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## Longitudinal Relations Among Parenting Styles, Prosocial Behaviors, and Academic Outcomes in U.S. Mexican Adolescents

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### Abstract

This article examined parenting styles and prosocial behaviors as longitudinal predictors of academic outcomes in U.S. Mexican youth. Adolescents ( $N = 462$ ; Wave 1  $M$  age = 10.4 years; 48.1% girls), parents, and teachers completed parenting, prosocial behavior, and academic outcome measures at 5<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grades. *Authoritative* parents were more likely to have youth who exhibited high levels of prosocial behaviors than those who were *moderately demanding*, and *less involved*. Fathers and mothers who were *less involved* and mothers who were *moderately demanding*, were less likely than *authoritative* parents to have youth who exhibited high levels of prosocial behaviors. Prosocial behaviors were positively associated with academic outcomes. Discussion focuses on parenting, prosocial behaviors, and academic attitudes in understanding youth academic performance.

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## The Mediating Role of Prosocial Tendencies in the Relations Between Parenting Styles and Academic Outcomes Among U.S. Mexican Adolescents

Disparities in academic outcomes among ethnic and racial groups in the U.S. remain an important concern (Aud et al., 2013; Gándara & Contreras, 2009). Latino/a children and adolescents across the U.S., for example, demonstrate disproportionately high school dropout rates, low academic performance and achievement scores, and low percentages of enrollment in colleges and universities (Martinez, DeGarmo, & Eddy, 2004). Given the relatively large representation and continued rapid growth of Latino/as in the U.S., research that focuses on predictors of academic outcomes for Latino/a youth is of great importance (American Psychological Association Presidential Task Force on Educational Disparities,

2012). Of particular interest is research that focuses on predictors of academic success to develop effective intervention programs that may foster positive academic outcomes among this population. The present study was designed to examine parenting styles and prosocial behaviors as longitudinal predictors of academic outcomes in a sample of U.S. Mexican youth.

Predominant parenting style frameworks generally characterize parents as authoritative, authoritarian, indulgent, or neglectful according to two major dimensions of parenting: responsiveness and demandingness (Baumrind, 1991; Maccoby & Martin, 1983). Responsiveness refers to affections and attentiveness to children's developmental needs and responsive parents are accepting (regular displays of warmth and support towards children) and nonpunitive (avoid harsh parenting characterized by punitive or demeaning behaviors; Simons & Conger, 2007). Demandingness refers to control, expectations for child behavior, and implementation and enforcement of clear standards and rules (Domenech Rodríguez, Donovan, & Crowley, 2009) via monitoring and consistent discipline (Simons & Conger, 2007). Authoritative parents are high on responsiveness and demandingness. Authoritarian parents are low on responsiveness and high on demandingness. Indulgent parents are high on responsiveness and low on demandingness. Neglectful parents are low on both dimensions.

Researchers have devoted much attention to the role of parenting in predicting academic outcomes in youth (Dumka, Gonzales, Bonds, & Millsap, 2009; Martinez et al., 2004). Conceptually, authoritative parenting is deemed to facilitate positive academic outcomes because youth may feel motivated because their parents are high on demandingness while also high on responsiveness. In contrast, youth of authoritarian parents may feel unsupported and less motivated to engage academically because their parents' high demandingness occurs in the relative absence of responsiveness. Empirical studies are generally consistent with these expectations. Generally, relatively high levels of responsiveness and demandingness positively predict high levels of academic outcomes in children and youth (Maccoby & Martin, 1983; Steinberg, Dornbusch, & Brown, 1992). In contrast, authoritarian parenting is associated with lower academic achievement. Although relatively fewer studies exist that focus on Latino/a youth, findings from those studies are also generally consistent with these expectations (e.g., Henry, Merten, Plunkett, & Sands, 2008).

