

## Characteristics of Mother-Child Interactions Related to Adolescents' Positive Values and Behaviors

*The purpose of this study was to examine a theoretical model that considered accurate perception and acceptance of maternal values in relation to adolescents' positive values and behaviors. One hundred fifty-one mother-adolescent dyads completed measures targeting adolescent and maternal perceptions of prosocial values and adolescent behaviors (Mean age of adolescent = 16.34 years). Path analysis using structure equation modeling revealed that accurate perception and acceptance of maternal values were positively related, both additively and multiplicatively, to personal values. Accurate perception and acceptance were negatively related to adolescents' antisocial behaviors, and personal values were positively related to adolescents' prosocial behaviors. The current study provides insight into how maternal discipline might influence adolescent behaviors indirectly through mother-adolescent interactions.*

How children formulate their own system of moral values, or standards of right and wrong, has long been a topic of interest among researchers, policymakers, and parents. Adolescence is a time of biological, cognitive, and social change that makes this age especially important for

studying values formation. Because adolescence is a time of independence and identity development, children are more vulnerable during adolescence to values messages than at any previous time in childhood (Steinberg & Silk, 2002; Steinberg & Silverberg, 1986). Not only is adolescence an important time for values development, but there is also a change in behaviors during this time. Although research often focuses on antisocial behaviors such as drug use (Zapert, Snow & Tebes, 2002) and delinquency (Federal Bureau of Investigation, 1999), adolescence is also a time during which prosocial behaviors increase (Eisenberg & Morris, 2004). Thus, adolescence is an important developmental age in which to examine the formation of positive values, as well as positive and negative behaviors.

During adolescence, children begin to spend more time with socialization agents outside the home, such as peers and media, which may provide values that conflict with family values and may encourage experimentation. Nevertheless, parents continue to be fundamental during adolescence (Steinberg & Silk, 2002), and parent-adolescent interactions are especially important to consider when examining adolescents' values and behaviors. Although a substantial body of research examines the influence of parental discipline on internalization of values and on adolescent behaviors (for reviews, see Eisenberg & Fabes, 1998; Grusec & Goodnow, 1994), little research examines other aspects of parent-adolescent interactions that may influence the effectiveness of disciplinary actions for promoting positive values and behaviors. The purpose of the current study was to examine the role of adolescents' accurate perception and acceptance

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of maternal values in influencing positive values formation and prosocial and antisocial behaviors.

### *Importance of the Parent-Adolescent Relationship*

Although socialization influences on adolescents' values are multifaceted, parents are often targeted as the most important source of values information for their children. In general, research has relied heavily on examining parenting styles and practices, which have been found to be most effective in promoting positive values and behaviors when they allow the adolescent to attend to the semantic content of the message and give the adolescent a feeling of autonomy and choice (see Eisenberg & Fabes, 1998). A great deal of research has supported the importance of loving but firm enforcement of rules on children's and adolescents' social, cognitive, and moral development and the problems with power assertive, rejecting, or neglectful parenting styles (Dekovic & Janssens, 1992; Krevans & Gibbs, 1996; Steinberg, Lamborn, Darling, Mounts & Dornbusch, 1994). Yet inconsistencies in socialization research have prompted examination of additional aspects of the parent-child relationship and have led to recent reconceptualizations of how parenting might influence values internalization (Darling & Steinberg, 1993; Grusec & Goodnow, 1994).

Grusec and Goodnow (1994) proposed a model of values internalization that emphasized the active role of the child. They suggested that parental discipline is not directly and unidirectionally related to positive outcomes but might, instead, influence the child's understanding of the parental values message and willingness to accept that message. Grusec and Goodnow suggested that two things must take place before values are internalized: The child must accurately perceive parental values and the child must accept parental values. The current study addressed portions of Grusec and Goodnow's model, focusing on the effect of accurate perception and acceptance of maternal values on adolescents' personal values and prosocial and antisocial behaviors. Although the current study did not assess cognitive internalization directly, adolescents' self-reported personal values and behaviors may be seen as indicators of internalization and are thus treated as such.

*Accurate perception of parental values.* Research has consistently found a large disparity between

adolescents' perceptions of parental values and the parents' self-reported values and that the relation between parents' values and adolescents' values is mediated by adolescents' perceptions (Acock & Bengtson, 1980; Goodnow, 1992). The strongest predictor of congruence between parents' and adolescents' values is the accurate perception of parental values (Whitbeck & Gecas, 1988). These studies lend support for examining accurate perception of parental values as a means of fostering adolescents' values and behaviors.

*Acceptance of parental values.* Cashmore and Goodnow (1985) found that one reason for lack of similar values across generations was that children placed less importance on certain values than did parents. These children were aware of parental values (i.e., accurately perceived those values) but merely placed less emphasis on their importance, or chose not to accept them. In their reconceptualization of the process of values internalization, Grusec and Goodnow (1994) highlighted the importance of children not only accurately perceiving parental values but also choosing to accept those values as personally important. Taken together, these studies suggest that an adolescent's accurate perception of parental values may not be sufficient to promote internalization. Rather, both accurate perception and acceptance of parental values should be examined, which was the focus of the current study.

