03	-.14	-.35	-.04	-.17	-.56**						25.04	6.32
10. PROM	-.42**	-.31*	.28	-.27	-.26	.28	.10	-.43*	.22					.38	.02
11. MR x Ab	-.23	-.28	.04	-.19	-.07	-.09	.01	-.07	.11	.17				27.65	7.60
12. MR x Pb	-.36*	-.30*	.28	-.34*	-.30*	.01	.01	-.21	.12	.26	.48**			31.73	3.68
13. FR x Ab	-.23	-.27	.07	-.22	-.07	-.20	.09	-.06	.09	.18	.94**	.55**		27.12	7.95
14. FR x Pb	-.29	-.12	.24	-.20	-.14	-.06	.03	-.03	.11	.13	.58**	.81**	.63**	30.64	4.30

NOTE: S = adolescent self-report; M = mother report of adolescent behavior; F = father report of adolescent behavior; PROM = adolescent report of prosocial moral reasoning; MR x Ab = adolescent report of expected maternal reaction to antisocial behavior; MR x Pb = adolescent report of expected maternal reaction to prosocial behavior; FR x Ab denotes adolescent report of expected paternal reaction to antisocial behavior; FR x Pb = adolescent report of expected paternal reaction to prosocial behavior.

\**p* < .01. \*\**p* < .001.

There was an even greater degree of consistency across parents for each type of behavior (i.e., the correlation between expected mothers' and fathers' reactions to antisocial behavior and between expected mothers' and fathers' reactions to prosocial behavior). In addition, a set of *t* tests examined gender differences in the expected parental reactions to prosocial and antisocial behaviors and the prosocial moral-reasoning composite. These analyses showed no significant gender differences in any of these variables (*ps* > .10).

For the three behavioral variables in this analysis (aggression, delinquency, and prosocial behaviors), mother reports of all three adolescent behaviors were correlated with adolescents' self reports, whereas father reports were related significantly to adolescent and mother reports of delinquency only. The expectation measures had significant correlations with several of the behavioral measures. As it was expected that there would be some degree of collinearity among the expectation measures, hierarchical multiple regressions on each of the behavioral measures were the most appropriate analyses to examine for unique effects of expectation measures.

A total of 12 regression analyses were conducted. For each of the three types of behaviors, adolescent behavioral report was regressed separately on expected maternal and paternal reactions (six regression analyses); mothers' behavioral reports were regressed on expected maternal reactions (three regression analyses), and fathers' behavioral reports were regressed on expected paternal reactions (three regression analyses). To control statistically for variability in the outcome measures attributable to age and gender, these variables were entered into each regression.

Expected parental reactions to antisocial and prosocial behaviors were the primary variables of interest; therefore, these were entered first in each regression. In choosing which of these two measures to enter first, previous literature on parenting was consulted. Parents respond more often to antisocial behaviors than to prosocial behaviors. Therefore, the measure more likely to show an effect (expected parental reactions to antisocial behaviors) was entered first (along with age and gender); the measure for which the literature was unclear (expected reactions to prosocial behaviors) was entered second. As a final step, the composite score from the PROM was entered to see if the expected parental reactions maintained predictive utility above and beyond the effects of prosocial moral reasoning. Full models (see Tables 2, 3, and 4), therefore, included five predictors (age, gender, expected reactions to antisocial behavior, expected reactions to prosocial behavior, and prosocial moral reasoning).

(Text continues on page 659)

**TABLE 2: Standardized Regression Coefficients of Expected Mothers' Reactions to Antisocial Behavior, Expected Mothers' Reactions to Prosocial Behavior, and Prosocial Moral Reasoning Predicting Adolescents' Reports of Aggression, Delinquency, and Prosocial Behaviors**

Predictors	Aggression		Delinquency		Prosocial Behaviors	
	R <sup>2</sup>	β	R <sup>2</sup>	β	R <sup>2</sup>	β
Step 1	.05*	—	.15**	—	.01	—
Gender						
Expected reactions to antisocial behaviors		-.23*		-.27*		.04
Step 2	.13**	—	.18**	—	.09*	—
Gender						
Expected reactions to antisocial behaviors		.06		-.26*		—
Expected reactions to prosocial behaviors		-.33*		-.15		-.13
Step 3	.25***	—	.23**	—	.14**	—
Gender						
Expected reactions to antisocial behaviors		-.06		-.26*		—
Expected reactions to prosocial behaviors		-.23		-.15		-.14
Prosocial moral reasoning		-.35**		-.13		.29*
				-.24*		.23*

NOTE: Women were the group with the higher code. The significance levels associated with each R<sup>2</sup> denote the significance level of the R<sup>2</sup> change for that step.