Parenting styles have also been linked to youth prosocial behaviors. Moral socialization theorists postulate that parenting high on responsiveness and demandingness (i.e., authoritative) facilitates an orientation towards the needs of others and is associated with good self-regulation skills, moral values, sympathy, and moral reasoning (Eisenberg, Fabes, & Spinrad, 2006; Grusec & Sherman, 2011) presumably because such parenting provides models for good self-regulation and prosocial actions, sensitivity to prosocial and moral values (including the consideration of and respect for others), and fosters responsivity to others' needs. Furthermore, parents who exhibit relatively high levels of demandingness alongside lower responsiveness (i.e., authoritarian) foster a focus on the self rather than on others and often model emotional and behavioral dysregulation, thereby mitigating prosociality and fostering negative outcomes in children and youth (Barber et al., 2005; Grusec, Chaparro, Johnston, & Sherman, 2014). Supportive empirical evidence on these

expected relations among European American samples is relatively substantive while research on these links in U.S. Latino youth is sparse (Eisenberg & Valiente, 2002).

Although most findings yield supportive evidence on the expected negative links between high demandingness combined with lower responsiveness on youth outcomes, there are some notable exceptions to those findings among ethnic-minority families. In U.S. Latino families, some researchers report expected negative relations between authoritarian parenting and positive adolescent outcomes, whereas other investigators demonstrate no significant relations between such parenting and outcomes (Domenech Rodríguez et al., 2009). Other research identifies unexpected associations between harsh parenting, demandingness, and Latino youth outcomes (see Halgunseth, Ispa, & Rudy, 2006, for a review), perhaps because scholars are failing to consider these behaviors and dimensions vis-à-vis other aspects of responsiveness (e.g., high acceptance) and demandingness (White et al., 2015; in press). Overall, mixed findings may be interpreted within recent works suggesting that the predominant frameworks may not capture the full range of parenting styles employed by parents of adolescents from diverse groups (Domenech Rodríguez et al., 2009; Kim, Wang, Shen, Hou, 2015; White, Liu, Gonzales, Knight, & Tein, 2016). In response to these observations, it is necessary to conduct parenting research that allows ethnic minority parents to vary within and across the predominant parenting dimensions, which were originally derived from research focused predominantly on European American parents.

Recent work highlights the utility of using person-centered analytic techniques to capture the range of parenting styles employed by diverse parents (see Kim, Wang, Shen, & Hou, 2015). These techniques are useful because, unlike variable-centered techniques, they do not force parents into one of the four predominant styles and because they do not rely on sample-based cut-offs to establish the magnitude of demandingness and responsiveness (White, Zeiders, Gonzales, Tein, & Roosa, 2013). For example, using person-centered approaches, researchers found some Mexican- and Asian-origin parents may combine warmth with elevated harshness and high demandingness (Kim et al., 2015; White et al., 2013), perhaps to offset the potential disadvantages associated with disproportionate exposure to adverse neighborhood environments or ethnic discrimination (White et al., 2016). This combination, often called no-nonsense parenting (Brody & Flor, 1993; White et al., 2013), represents a culturally-situated combination of behaviors (Garcia Coll et al., 1996) that deviates from predominant views of responsiveness and, consequently, both authoritative and authoritarian parenting styles. Further, some scholars have suggested that these techniques create normative expectations that may mitigate negative youth consequences (Garcia Coll et al., 1996; Guerra & Williams, 2005; see also Chao & Otsuki-Clutter, 2011). In a recent study using a person-centered approach among U.S. Mexican parents, White et al. (2013) presented evidence that some U.S. Mexican mothers and fathers demonstrated a pattern of practices consistent with an *authoritative* style (i.e. high levels warmth and low levels of harshness combined with high consistency and monitoring,) and a *less involved* style (i.e. lower levels of warmth, harshness, consistency, and monitoring). Furthermore, other U.S Mexican mothers (but not fathers) showed a *moderately demanding* style (i.e., high levels of warmth and low levels of harshness with moderate consistency and monitoring) whereas some U.S. Mexican fathers (but not mothers) employed a *no-nonsense*

parenting style (i.e., high levels of warmth and elevated harshness, combined with high consistency and monitoring) not frequently reported in other studies on parenting styles (c.f. Kim, Wang, Orozco-Lapray, Shen, & Murtuza, 2013, in Asian American families). Therefore, rather than assume that the traditional parenting style frameworks adequately capture the full range of parenting styles employed by U.S. Mexican parents, in the present study, we adopted this person-centered parenting styles typology (previously reported in White et al., 2013; see Supplemental Electronic Materials, Figure A) with the present sample of U.S. Mexican-origin families.