### CURRENT STUDY

Given the theoretical placement of variables predicting values and behaviors, the current study used path analysis via structure equation modeling (SEM) to examine direct and indirect relations between variables. Although the current study was based on Grusec and Goodnow's (1994) original theoretical model, two distinctions are worth noting. First, Grusec and Goodnow proposed an additive relation between accurate perception and acceptance of values, such that both are needed for internalization. In addition to exploring this possibility, the current study also examined whether accurate perception and acceptance were multiplicatively related to internalization, such that one variable is differentially related to internalization at different levels of the other variable. In other words, the current study tested the hypothesis that accurate perception of maternal values would be more strongly

related to personal prosocial values when acceptance was high, as opposed to when acceptance was low. Conceptually, accurate perception of maternal values may not be as strongly related to personal values if maternal values are not also embraced or accepted by the adolescent (as accurate perception may still lead to rejection of parental messages).

Second, although Grusec and Goodnow (1994) proposed a model of internalization, internalization of values was not directly assessed in the current study in part because of the lack of a well-established measure of values internalization. Internalization was replaced in the current model with adolescents' personal values and behaviors. This substitution addresses the important question of how adolescents' accurate perception and acceptance of maternal values are related to behaviors above and beyond adolescents' self-reported personal values. Further, behaviors are a commonly used proxy for internalization in younger children (Eiden, Edwards & Leonard, 2006; Kochanska, 1995, 2002) and are a justifiable substitution given the definition of internalization as values that are reflected in socially acceptable *behaviors* (Grusec & Goodnow). Nevertheless, it should be noted that neither of the outcome variables in the current study measured cognitive internalization as typically defined by scholars (Grusec & Goodnow; Hoffman, 2000; Kochanska, Murray, & Coy, 1997).

### Values

Research has identified 10 universal types of values or standards individuals hold that communicate what is important in their lives (Bardi & Schwartz, 2003). Values represent the general goals of an individual and are relatively stable across time in adults. Personal values are important during adolescence because as children reach middle adolescence, conformity to both parents and peers is on the decline, and adolescents' actions are based much more on behavioral autonomy or their own values and expectations for themselves (Steinberg & Silverberg, 1986). Research has also found that personal values often act as a mediator between cognitions and behaviors (see McGillicuddy-De Lisi & Sigel, 1995), suggesting the central role of personal values in adolescents' positive development.

The current study focused on values of honesty and kindness, which could both be classified as prosocial or benevolent values, as they generally

relate to the welfare of others. The current study focused on prosocial values because it can be assumed that most parents desire their children to be honest and kind to others, which may not be the case for other types of values (such as power or hedonistic values). Although honesty and kindness were measured separately, it is likely that because both are measures of benevolence, they are highly related to one another. Thus, honesty and kindness values were combined in the current study to represent general positive or prosocial values.

### Hypotheses

According to existing research on adolescents' accurate perception (Whitbeck & Gecas, 1988) and acceptance of parental values (Cashmore & Goodnow, 1985; Grusec & Goodnow, 1994), it was hypothesized that accurate perception and acceptance of maternal values (and the interaction between the two) would be related positively to adolescents' personal values. It was also hypothesized that accurate perception of maternal values would be more strongly related to personal values at high levels of acceptance than at low levels of acceptance. The current study also explored whether accurate perception and acceptance of maternal values were related to adolescent behaviors (either directly or indirectly). Further, according to research suggesting that values are reflected in behaviors (Bardi & Schwartz, 2003; Padilla-Walker & Carlo, *in press*), it was expected that personal values would be related positively to adolescents' prosocial behaviors and negatively to adolescents' antisocial behaviors.

## METHOD

### Participants

One hundred fifty-one mother-adolescent dyads in which the adolescent attended a public high school in a midsized community in the Midwest region of the United States participated in the study. Adolescents ranged in age from 14 to 18 years ( $M$  age = 16.34,  $SD$  = 1.20), and there were an approximately equal number of boys ( $n$  = 74) and girls ( $n$  = 77). Most of the dyads were European American (93%), 75% of mothers had a 2-year college degree or above, and 75% reported having a household income of \$50,000 or more per year. Seventy-nine percent

of adolescents reported living with both biological parents, 8% reported living with their mother or father and a stepparent, 10% reported living with their mother only, and 2% reported living with their father only.

### Procedure

After obtaining Institutional Review Board (IRB) approval from the university and the school district, all teachers at a local high school were given letters requesting that they allow their students to participate in the study. Of the 30 classrooms that agreed to participate, 10 classrooms were randomly selected to complete the study. Parents of students in participating classrooms were contacted by phone and asked to participate. Of the 225 parents contacted, 220 (98%) agreed to participate, and 155 (69%) completed the study with their children. Four dyads were dropped from the analysis on the basis of incomplete data (three adolescents missed class on the day of data collection, the fourth was unable to complete the questionnaire packet in the time allotted), resulting in 151 adolescent-mother dyads with complete data. Although 65 (30%) of the 220 parents who agreed to participate did not complete the survey, their adolescent children did participate, allowing comparisons on adolescent measures between those whose parents participated and those whose did not. There were no differences between the groups in terms of personal values, prosocial behaviors, antisocial behaviors, gender, income, or living arrangement.