\*p < .05. \*\*p < .01. \*\*\*p < .001.

**TABLE 4: Standardized Regression Coefficients of Expected Mothers' Reactions to Antisocial Behavior, Expected Mothers' Reactions to Prosocial Behavior, and Prosocial Moral Reasoning Predicting Maternal Reports of Adolescent Aggression, Delinquency, and Prosocial Behaviors**

Predictors	Aggression		Delinquency		Prosocial Behaviors	
	R <sup>2</sup>	β	R <sup>2</sup>	β	R <sup>2</sup>	β
Step 1	.04	—	.01	—	.09*	—
Age						
Expected reactions to antisocial behaviors		-.19		-.07		.30*
Step 2	.12*	—	.10*	—	.10	—
Age						
Expected reactions to antisocial behaviors		-.04		.09		.30*
Expected reactions to prosocial behaviors		-.33*		-.34**		-.20
Step 3	.16**	—	.13*	—	.17*	—
Age						
Expected reactions to antisocial behaviors		-.03		.10		.28*
Expected reactions to prosocial behaviors		-.28*		-.30*		-.21
Prosocial moral reasoning		-.20		-.20		.03
						.28*

NOTE: The significance levels associated with each R<sup>2</sup> denote the significance level of the R<sup>2</sup> change for that step.

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

**TABLE 4: Standardized Regression Coefficients of Expected Mothers' Reactions to Antisocial Behavior, Expected Mothers' Reactions to Prosocial Behavior, and Prosocial Moral Reasoning Predicting Maternal Reports of Adolescent Aggression, Delinquency, and Prosocial Behaviors**

Predictors	Aggression		Delinquency		Prosocial Behaviors	
	R <sup>2</sup>	β	R <sup>2</sup>	β	R <sup>2</sup>	β
Step 1	.04	—	.01	—	.09*	.30*
Age		-.19		-.07		-.15
Expected reactions to antisocial behaviors		—		—		.30*
Step 2	.12*	-.04	.10*	.09	.10	-.20
Age		-.33*		-.34**		.09
Expected reactions to antisocial behaviors		—		—		.28*
Expected reactions to prosocial behaviors		-.03		.10		-.21
Step 3	.16**	-.28*	.13*	-.30*	.17*	.03
Age		-.20		-.20		.28*
Expected reactions to antisocial behaviors		—		—		-.03
Expected reactions to prosocial behaviors		-.28*		-.30*		.03
Prosocial moral reasoning		-.20		-.20		.28*

NOTE: The significance levels associated with each R<sup>2</sup> denote the significance level of the R<sup>2</sup> change for that step.  
\*p < .05. \*\*p < .01.

There were no significant effects of the analyses that included expected paternal reactions to fathers' report of adolescents' aggression, delinquency, or prosocial behaviors; thus, these analyses are not reported (however, this issue is revisited later). Tables 2, 3, and 4 provide standardized regression weights from the remaining multiple regression analyses. For presentation simplicity, if age and/or gender did not contribute significantly to a regression model, the respective variable was deleted to reduce the presentational complexity of the model. None of the findings change significantly as a result of omitting these variables from the results.

**Relations Between Expected Reactions to Antisocial Behaviors and Adolescent Behaviors**

As can be seen in Tables 2 and 3, in general, both expected paternal and maternal reactions to antisocial behaviors were related negatively to adolescents' report of delinquency and aggression. That is, the more appropriately adolescents expected their parents to react to antisocial behaviors, the less likely they were to report delinquent and aggressive behaviors. However, when expected parental reactions to prosocial behaviors were added to the model, these effects fell below conventional significance levels. In contrast, as can be seen in Table 4, maternal reports of aggression and delinquency were not related significantly to expected parental reactions to antisocial behaviors. Expected reactions to antisocial behaviors were not significantly related to adolescent, maternal, or paternal reports of prosocial behavior.

**Relations Between Expected Reactions to Prosocial Behaviors and Adolescent Behaviors**

The pattern was somewhat more complicated for expected reactions to prosocial behaviors. In four of the models, these expectations significantly predicted behaviors even when all other variables of interest were included. Specifically, mothers' reports of aggression and delinquency were lower for adolescents who expected them to react more appropriately to prosocial behaviors. This was true even when statistically controlling for prosocial moral-reasoning levels. Furthermore, adolescents who expected more appropriate reactions from both mothers and fathers for prosocial behaviors reported higher levels of prosocial behaviors even when controlling statistically for prosocial moral reasoning. Finally, adolescents expecting more appropriate maternal responses to prosocial behavior reported less aggression, but the regression weight dropped below conventional significance levels when prosocial moral reasoning was added to the model.