Scholars have also asserted that youth who frequently exhibit prosocial behaviors (i.e., actions intended to benefit others) often exhibit better academic outcomes (Bergin, 2014; Carlo, 2014). There are various mechanisms that have been proposed as possible explanations. One possibility is that youth who frequently engage in prosocial behaviors may be more apt to acquire greater general self-confidence and motivation, which in turn may predict better academic performance (Caprara et al., 2014). Others suggest that prosocial youth may be more attracted to peers who demonstrate similar high levels of prosociality, may be liked by teachers and staff, and may also be more involved in school-related academic activities and clubs (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Carlo, Crockett, Wilkinson, & Beal, 2011). Compatible with both of these possible explanations, prosocial youth may show positive academic outcomes as a result of intrapersonal characteristics, such as good self-regulation tendencies and social cognitions (e.g., perspective taking, reasoning skills) that may facilitate academic performance (Caprara et al., 2014; Wentzel, 2006). Taken together, these prosocial-oriented actions may result in higher school engagement, positive interactions with teachers and peers, and subsequently higher academic motivation and performance.

There is a growing body of research that generally demonstrates positive associations between prosocial behaviors and academic outcomes among youth (Eccles & Barber, 1999; Miles & Stipek, 2006). For example, Caprara and his colleagues showed relatively strong positive relations between earlier prosocial behaviors (but not aggression) and academic performance 5 years later (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000). Recently, an intervention program designed to foster prosocial behaviors among young adolescents yielded supportive evidence that the intervention improved academic grades (Caprara et al., 2014). Although we know of no direct study on prosocial behaviors and academic efficacy, prosocial behaviors have also been linked to greater self-esteem (Zuffiano et al., 2014). However, the findings of one study of U.S. Mexicans suggested that days spent helping around the home was linked to lower GPA (Telzer & Fuligni, 2009a). Given the sparse research on these links in Latino/a youth, one purpose of the present study was to address this gap. Based on prior theory that identifies different forms of prosocial behaviors (Carlo, 2014), we examine the links between *dire* (i.e., helping in emergency situations), *emotional* (i.e., helping in emotionally-evocative situations), and *compliant* (i.e., helping when asked) prosocial behaviors, and academic outcomes in U.S. Mexican youth. These three forms of prosocial behaviors are commonly exhibited by U.S. Mexican adolescents, and are conceptually linked to traditional Mexican culture (Carlo, 2014; Calderon, Knight, & Carlo, 2011); therefore, assessment of these three forms of prosocial behaviors represents a reasonable range of exhibited forms of prosocial behaviors. In addition, research on the

intervening mechanisms that may explain the links between prosocial behaviors and academic outcomes is lacking. We examined one potential mediating mechanism, namely academic self-efficacy, in the relations between prosocial behaviors and academic performance.

Based primarily on social cognitive theory (Bandura, 1986), self-efficacy (i.e., confidence in one's abilities) has been conceptually linked to a variety of positive social developmental outcomes. Perhaps the most researched link is between academic self-efficacy (i.e., confidence in one's academic abilities) and academic achievement. According to theorists, greater academic self-efficacy can foster better academic performance and achievement via a stronger motivation to pursue and accomplish academic objectives (Multon, Brown, & Lent, 1991; Usher & Pajares, 2008). Although less studied, prosocial behaviors have similarly been conceptually linked to self-efficacy. Theorists have speculated that frequent engagement in prosocial behaviors enhances one's confidence across a range of social domains, including the academic domain (Caprara et al., 2014; Gresham, Vance, & Chenier, 2013). Specifically, prosocial actions induce positive emotions, feelings of greater self-worth, and confidence in pursuing and accomplishing future objectives as a result of the associated rewarding mechanisms (Carlo, 2014; Carlo & Randall, 2001; Telzer & Fuligni, 2009b). Therefore, we expected that the link between prosocial behaviors and academic achievement would be accounted for by individual differences in academic self-efficacy beliefs.