If mothers agreed that both they and their adolescent would participate, the parent was mailed a packet including a recruitment letter, consent forms for themselves and their adolescent, and the parental questionnaire packet. Researchers arranged for mothers to send consent forms and completed maternal questionnaires to class with their adolescent. After obtaining informed consent from mothers and assent from adolescents, researchers administered questionnaires to the students at school during class and collected them at the end of class. Because of the unstructured nature of the questionnaire, half way through the procedure, adolescents were given a number of demographic questions to allow for a break. Questionnaires took approximately 30 minutes to complete. After both mothers and adolescents completed the study, adolescents were given \$5 and a debriefing letter to take home to their parents.

### Measures

Adolescents completed a number of demographic questions, including questions about age, gender, ethnicity, religiosity, and scholastic achievement, as well as measures assessing adolescent values and prosocial and antisocial behaviors. Mothers also completed demographic questions about ethnicity, religiosity, income, education, and adolescent and maternal values.

*Values measures.* A 10-item measure of honesty and kindness values was used in the current study to assess adolescents' personal values, accurate perception of maternal values, and acceptance of maternal values. Questions were adapted from the honesty and kindness subscales of the Values in Action Inventory of Strengths (Peterson & Seligman, 2004). Previous studies have reported adequate internal consistency for both honesty ( $\alpha = .74$ ) and kindness ( $\alpha = .75$ ) subscales of the original measure. The measure was slightly adapted to fit the goals of the current study by rewording the questions and by utilizing only relevant questions from each subscale. Both adolescents and mothers were asked to report on general adolescent and maternal values by rating five statements regarding honesty (e.g., "It is important for me to tell the truth even if it hurts," "It is important for me to keep my promises") and five statements regarding kindness (e.g., "It is important for me to voluntarily help strangers in need," "It is important for me to be kind to others") on a scale from 1 (*very much unlike me*) to 5 (*very much like me*). Adolescents answered these 10 statements for themselves and their mother, and mothers answered these 10 statements for themselves and their child. Because individuals' statements about honesty and kindness were significantly correlated ( $r$  ranging from .19 to .66) and because alpha levels were higher when items were combined, all 10 statements were averaged to create a general measure of adolescents' self-reported personal prosocial values ( $\alpha = .72$ ), mothers' self-reported values ( $\alpha = .74$ ), and adolescents' perceptions of maternal values ( $\alpha = .85$ ). Although the latter two scales were not used in the primary analyses of the current study, the individual items from these scales were used to calculate accurate perception and acceptance of values.

Accurate perception of maternal values was calculated by reversing (for each scale item) the absolute difference between the mother's self-reported values and the mother's values as

perceived by the adolescent, with scores ranging from 0 to 4 for each item. For example, if the mother rated an item as *very much like me* (5) and the adolescent rated the same item as *very much unlike my mother* (1), this dyad would have an accurate perception score of 0 for that item (absolute value of 4, reversed). Scores were then averaged across all 10 items to create a total accurate perception score.

Similarly, acceptance of maternal values was calculated by reversing (for each scale item) the absolute difference between the adolescent’s self-reported values and the mother’s values as perceived by the adolescent, with scores ranging from 0 to 4 for each item. Scores were averaged across all 10 items to create a total acceptance score.

*Behavior measures.* Adolescents completed measures assessing their own prosocial and antisocial behaviors. Prosocial behaviors were assessed using a scale developed by Rushton, Chrisjohn, and Fekken (1981). Ten items (out of 20) regarding the frequency of the adolescent’s prosocial behaviors (e.g., donating to charity, comforting someone who is upset) considered most relevant for the present age group were rated on a 5-point scale ranging from 1 (*never*) to 5 (*very often*). Previous studies have reported adequate internal consistency ( $\alpha = .78$ ) with adolescents (Carlo, Roesch & Melby, 1998; Wyatt & Carlo, 2002). Cronbach’s  $\alpha$  in the current study was .72.

Antisocial behaviors were assessed using a subscale of the Youth Version of the Child Behavior Checklist (Achenbach, 1991). Nine items regarding delinquent behaviors (e.g., skipping school, substance use) were rated on a 5-point scale ranging from 1 (*never*) to 5 (*very often*). Responses were averaged, with higher

scores indicating higher levels of antisocial behaviors. Previous studies report adequate internal consistency ( $\alpha = .84$ ) with adolescents (Achenbach; Carlo et al., 1998). Cronbach’s  $\alpha$  in the current study was .76.

RESULTS

*Descriptive Statistics and Gender Differences*

Table 1 contains the means, standard deviations, and ranges of each variable. Univariate analyses of variances were conducted to determine if there were statistically significant differences in the primary variables as a function of gender of the adolescent. Of the five analyses run, only one was statistically significant. Girls ( $M = 3.96$ ,  $SD = 0.37$ ) had higher scores on personal values than did boys ( $M = 3.77$ ,  $SD = 0.47$ ),  $F(1, 149) = 7.36, p < .01$ . Preliminary path analyses were conducted separately for gender and did not differ significantly; thus, the full model was examined with gender combined.