### Relations Between Prosocial Moral Reasoning and Adolescent Behaviors

As the PROM was entered in the last step in each regression, the test of whether the PROM had unique predictive power was more conservative than for the expected parental reaction variables. As expected, prosocial moral reasoning was associated positively with adolescent and maternal reports of prosocial behaviors. Furthermore, prosocial moral reasoning was related negatively to adolescents' reports of aggression and delinquency. In contrast, there were no significant relations between mothers' reports of aggression and delinquency and prosocial moral reasoning.

## DISCUSSION

In general, adolescent prosocial behaviors, delinquency, and aggression, as reported by mothers and adolescents, were predicted by adolescents' expected parental reactions to those behaviors. These findings lend support to Grusec and Goodnow's (1994) model that expectations regarding parental reactions are important correlates of prosocial and antisocial behaviors. The findings are consistent with the thesis that parents exert their influence by fostering expectations in their adolescents. These expectations, in turn, might mitigate or enhance prosocial or antisocial behaviors. Although this study design did not allow for a direct test of this causal model, the study did yield evidence that adolescents' expected parental reactions are associated with prosocial and antisocial behaviors.

As predicted, adolescents expecting more appropriate paternal and maternal reactions to prosocial behaviors were reported to engage in more prosocial behaviors. These findings suggest there are individual differences in adolescents' perceptions of their parents' responses to prosocial behaviors. Given that most parents consider prosocial behaviors to be desirable behaviors, perhaps it is somewhat surprising to find individual differences in expected reactions to prosocial behaviors. Clearly, parents promote different expectations regarding their adolescents' involvement in prosocial behaviors. Indeed, researchers have pointed out that parents do not always respond to their children's prosocial behaviors, and even when they do, they might do so inconsistently (Grusec, 1991). Over time, these inconsistent reactions might lead to unclear or vague messages regarding parents' desire for their adolescents to engage in prosocial behaviors. Notably, the pattern for these findings remained significant even after statistically controlling for prosocial

moral reasoning. Thus, the findings were unlikely caused by individual differences in moral-reasoning skills.

It is interesting that there was a cross-over effect of expected parental reactions to prosocial behaviors. Expected parental reactions to prosocial behaviors were related to both prosocial and antisocial behaviors. Specifically, adolescents and mothers reported lower levels of aggression for adolescents who expected more appropriate maternal reactions to prosocial behavior. Moreover, mothers reported lower levels of delinquent behavior for adolescents who expected more appropriate reactions to prosocial behaviors. These cross-over effects (expected reactions to prosocial behavior predicting antisocial behavior) suggest that maternal reactions to prosocial behaviors might be an important influence on adolescent antisocial behaviors. Prior research suggests that parents are less likely to be consistently reinforcing prosocial behaviors or failure to act prosocially (Grusec, 1991), especially in distressed families (Patterson, DeBaryshe, & Ramsey, 1989) but also in nondistressed families. The reactions children are inconsistently receiving may be more important than previously supposed, an idea that is supported by learning and social-cognitive theories of intermittent reinforcement—that an unpredictable reinforcement schedule tends to produce more of the behavior rather than less (Bandura, 1986). Furthermore, if adolescents are not reinforced for prosocial behaviors as consistently as they are for antisocial behaviors, then parents' reactions to prosocial behaviors may be more salient and meaningful to adolescents than are constant reactions to transgressions, as these might result in desensitization to those reactions. Analogously, one might expect that an inconsistent pattern of punishments or withdrawal of reinforcers for transgressions might lead to adolescents' expected parental reactions that increase the likelihood of future transgressions. These patterns of inconsistency might help to explain why adolescents appear to sometimes "tune out" their parents' reactions.

These findings suggest that expected parental reactions to antisocial behaviors were a somewhat less strong predictor than were expected parental reactions to prosocial behaviors. For example, as expected, adolescents who reported lower levels of delinquent behavior also reported more appropriate expected paternal and maternal reactions to antisocial behavior. These effects fell below conventional significance levels after accounting for variance due to expected parental reactions to prosocial behaviors. In addition, as hypothesized, more appropriate expected maternal reactions to antisocial behavior predicted lower adolescent- and mother-reported aggression. However, there was no unique effect of expected parental reactions to antisocial be-

haviors on adolescent-reported aggression after accounting for adolescents' reasoning about prosocial behavior opportunities. Taken together, the fact that these relations became nonsignificant after statistically controlling for expectations regarding prosocial behaviors and for reasoning preferences in prosocial behavior contexts was somewhat unexpected. One might theorize that adolescents internalize strong expectations regarding antisocial behaviors and that these expectations would have more impact on future behaviors than would expectations regarding prosocial behaviors. More research will be needed to confirm these findings.