Despite the conceptual assertions, there are few studies that link academic self-efficacy beliefs to prosocial behaviors but the evidence is supportive (Bandura et al., 1996; Eklund, Loeb, Hansen, & Andersson-Wallin, 2012). Other research has examined prosocial behaviors and empathic (i.e., beliefs in one capacity to empathize with others) and affective (i.e., confidence in one's ability to manage one's emotions) self-efficacy beliefs (Alessandri, Caprara, Eisenberg, & Steca, 2009; Caprara & Steca, 2005). These studies also demonstrate evidence that prosocial behaviors predict subsequent self-efficacy beliefs and vice versa (e.g., Alessandri et al., 2009; Caprara & Steca, 2005). However, to our knowledge, there are no published studies on the relations between prosocial behaviors and academic self-efficacy beliefs in a U.S. Latino/a sample.

As noted earlier, there is relatively consistent support for the links between academic self-efficacy beliefs and academic achievement (Bandura et al., 1996; Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Meece, Wigfield, & Eccles, 1990; see Schunk & Pajares, 2002). Furthermore, support for such relations have been reported in U.S Latino samples (e.g., Buriel, Perez, Terri, Chavez, & Moran, 1998; Chun & Dickson, 2011; Niehaus, Rudasill, & Rakes, 2012). Taken together, these findings suggest that academic self-efficacy beliefs may account for the relations between prosocial behaviors and academic achievement.

To summarize, the present study was designed to examine the longitudinal relations among paternal and maternal parenting styles, prosocial behaviors, academic self-efficacy beliefs, and academic achievement in a sample of U.S. Mexican youth. We used the previously identified styles of parenting (see descriptions earlier) with the present sample of U.S. Mexican mothers and fathers (White et al., 2013): mothers with an *authoritative* style, a *less*

*involved* style, or a *moderately demanding* style; and fathers with an *authoritative* style, a *less involved* style, or a *no-nonsense* parenting style. For both fathers and mothers, we hypothesized that *authoritative* parenting styles would be positively related, and *less involved* parenting styles would be negatively related, to prosocial behaviors. However, given the lack of prior evidence on the links between both *no-nonsense* parenting style (for fathers) and *moderately demanding* style (for mothers) and U.S. Mexican youth prosocial behaviors, there were no a-priori hypotheses on these links. Prosocial behaviors were expected to be positively related to academic self-efficacy beliefs and academic achievement. Moreover, prosocial behaviors were expected to mediate the relations between parenting styles and academic outcomes, and prosocial behaviors were expected to indirectly predict academic achievement via academic self-efficacy beliefs.

## Methods

### Participants

Data for the current study come from a larger longitudinal project focused on cultural and contextual factors in the lives of Mexican-origin adolescents and their families living in the U.S. (Roosa et al., 2008). Families ( $N = 749$ ) were recruited from schools that served ethnically and linguistically diverse communities in a metropolitan area of the U.S. Southwest. Eligible families met the following criteria: (a) there was a 5<sup>th</sup> grade youth who attended a sampled school, was not severely learning disabled, and was the biological child of a Mexican-origin mother and Mexican-origin father; (b) the Mexican-origin biological mother lived with the youth; and (c) no step-father figure was living in the household. Of the 749 families, 570 families were characterized as two-parent, father-present households; the remaining 179 families were characterized as single-parent, female-headed households.