Table 1 also contains correlations among the primary variables. Of the 10 correlations, 6 were statistically significant. Accurate perception of values was related positively to acceptance of values and to adolescents’ personal values and negatively to antisocial behaviors. Acceptance of values was related positively to personal values and negatively to antisocial behaviors. Finally, personal values were related positively to prosocial behaviors.

*Differences Between Mother and Adolescent Reports of Values*

Paired sample *t* tests were conducted to determine if mothers’ and adolescents’ reports of

Table 1. *Accurate Perception, Acceptance, Values, and Behaviors: Correlations and Descriptive Statistics (N = 151)*

	1	2	3	4	5
1. Accurate perception	—				
2. Acceptance	.38**	—			
3. Personal values	.22*	.23*	—		
4. Prosocial behaviors	.01	.11	.51**	—	
5. Antisocial behaviors	-.36**	-.38**	-.12	-.04	—
<i>M</i>	3.19	3.23	3.87	2.99	1.98
<i>SD</i>	0.36	0.35	0.43	0.45	0.52
Range	1.60 – 3.90	1.70 – 3.90	2.13 – 5.00	1.70 – 4.15	.83 – 4.11

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

values differed from one another. Adolescents' self-reported values were significantly different than mothers' self-reported values,  $t(151) = -9.14, p < .001, r = .16, ns$ . Adolescents' perceptions of maternal values were significantly different from mothers' self-reported values,  $t(151) = -7.38, p < .001, r = .32, p < .001$ . And adolescents' self-reported values were not significantly different from adolescents' perceptions of maternal values,  $t(151) = -.86, ns, r = .36, p < .001$ . Taken together, this suggests that there was a disparity between mothers' and adolescents' personal values, there was a disparity between adolescents' perceptions of maternal values and mothers' self-reported values, and that adolescents' personal values were similar to adolescents' perceptions of maternal values.

*Path Analysis of Variables Related to Adolescents' Personal Values and Behaviors*

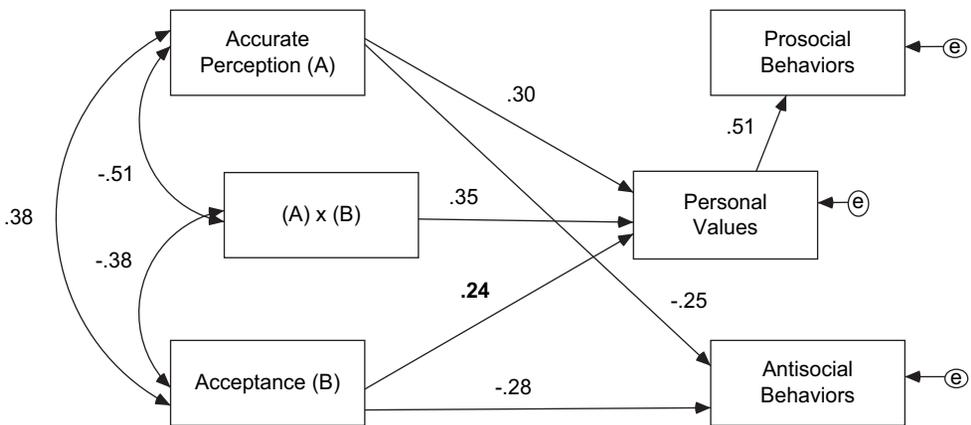
Path analysis using SEM was employed using Analysis of Moments Structure software (Arbuckle & Wothke, 1999). Because missing data were minimal (there were three missing data points) and appeared to be missing at random, mean substitution was used. Running the model using full information, maximum likelihood estimation produced similar results.

A baseline saturated model was estimated as a first step, and nonsignificant paths were con-

strained to equal 0 for the final model presented in Figure 1. The model fits the data well, with a comparative fit index (CFI) of 0.99 and a root mean square error of approximation (RMSEA) of .03 ( $\chi^2 = 6.64, p = .25, df = 6$ ). Table 2 presents unstandardized and standardized coefficients and standard errors for all significant paths. Both accurate perception and acceptance of maternal values (and the interaction between the two) were related positively to personal values. Accurate perception and acceptance were related negatively to antisocial behaviors. Personal values were related positively to prosocial behaviors but were not significantly related to antisocial behaviors.

To examine the interaction between accurate perception and acceptance of maternal values, simple slopes were calculated for each predictor with values corresponding to 1 standard deviation above the mean, at the mean, and 1 standard deviation below the mean of acceptance (Aiken & West, 1991). The scores on the predictors were centered prior to analysis to reduce collinearity formed by the interaction terms. Simple slopes were then plotted and tested for significance. Tests of the simple slopes indicated that accurate perception of maternal values was related significantly to personal values at +1 standard deviation of acceptance,  $\beta = .52, t(146) = 4.10, p < .001$ , and the mean of acceptance,  $\beta = .30, t(146) = 3.32, p < .001$ , but not at -1 standard

FIGURE 1. PATH MODEL FROM STRUCTURE EQUATION MODELING: RELATION OF ADOLESCENTS' ACCURATE PERCEPTION AND ACCEPTANCE OF MATERNAL VALUES TO PERSONAL VALUES AND BEHAVIORS.