One possibility is that the expectation measures are markers of parenting style measures as described in the prior literature on parenting. Authoritative parents are those who are more consistent with discipline and more likely to explain discipline choices to their children (Baumrind, 1991; Darling & Steinberg, 1993; Grusec & Goodnow, 1994). Because it has been argued (Lewis, 1981) that the most important variable discriminating parenting styles is communication about rules and expectations, adolescents of authoritative parents should be more likely to understand the reasons behind their parents' reactions and should therefore report those expected reactions as more appropriate. Indeed, the use of inductive discipline (explaining why a transgression was wrong and highlighting the negative consequences to others) has consistently been associated with both authoritative parenting and with positive outcomes for children and adolescents (Baumrind, 1991; Eisenberg & Fabes, 1998). One should note, however, that in this study, the pattern of relations for expected parental reaction measures was somewhat different depending on whether parents were reacting to prosocial or antisocial behaviors. In addition, expected parental reactions to prosocial behaviors were a relatively stronger predictor than were expected parental reactions to antisocial behaviors. These patterns of relations suggest that it is unlikely that the expected parental reaction measures are directly tapping into general parenting style.

Consistent with cognitive developmental theory, prosocial moral reasoning was related significantly to prosocial and antisocial behavior. In general, higher levels of prosocial moral reasoning were related positively to prosocial behaviors and negatively to aggressive and delinquent behaviors. These relations were significant and unique beyond the contributions of the parental expectation measures. Prior investigators have shown evidence that prosocial moral reasoning is linked to both prosocial behaviors and aggressive behaviors (Carlo et al., 1996; Eisenberg et al., 1995). These findings extended prior evidence on the validity of the PROM by yielding evidence that prosocial moral reasoning is also associated with delinquency. These findings also pro-

vide further support for the link between moral cognitions and social behaviors in adolescence.

Some limitations to this study should be addressed. The substantially lower return rate of questionnaires from fathers limits the interpretability of the results of fathers' reports of adolescent behaviors. Indeed, there were no significant findings using fathers' reports of adolescent behaviors (although the direction of the coefficients was generally consistent with mothers' reports). However, a larger sample still may not improve the magnitude of effect sizes within the regressions because other researchers have found mostly weak and nonsignificant correlations between paternal practices (fathers' discipline) and children's moral development (Brody & Shaffer, 1982). Furthermore, it is important to note that fathers are likely to report about their own and their adolescents' behaviors in specific social contexts; thus, one might expect attenuated relations using fathers' reports depending on whether the fathers are knowledgeable about their adolescents' behaviors across different social contexts (e.g., school, neighborhood, home).

Consistent with Grusec and Goodnow's (1994) conceptualization, a subjective measure of the appropriateness of expected parents' reactions was chosen for this study. Appropriateness in this context was construed as reflecting an adolescent's degree of acceptance of their parents' response to prosocial and antisocial behaviors. Following the model's predictions, adolescents who view their parents' expected responses to these behaviors as appropriate are likely to internalize their parents' values, whereas adolescents who view their parents' responses as inappropriate are less likely to internalize their parents' values. Although this allowed adolescents to make their own judgment of what "appropriate" means in a given situation, it did not allow for an analysis of what constituted their definition of appropriate. Future research could be conducted to examine adolescents' meaning of appropriate parental reactions. Moreover, this study used a volunteer sample that was homogeneous with regards to demographic variables and did not exhibit extremely varying levels of prosocial and antisocial behaviors. The pattern of significant relations of the expectation measures within this moderate sample size, however, suggests that a larger sample with more variability in prosocial and antisocial behaviors might increase the predictive power of the models. Furthermore, future researchers could examine whether the theorized direction of causality might be reversed using longitudinal data. For example, adolescents who engage in higher levels of antisocial behavior might label any form of parental intervention as *inappropriate* or adolescents who engage in high levels of prosocial behavior might label any form of parental intervention as *appropriate*. If so, then behaviors

might cause adolescents' expectations of their parents to change over time. Finally, although the present findings provide support for one important aspect of Grusec and Goodnow's model, other components of Grusec and Goodnow's model need to be examined in future studies.