A detailed description of study procedures is published elsewhere (Roosa et al., 2008); we briefly summarize here. Starting in 2004, eligible families participated in 4 waves of data collection: Wave 1 (W1), when adolescents were in 5<sup>th</sup> grade; Wave 2 (W2), when adolescents were in 7<sup>th</sup> grade; Wave 3 (W3), when adolescents were in 10<sup>th</sup> grade; and Wave 4 (W4), when adolescents were in the 12<sup>th</sup> grade. At each wave, family members were interviewed in their home using a Computer Assisted Personal Interview and were each paid \$45, \$50, \$55, \$60 for participation at W1, W2, W3, and W4, respectively. Interviews were conducted in the participants' language of choice (i.e., English or Spanish). The study also collected data from adolescents' teachers. At W1 and W2, questionnaires were sent (via mail) to the adolescents' primary teachers (as identified by the adolescent) and at W3 and W4, questionnaires were sent (via mail) to the adolescents' English and Math teachers. The questionnaire inquired about the prior 4 weeks of classroom behavior and academic performance for each individual student. Teachers were paid for each completed questionnaire: \$10 at W1, \$10 at W2, \$10 at W3 and \$10 at W4.

The current study focused on the subset of the larger sample—462 two-parent families in which the adolescent ( $M$  age at Wave 1 = 10.4 years,  $SD = .55$ ; 48.1% girls), mother, and father reported on parenting behaviors at W1. We utilize families' data from W1, W3 or W4, as variables of interest in the current model were not assessed at W2. A majority of youth in the current study were born in the U.S. (66.9%) and completed W1 interview in English

(81.8%). A majority of mothers (78.6%) and fathers (79.7%) were born in Mexico, and completed W1 interview in Spanish (72.7%, 76.6%, respectively). On a scale of 1 (\$0,000 – \$5,000) to 20 (\$95,001+), average W1 annual family income was 7.97, with 7 representing \$30,001 – \$35,000, and 8 representing \$35,001 – \$40,000.

## Measures

**Parenting styles (W1)**—Consistent with prior approaches to operationalizing responsive and demanding parenting dimensions (Simons & Conger, 2007), adolescents' 5<sup>th</sup> grade reports of parenting were previously used to identify parenting styles based on the dimensions of parental responsiveness (i.e., high acceptance and low harshness) and demandingness (i.e., high consistent discipline, and monitoring) from a person-centered analysis (White et al., 2013). Specifically, latent profile analysis (LPA) were conducted using adolescents' reports of mothers' and fathers' acceptance (8 items, "Your father understood your problems and worries"), harsh parenting (8 items, "Your father spanked or slapped you when you did something wrong;" "Your father got so mad at you that he called you names"), consistent discipline (8 items, "When you broke a rule, your father made sure you received the punishment he said you would get") and monitoring (8 items, "Your father knew who your friends were"). Acceptance, harsh parenting, and consistent discipline were assessed using The Child Report of Parental Behavior Inventory (CRPBI; Schaefer, 1965); monitoring was assessed using Small and Kerns (1993) scale. These measures have demonstrated cross-cultural and cross-language measurement equivalence (Knight, Tein, Shell, & Roosa, 1992; Knight Virdin, & Roosa, 1994; Nair et al., 2009). Across all items, adolescents responded using a 5-point Likert scale ranging from 1 (*Almost never or never*) to 5 (*Almost always or always*). In the current study, alphas for the four parenting scales ranged from .72 to .88.

The latent profile analyses (LPA), based on optimal fit and interpretability, yielded the three profile solution on youths' reports of both mothers' and fathers' parenting (reported in detail elsewhere, see White et al., 2013). The solutions for both mothers' and fathers' parenting produced an *authoritative* profile, wherein each parent was high on acceptance and low harsh parenting, and high on monitoring and consistent discipline (70.1% of mothers and 70.7% of fathers). The solution also produced a *less involved* profile (5.1% of mothers and 17.0% of fathers) that mirrored the *authoritative* profile, but with somewhat reduced levels of acceptance, consistent discipline, and monitoring. The solution for mothers' parenting produced a *moderately demanding* profile (24.8% of mothers), wherein mothers were high on acceptance and low on harshness, with moderate levels on monitoring and consistent discipline. The solution for fathers' parenting produced a *no-nonsense* style (12.3% of fathers) wherein fathers had levels of acceptance, consistent discipline, and monitoring that were comparable to *authoritative* parents, but they also had elevated levels of paternal harshness. The mean on harsh parenting in the *no-nonsense* group corresponded to using harsh parenting *sometimes*, whereas the means on harsh parenting in both the *authoritative* and *less involved* groups corresponded to using harsh parenting *once in a while*.