Note: All beta weights are standardized. Value in bold is significant at  $p < .01$ ; all other values are significant at  $p < .001$ . Nonsignificant paths were constrained to equal 0.

Table 2. *Unstandardized Coefficients, Standard Errors, Standardized Coefficients, and Significance Levels for Model in Figure 1 (N = 151)*

Parameter Estimate	Unstandardized	SE	Standardized
Accurate perception (A) → personal values	.37**	0.11	.30
Acceptance (B) → personal values	.30*	0.10	.24
Interaction (A × B) → personal values	.73**	0.19	.35
Accurate perception → antisocial behaviors	-.37**	0.12	-.25
Acceptance → antisocial behaviors	-.41**	0.12	-.28
Personal values → prosocial behaviors	.53**	0.07	.51

Note:  $\chi^2(6) = 6.64, p = .25$ ; comparative fit index = 0.99; root mean square error of approximation = .03.

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

deviation of acceptance,  $\beta = .09, t(146) = 1.09, ns$ . In other words, this interaction suggests that adolescents' accurate perception of maternal values was more strongly related to adolescents' prosocial values when acceptance was high or moderate than when acceptance was low.

Indirect effects were also examined via SEM. Because of the relatively small sample size in the current study, indirect effects were assessed using bootstrap tests (Shrout & Bolger, 2002), which test whether the indirect relation between  $X$  and  $Y$  is different from 0. Of the possible indirect effects identified, two were different from 0. Namely, for the indirect path between accurate perception of parental values and prosocial behaviors, 95% of the bootstrap tests were between the values of .04 and .19, and for the indirect path between acceptance of parental values and prosocial behaviors, 95% of the bootstrap tests were between the values of .03 and .27. Because 0 was not in the 95% confidence interval in either of these tests, it can be concluded that the indirect effects were different from 0 at the  $p < .05$  level (Preacher & Hayes, 2004). In other words, both accurate perception of maternal values and acceptance of maternal values were related to prosocial behaviors indirectly through personal values.

Two alternative models were tested to gain more confidence in the direction of effects given the cross-sectional nature of the current study. The first alternative model examined accurate perception and acceptance of maternal values as predictors of prosocial and antisocial behaviors and behaviors as predictors of values. This was examined because it is possible, for example, that prosocial values are fostered by participating in prosocial behaviors and seeing the value of those activities (see Carlo, de Guzman & Padilla-Walker, 2005). Yet the resulting model fit was

below recommended standards (Hu & Bentler, 1999),  $\chi^2(4) = 14.15, CFI = 0.93, RMSEA = .13$ . The second model examined behaviors predicting accurate perception and acceptance of values, which in turn predicted personal values. This was examined because it is possible that, for example, the more antisocial behaviors adolescents engage in, the less likely they will be to attend to and accurately perceive parental values on the basis of strain in the parent-adolescent relationship. This also resulted in model fit below recommended standards,  $\chi^2(3) = 58.12, CFI = 0.56, RMSEA = .35$ . Although these results do not ensure causality, they do lend a degree of confidence to the direction of effects proposed in the current model, which are also consistent with past research (Whitbeck, Simons, Conger & Lorenz, 1989) and with the theoretical placement of these variables (Grusec & Goodnow, 1994).

## DISCUSSION

The purpose of this study was to examine a theoretical model that considered how accurate perception and acceptance of maternal values influence adolescents' personal prosocial values and prosocial and antisocial behaviors. Although portions of the hypothesized model were consistent with theory and past research, a number of nonhypothesized significant paths emerged that provide important insight into the process of internalization of values and suggest avenues for future research.

### *Accurate Perception and Acceptance of Maternal Values*

The results of the current study were consistent with past research (Acock & Bengtson, 1980)

and provided support for existing theory (Grusec & Goodnow, 1994) in that both accurate perception and acceptance of maternal values were positively related to personal values. In addition to their additive relations to personal values, accurate perception and acceptance of maternal values were multiplicatively related to values, with high levels of accurate perception only related to personal values at high or moderate levels of acceptance (but not at low levels of acceptance). In other words, acceptance moderated the relation between accurate perception and personal values, suggesting that when accurate perception is low, acceptance does not have as large of an effect on personal values. In contrast, when accurate perception is high, adolescents who also accept maternal values have higher personal values. Taken together, the current study suggests that accurate perception and acceptance of maternal values function additively, as well as multiplicatively, to promote personal values. If either accurate perception or acceptance is low (and particularly if both are low), personal prosocial values are also lower. These findings provide empirical support for theories suggesting the importance of both accurate perception and acceptance of values as precursors to values internalization (Grusec & Goodnow; Perry, 1994) and extend this theory by highlighting the complex nature of this process and the need for further research in this area.