In general, the pattern of findings showed that expected parental reactions to prosocial behaviors were a relatively stronger predictor than were expected parental reactions to antisocial behaviors. Some scholars have emphasized conflict and transgression contexts (e.g., discipline contexts) as strong influences of moral development. These contexts had been considered strong socialization contexts because there are often strong emotional reactions by caregivers to these behaviors. However, parental approval and support can be equally strong, emotionally evocative contexts for socializing children on what is considered acceptable and unacceptable behavior. These findings suggest that there is a need to examine positive behavior contexts as influential sources of moral development. Research on the interplay of socialization practices in prosocial and antisocial behavior contexts may best predict developmental outcomes.

## REFERENCES

- Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist/4-18 and 1991 profile*. Burlington: University of Vermont Department of Psychiatry.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *Journal of Early Adolescence, 11*, 56-95.
- Brody, G. H., & Shaffer, D. R. (1982). Contributions of parents and peers to children's moral socialization. *Developmental Review, 2*, 31-75.
- Carlo, G., Eisenberg, N., & Knight, G. P. (1992). An objective measure of adolescents' prosocial moral reasoning. *Journal of Research on Adolescence, 2*, 331-349.
- Carlo, G., Koller, S. H., Eisenberg, N., Da Silva, M. S., & Frohlich, C. B. (1996). A cross-national study on the relations among prosocial moral reasoning, gender role orientations, and prosocial behaviors. *Developmental Psychology, 32*, 231-240.
- Carlo, G., Roesch, S., & Melby, J. (1998). The multiplicative relations of parenting and temperament to prosocial and antisocial behaviors in adolescence. *Journal of Early Adolescence, 18*, 266-290.
- Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin, 115*, 74-101.
- Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin, 113*, 487-496.
- Eisenberg, N., Carlo, G., Murphy, B., & Van Court, P. (1995). Prosocial development in late adolescence: A longitudinal study. *Child Development, 66*, 1179-1197.
- Eisenberg, N., & Fabes, R. A. (1998). Prosocial development. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Social and personality development* (Vol. 3, pp. 701-778). New York: John Wiley.
- Eisenberg, N., Miller, P. A., Shell, R., McNalley, S., & Shea, C. (1991). Prosocial development in adolescence: A longitudinal study. *Developmental Psychology, 27*, 849-857.
- Grusec, J. E. (1991). Socializing concern for others in the home. *Developmental Psychology, 27*, 338-342.
- Grusec, J. E., & Goodnow, J. J. (1994). Impact of parental discipline methods on the child's internalization of values: A reconceptualization of current points of view. *Developmental Psychology, 30*, 4-19.
- Hoffman, M. L. (1983). Affective and cognitive processes in moral internalization. In E. T. Higgins, D. N. Ruble, & W. W. Hartup (Eds.), *Social cognition and social development: A sociocultural perspective* (pp. 236-274). New York: Cambridge University Press.
- Lewis, C. C. (1981). The effects of parental firm control: A reinterpretation of the findings. *Psychological Bulletin, 90*, 547-563.
- Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In P. H. Mussen (Series Ed.) & E. M. Hetherington (Vol. Ed.), *Handbook of child psychology* (Vol. 4, pp. 1-101). New York: John Wiley.
- Nelson, D. A., & Crick, N. R. (1999). Rose-colored glasses: Examining the social information-processing of prosocial young adolescents. *Journal of Early Adolescence, 19*, 17-38.
- Patterson, G. R., DeBaryshe, B. D., & Ramsey, E. (1989). A developmental perspective on anti-social behavior. *American Psychologist, 44*, 329-335.
- Rushton, J. P., Chrisjohn, R. D., & Fekken, G. C. (1981). The altruistic personality and the self-report altruism scale. *Personality and Individual Differences, 2*, 1-11.
- Siegal, M., & Barclay, M. S. (1985). Children's evaluations of fathers' socialization behavior. *Developmental Psychology, 21*, 1090-1096.
- Siegal, M., & Cowen, J. (1984). Appraisals of intervention: The mother's versus the culprit's behavior as determinants of children's evaluations of discipline techniques. *Child Development, 55*, 1760-1766.
- Smetana, J. G. (1995). Context, conflict, and constraint in adolescent-parent authority relationships. In M. Killen & D. Hart (Eds.), *Morality in everyday life: Developmental perspectives* (pp. 225-255). New York: Cambridge University Press.
- Weinberger, D. A. (1991). *Social-emotional adjustment in older children and adults: Vol. 1. Psychometric properties of the Weinberger Adjustment Inventory*. Unpublished manuscript, Case Western Reserve University.

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