**Prosocial behaviors (W3)**—Adolescents' reported their prosocial behaviors using the Prosocial Tendencies Measure (PTM; Carlo & Randall, 2002) in the 10<sup>th</sup> grade. The



measure is designed to assess a range of commonly-exhibited forms of prosocial behaviors that have been linked to U.S. Mexican-origin adolescents (see Calderon et al., 2011): *dire* (3 items; “You tend to help people who are in a real crises or need”), *compliant* (2 items, “You never wait to help others when they ask for it”), and *emotional* (5 items, “You tend to help others especially when they are really emotional”). Adolescents responded to the items using a 5-point Likert scale ranging from 1 (*Does not describe me at all*) to 5 (*Describes me greatly*). In the current study, alphas for *dire*, *compliant*, and *emotional* behaviors were .78, .67, and .86. To reduce the number of variables, a latent factor of prosocial behaviors was constructed, with emotional, *dire*, and compliant prosocial behaviors included as indicators of common forms of prosocial behaviors to reduce the number of variables (as in Calderon et al., 2011). All indicators loaded significantly onto the latent factor. Standardized estimates ranged from .68 to .91.

**Academic self-efficacy (W4)**—Adolescents’ reported their academic self-efficacy in the 12<sup>th</sup> grade using an adapted 6-item scale (Midgley, Maehr, & Urdan, 1996). The scale assesses students’ beliefs that they can master the work given to them in school. Items (e.g., “You can do even the hardest schoolwork if you try”) are rated on a 5-point Likert scale ranging from 1 (*Not at all true*) to 5 (*Very true*). The scale demonstrated good reliability in the current study ( $\alpha = .87$ ).

**School grades (W3, W4)**—Adolescents’ grades were obtained via self-report and teacher report in 10<sup>th</sup> grade and 12<sup>th</sup> grade. Adolescents were asked “If your Math teacher was going to give you a grade for your work up to now, what grade would you get?” A similar question was asked about their English teacher. Responses ranged from 0 (*F*) to 4 (*A*). Adolescents’ reports of their Math and English grades were averaged. Grades were also obtained from adolescents’ Math and English teachers; teachers were asked “If you were giving final grades today, what grade would this student receive in your course?” Responses ranged from 1 (*A*) to 5 (*F*). Math and English teachers’ responses were averaged at each wave and recoded to be consistent with adolescents’ reports, such that greater values indicated better school grades.

**Additional covariates and moderators**—Adolescents reported on their gender; mothers reported on adolescent nativity (U.S.-born, Mexico-born). Mothers and fathers reported on their family income and these reports were averaged to represent a combined family income.

## Results

### Preliminary Analyses

**Attrition analyses**—Preliminary attrition analyses were conducted to examine whether families who had data on the outcome variables at Wave 4 were significantly different than those who were missing Wave 4 data. Results from a multivariate analysis of variance (MANOVA) demonstrated a significant multivariate main effect on the demographics and main study variables [ $F(10, 359) = 3.01, p < .01$ ]. Follow-up univariate tests indicated that those who were missing data at W4 were more likely to have fathers classified as *less*

*involved* [ $F(1, 368) = 4.05, p < .05$ ], reported lower levels of emotional prosocial behaviors [ $F(1, 368) = 9.65, p < .01$ ], and reported lower levels of compliant prosocial behaviors [ $F(1, 368) = 5.56, p < .05$ ] than those who were not missing data at W4. Additionally, we examined demographic differences in those participants who had data on the outcomes of interest at W4 compared to those who did not. Adolescents who were missing data on the W4 outcomes were more likely to be male [ $F(1, 368) = 8.93, p < .01$ ], had lower parent reported family income [ $F(1, 368) = 7.25, p < .01$ ], and were more like to report that adolescents were born in Mexico [ $F(1, 368) = 4.31, p < .05$ ] than those who were not missing data at W4.