#### *Adolescent Behaviors*

Research suggests that the values held by an individual are reflected in the individual's moral behaviors (Bardi & Schwartz, 2003; Bond & Chi, 1997; Padilla-Walker & Carlo, in press). The current study was consistent with these findings and suggested that adolescents' personal values were related to adolescents' behaviors. More specifically, personal values were related to adolescents' prosocial behaviors but not to adolescents' antisocial behaviors. The findings suggest that personal prosocial or benevolent values have a greater influence on adolescents' prosocial behaviors than on their antisocial behaviors, which is consistent with research suggesting that values are related to corresponding behaviors (Bardi & Schwartz; Padilla-Walker & Carlo, in press). One possible explanation for this finding is that other socialization sources (such as peers) have a greater influence on adolescents' antisocial behaviors than do personal prosocial

values. This explanation is consistent with a recent study that found that although personal prosocial values were not predictive of antisocial behaviors, the strongest negative predictors of antisocial behaviors were adolescents' perceptions of their peers' (and their mothers') prosocial expectations (Padilla-Walker & Carlo, in press). Thus, it is possible that the influence of parental values on adolescents' behaviors (above and beyond adolescents' own values) depends on the behaviors and values being studied. Future research should consider adolescents' personal values that might be more strongly related to antisocial behaviors (such as values against risk to self), as well as the behaviors of socialization sources outside families as potential influences on adolescents' behaviors and internalization of values.

Although personal values were not related to antisocial behaviors, accurate perception and acceptance of maternal values were directly and negatively related to antisocial behaviors. Although it is unclear whether accurate perception resulted from parents not providing clear messages or from adolescents being unreceptive (or some combination of the two), low accurate perception was reflected in the adolescents' negative behaviors. In addition, if adolescents actively chose to reject perceived maternal values messages (e.g., perhaps choosing to accept values from another socialization source), this was also reflected in the adolescents' negative behaviors. Given their direct and negative relation to antisocial behaviors, future research should determine characteristics of both parents and adolescents that promote accurate perception and acceptance of parental values.

Although accurate perception and acceptance of maternal values were not directly related to prosocial behaviors, both were indirectly related to prosocial behaviors through adolescents' personal values. These results suggest that adolescents' accurate perception and acceptance of maternal values are both directly and indirectly related to adolescents' behaviors and highlight the importance of personal values as a mediating variable between adolescents' accurate perception and acceptance of values and adolescents' prosocial behaviors. They also suggest that pathways to adolescents' prosocial and antisocial behaviors are different and justify examining both types of behaviors when considering internalization of values and the influence of values on behaviors. In summary, this portion of the model

adds to existing research by examining not only personal values but also adolescent behaviors and by suggesting that aspects of the parent-adolescent relationship other than maternal discipline are important in promoting positive values and behaviors in children, as well as discouraging negative behaviors.

### *Limitations*

The current study had a number of limitations, including the reliance on maternal reports, a relatively homogeneous sample, and a cross-sectional design. Although research has found strong positive correlations between mothers' and fathers' self-reported values, similar relations (in size and direction) between mothers' and fathers' reports of their children's values, and higher correlations between adolescent and self-reported maternal values than adolescent and self-reported paternal values (Smith, 1982; Whitbeck & Gecas, 1988), fathers also influence adolescents' values and behaviors. For example, Knafo and Schwartz (2003) found that paths between parenting and accurate perception of values were stronger for father-son dyads than for other dyads. It is also possible that the influence of maternal and paternal values may differ with the value being considered (e.g., prosocial values vs. achievement values). Future research should consider both maternal and paternal values, as well as agreement between parents (see Knafo & Schwartz), when examining values internalization.

The current sample was relatively homogeneous. The sample was well adjusted in general with relatively high levels of prosocial behaviors and low levels of antisocial behaviors. On the one hand, the current findings were consistent with past research in terms of the strength of correlations between mother and adolescent values (Smith, 1982; Whitbeck & Gecas, 1998) and the conclusion that the strongest correlation was between adolescents' values and adolescents' perceptions of maternal values. On the other hand, past studies have also relied on predominantly European American, middle-class families. Future research should examine larger, more diverse samples in order to better understand the process of values internalization in different socioeconomic, cultural, and ethnic groups.

Finally, because of the cross-sectional nature of this study, causality and direction of effects

could not be determined. For example, although personal values were positively related to adolescents' prosocial behaviors, it is also possible that participation in prosocial behaviors fosters prosocial values. In other words, the more opportunity adolescents are given to volunteer, the more likely they are to see the inherent value of helping others (Carlo et al., 2005). Because the process of values internalization is a developmental process, future research should examine this process using longitudinal designs that start at earlier ages to better assess causality and direction of effects. It might be particularly interesting to examine this process earlier in adolescence, when parent-child conflict and disagreement are highest (Holmbeck, 1996).

### *Future Directions*

The current study provides a number of fruitful avenues for future research in the area of values internalization. Although the current study provides us with important information regarding aspects of mother-adolescent interactions that are related to personal values and adolescent behaviors, a number of additional aspects of the mother-adolescent relationship should be explored (e.g., parental support, parent-child communication) to provide a more complete picture of this complicated process. In addition, although the current study is a first step in examining factors related to personal values and behaviors, we still know little about what aspects of the parent-adolescent relationship predict cognitive aspects of values internalization. From the current study, we know little about whether adolescents held personal values as important because those values were internalized or because they were conforming to maternal or societal expectations. Although it can be assumed that values that are more internalized are likely to be reflected in adolescent behaviors, the current study can only suggest that personally important values are more likely to be reflected in behaviors. Thus, research should examine aspects of the parent-adolescent relationship, as well as aspects of the larger society, that predict adolescents' cognitive justifications and motivation for adopting parental values.

Further, continued studies should assess aspects of the parent-adolescent relationship that predict accurate perception (see Knafo & Schwartz, 2003) and acceptance of parental values. Grusec and Goodnow (1994) noted possibilities that

should be explored in an attempt to more fully understand this complex process, for example, the appropriateness of parental reactions or how well the parental reaction fits the misdeed. Padilla-Walker (2005) suggested that adolescents' perceptions of parental appropriateness were also related positively to accurate perception of maternal values, such that maternal responses that were seen as inappropriate were often coupled with great degrees of negative affect, which may interfere with the parental message. Future research should examine this and other possible predictors of accurate perception and acceptance of parental values.

Finally, although the current study was an important first step in examining a model of values internalization, future studies should incorporate a wider variety of values to determine whether the process functions differently for different value types. For example, internalization may function differently for values seen by adolescents as part of the personal or conventional domain than for moral values that are seen as obligatory (Nucci, 1996; Padilla-Walker & Carlo, 2006; Turiel, 1998). In addition, it is likely that socialization influences outside families also contribute to personal values (Padilla-Walker & Carlo, in press), such that if peers and society in general also support parental values (likely the case when examining moral values), personal values would be influenced by these sources as well. Thus, future research should pay closer attention to how peers and the larger society influence adolescents' personal values and behaviors.

### Conclusions

The current study supports existing theories and is an important step in understanding internalization of values and in considering the active role of the child. The aspects of the parent-adolescent interaction measured in the current study are particularly salient to adolescents as they strive to gain autonomy from parents and associate increasingly with peers and media influences that may have different values from those taught in the home. These differences may lead adolescents to question parental values and may force adolescents to make mature decisions about which values they regard as important and about the behaviors in which they will engage. This study has important implications for parents who desire to help their children adopt positive

values in the face of a number of potentially conflicting values. Findings suggest that maternal discipline is but one aspect of the complicated process of values internalization. If the parental goal is internalization of values, parents should remember that their child plays an active role in this process and may not accurately perceive or accept parental values, despite parents' best efforts. That being said, parents would benefit from taking steps to increase the chances that their values are accurately perceived, as well as creating a climate in the home that promotes acceptance of parental values.

### NOTE

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### REFERENCES

- Achenbach, T. M. (1991). *Manual for the child behavior checklist/4-18 and 1991 profile*. Burlington: University of Vermont Department of Psychiatry.
- Acock, A. C., & Bengtson, V. L. (1980). Socialization and attribution processes: Actual versus perceived similarity among parents and youth. *Journal of Marriage and the Family*, 42, 501 – 515.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Arbuckle, J. L., & Wothke, W. (1999). *Amos 4.0 user's guide*. Chicago: SmallWaters.
- Bardi, A., & Schwartz, S. H. (2003). Values and behavior: Strength and structure of relations. *Personality and Social Psychology Bulletin*, 29, 1207 – 1220.
- Bond, M. H., & Chi, V. M. (1997). Values and moral behavior in mainland China. *Psychologia: An International Journal of Psychology in the Orient*, 40, 251 – 264.
- Carlo, G., de Guzman, M., & Padilla-Walker, L. M. (2005). Prosocial behaviors. In L. R. Sherrod, C. Flanagan, & R. Kassimir (Eds.), *Youth activism: An international encyclopedia* (pp. 495 – 500). Westport, CT: Greenwood.
- Carlo, G., Roesch, S. C., & Melby, J. (1998). The multiplicative relations of parenting and temperament to prosocial and antisocial behaviors in adolescence. *Journal of Early Adolescence*, 18, 266 – 290.