**Nativity and gender differences in prosocial and academic outcomes**—We next conducted a MANOVA to examine mean-level differences in study variables based on adolescent nativity and gender. There was a significant multivariate main effect for nativity [ $F(10, 249) = 2.31, p < .05$ ] and gender [ $F(10, 359) = 3.69, p < .001$ ]. Follow-up univariate tests demonstrated that adolescents born in the U.S. reported lower academic self-efficacy [ $F(1, 258) = 5.45, p < .05$ ] and had higher teacher reported grades at W4 [ $F(1, 258) = 4.21, p < .05$ ] than those born in Mexico. Additionally, univariate tests indicated that girls reported more emotional prosocial behaviors [ $F(1, 258) = 8.92, p < .01$ ] and had higher teacher reported grades at W4 [ $F(1, 258) = 11.41, p < .01$ ] than boys. As such, adolescent nativity and gender were included as statistical controls in further analyses.

**Parenting profile differences in prosocial and academic outcomes**—Two multivariate analysis of variance (MANOVAs) were conducted to examine mean level differences in prosocial behaviors and academic variables based on the parenting profiles. Separate MANOVAs were conducted for the mother and father parenting profiles. For the mother parenting profiles, there was a significant multivariate main effect of parenting profile on prosocial behaviors and academic outcomes [ $F(12, 508) = 2.04, p < .05$ ]. Follow-up univariate tests indicated that adolescents with mothers in the *less involved* profile reported significantly less dire prosocial behaviors than adolescents with mothers in the *authoritative* profile or *moderately demanding* profile, [ $F(2, 259) = 9.56, p < .001$ ]. Reports of dire prosocial behaviors did not differ significantly between adolescents with mothers in the *authoritative* profile or *moderately demanding* profile. There were no significant differences based on the mother parenting profiles for emotional or compliant prosocial behaviors, or the academic variables.

There was also a significant multivariate main effect of father parenting profile on prosocial behaviors and academic outcomes [ $F(12, 508) = 2.64, p < .01$ ]. Follow-up univariate tests demonstrated that adolescents with fathers in the *less involved* profile reported significantly less emotional [ $F(2, 259) = 6.02, p < .01$ ], dire [ $F(2, 259) = 10.10, p < .001$ ], and compliant [ $F(2, 259) = 5.10, p < .01$ ] prosocial behaviors than adolescents with fathers in the *authoritative* or *no-nonsense* profiles. Additionally, adolescents with fathers in the *less involved* profile reported significantly lower academic self-efficacy [ $F(2, 259) = 5.45, p < .01$ ], than adolescents with fathers in the *authoritative* or *no-nonsense* profiles. There were no significant differences between *authoritative* or *no-nonsense* fathering for prosocial

behaviors or academic self-efficacy. Moreover, there were no significant differences based on the father parenting profiles for school grades.

**Descriptive statistics and correlations**—Descriptive statistics and correlations among the prosocial behaviors and academic variables used in this study are presented in Table 1. As expected, all three forms of prosocial behaviors were positively correlated (.59 to .78). Dire and compliant prosocial behaviors were positively associated with academic self-efficacy and adolescent reported school grades (but not teacher reported school grades). Emotional prosocial behaviors were positively associated with academic self-efficacy but not school grades (for either reporter). Among the W4 variables, academic self-efficacy was positively associated with school grades (adolescent and teacher reported), and adolescent reported school grades and teacher reported school grades were positively correlated.

### Structural Equation Modeling

Structural equation models were conducted using bootstrapped standard errors in *Mplus* version 7.2 (Muthén & Muthén, 2010). Model fit is considered good in path analysis, if the Comparative Fit Index (CFI) is greater than or equal to .95 (adequate if greater than or equal to .90), the Root Mean Square Error of Approximation (RMSEA) is less than or equal to .06 (adequate if less than or equal to .08), and the Standardized Root Mean Squared Residual (SRMR) is less than or equal to .08 (Byrne, 2010; Hu & Bentler, 1999).