- Cashmore, J. A., & Goodnow, J. J. (1985). Agreement between generations: A two-process approach. *Child Development, 56*, 493 – 501.
- Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin, 113*, 487 – 496.
- Dekovic, M., & Janssens, J. M. (1992). Parents' child-rearing style and child's sociometric status. *Developmental Psychology, 28*, 925 – 932.
- Eiden, R. D., Edwards, E. P., & Leonard, K. E. (2006). Children's internalization of rules of conduct: Role of parenting in alcoholic families. *Psychology of Addictive Behaviors, 20*, 305 – 315.
- Eisenberg, N., & Fabes, R. A. (1998). Prosocial development. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social and personality development* (pp. 701 – 778). New York: Wiley.
- Eisenberg, N., & Morris, A. (2004). Moral cognitions and prosocial responding in adolescence. In R. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 155 – 188). New York: Wiley.
- Federal Bureau of Investigation. (1999). *Uniform crime reports for the United States*. Washington, DC: U.S. Government Printing Office.
- Goodnow, J. J. (1992). Parents' ideas, children's ideas: Correspondence and divergence. In I. E. Sigel & A. V. McGillicuddy-DeLisi (Eds.), *Parental belief systems: The psychological consequences for children* (2nd ed., pp. 293 – 317). Hillsdale, NJ: Erlbaum.
- 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. (2000). *Empathy and moral development: Implications for caring and justice*. Cambridge, UK: Cambridge University Press.
- Holmbeck, G. N. (1996). A model of family relational transformations during the transition to adolescence: Parent-adolescent conflict and adaptation. In J. A. Graber, J. Brooks-Gunn, & A. C. Petersen (Eds.), *Transitions through adolescence: Interpersonal domains and context* (pp. 167 – 199). Hillsdale, NJ: Erlbaum.
- Hu, L. T., & Bentler, P. (1999). Cut off criteria for fit indexes in covariance structure analysis: Conventional criteria versus alternatives. *Structure Equation Modeling, 6*, 1 – 55.
- Knafo, A., & Schwartz, S. H. (2003). Parenting and adolescents' accuracy in perceiving parental values. *Child Development, 74*, 595 – 611.
- Kochanska, G. (1995). Children's temperament, mother's discipline, and security of attachment: Multiple pathways to emerging internalization. *Child Development, 66*, 597 – 615.
- Kochanska, G. (2002). Committed compliance, moral self, and internalization: A mediational model. *Developmental Psychology, 38*, 339 – 351.
- Kochanska, G., Murray, K., & Coy, K. C. (1997). Inhibitory control as a contributor to conscience in childhood: From toddler to early school age. *Child Development, 68*, 263 – 277.
- Krevans, J., & Gibbs, J. C. (1996). Parents' use of inductive discipline: Relations to children's empathy and prosocial behavior. *Child Development, 67*, 3263 – 3277.
- McGillicuddy-De Lisi, A. V., & Sigel, I. E. (1995). Parental beliefs. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 3. Status and social conditions of parenting* (pp. 333 – 358). Mahwah, NJ: Erlbaum.
- Nucci, L. (1996). Morality and personal freedom. In E. Reed, E. Turiel, & T. Brown (Eds.), *Knowledge and values* (pp. 41 – 60). Hillsdale, NJ: Erlbaum.
- Padilla-Walker, L. M. (2005). Perceived appropriateness and accurate perception of parental messages as predictors of adolescents' internalization of values and behaviors. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 66*, 1199.
- Padilla-Walker, L. M., & Carlo, G. (2006). Adolescent perceptions of appropriate parental reactions in moral and conventional social domains. *Social Development, 15*, 480 – 500.
- Padilla-Walker, L. M., & Carlo, G. (in press). Personal values as a mediator between parent and peer expectations and adolescent behaviors. *Journal of Family Psychology*.
- Perry, D. G. (1994). Comments on the Grusec and Goodnow (1994) model of the role of discipline in moral internalization. *Developmental Psychology, 30*, 23 – 25.
- Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification*. Washington, DC: Oxford University Press.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers, 36*, 717 – 731.
- 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.

- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods, 7*, 422 – 445.
- Smith, T. E. (1982). The case for parental transmission of educational goals: The importance of accurate offspring perceptions. *Journal of Marriage and the Family, 44*, 661 – 674.
- Steinberg, L., Lamborn, S. D., Darling, N., Mounts, N. S., & Dornbusch, S. M. (1994). Over-time changes in adjustment and competence among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development, 65*, 754 – 770.
- Steinberg, L., & Silk, J. S. (2002). Parenting adolescents. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 1. Children and parenting* (2nd ed., pp. 103 – 133). Mahwah, NJ: Erlbaum.
- Steinberg, L., & Silverberg, S. B. (1986). The vicissitudes of autonomy in early adolescence. *Child Development, 57*, 841 – 851.
- Turiel, E. (1998). The development of morality. In N. Eisenberg (Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 863 – 932). New York: Wiley.
- Whitbeck, L. B., & Gecas, V. (1988). Value attributions and value transmission between parents and children. *Journal of Marriage and the Family, 50*, 829 – 840.
- Whitbeck, L. B., Simons, R. L., Conger, R. D., & Lorenz, F. O. (1989). Value socialization and peer group affiliation among early adolescents. *Journal of Early Adolescence, 9*, 436 – 453.
- Wyatt, J., & Carlo, G. (2002). What will my parents think? Relations among adolescents' expected parental reactions, prosocial moral reasoning, and prosocial and antisocial behaviors. *Journal of Adolescent Research, 17*, 646 – 666.
- Zapert, K., Snow, D. L., & Tebes, J. K. (2002). Patterns of substance use in early through late adolescence. *American Journal of Community Psychology, 30*, 835 – 852.

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