Models were run separately for classifications of adolescent reports of their mother's parenting style and father's parenting style (see *Figure 1* and *Figure 2*). The models included direct relations between parenting styles, prosocial behaviors, academic self-efficacy and school grades (both teacher and adolescent report). Direct paths from prosocial behaviors to school grades were also included. Indirect effects between parenting styles, prosocial behaviors, academic self-efficacy and school grades were examined as well. In both models, the exogenous parenting styles were set to correlate with one another. The error variances of adolescent-reported school grades and teacher-reported school grades were also allowed to correlate. In all path models we controlled for adolescent and teacher reported grades at W3. Additionally, parenting styles were dummy-coded, with *authoritative* parenting style as the reference group in all models.

**Main model findings**—The model for each parent fit the data well [mother model:  $\chi^2(20) = 50.49$ , CFI = .96, RMSEA = .06, SRMR = .06; father model:  $\chi^2(20) = 41.91$ , CFI = .97, RMSEA = .05, SRMR = .05]. In the model examining mothers parenting styles, results suggest that youth with W1 *less involved* and *moderately demanding* mothering had lower W3 prosocial behaviors than youth with authoritative mothers. A similar pattern of results emerged in examining fathers parenting styles; youth with W1 *less involved* fathering had lower W3 prosocial behaviors than youth with authoritative fathers. The *no-nonsense* dummy variable was not a significant predictor of prosocial behaviors, suggesting that adolescents with *authoritative* fathers and adolescents with *no-nonsense* fathers displayed similar levels of prosocial behaviors. In both models, W3 prosocial behaviors were positively associated with W4 academic self-efficacy, and academic self-efficacy was positively associated W4 adolescent-reported school grades and W4 teacher-reported school

grades. Two additional models were analyzed, in which we statistically controlled for adolescent gender, nativity, and family income. However, results from these path models were not meaningfully different from the original models (Figure 1 and *Figure 2*) that did not control for demographic variables and are therefore not presented.

**Multigroup analyses by adolescent gender, adolescent nativity, and family income**—We next conducted multigroup analyses to examine gender, nativity, and family income differences in the hypothesized models. A chi-square difference test was conducted to examine significant change in the chi-square statistic for a model that constrained the paths to be equal across levels of the moderator (i.e., separately across adolescent genders, adolescent nativity, or family income groups) compared to a model that allow the paths to be unconstrained and different across levels of the moderator variables (Muthén & Muthén, 2010). In testing adolescent gender differences, the unconstrained model and the constrained model were not significantly different for either model as demonstrated by the chi-square difference test [mother model:  $\chi^2(13) = 9.58, p = .73$ ; father model:  $\chi^2(13) = 12.63, p = .48$ ]. In testing adolescent nativity differences, the unconstrained model and the constrained model were not significantly different for the father model as demonstrated by the chi-square difference test [ $\chi^2(13) = 6.70, p = .92$ ]. The chi-square difference test was significant for the mother model [ $\chi^2(13) = 27.39, p = .01$ ] suggesting differences in the model based on adolescent nativity (U.S. vs. Mexico). Following the initial multigroup analysis, we conducted individual Santorra-Bentler scaled chi-square difference tests on each path to examine which specific paths were significantly different by nativity. Results from this analysis demonstrated that only one path (*less involved* mothering to adolescent reported grades) was significantly different between groups [ $\chi^2(1) = 12.98, p < .001$ ], however, this path was nonsignificant for both groups.

To examine differences in the models based on family income, we created a median split of mother-reported family income (below median = less than or equal to \$5,000 to \$25,001–30,000; above median = \$30,001–\$35,000 to \$95,001+). Results showed that the unconstrained model and the constrained model were not significantly different for either model, as demonstrated by the chi-square difference tests [mother model:  $\chi^2(17) = 19.37, p = .11$ ; father model:  $\chi^2(13) = 8.59, p = .80$ ].

**Indirect effects**—Bias corrected bootstrap confidence intervals were used to test indirect effects (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). In the model examining mothers' parenting styles, indirect effects were significant for the relations between *less involved* mothering (compared to *moderately demanding* and to *authoritative* maternal parenting styles) and adolescent reported grades, via prosocial behaviors and academic self-efficacy [indirect effect =  $-.01$ , CIs =  $-.03$  to  $.00, p < .05$ ]. Indirect effects were also significant for the relations between *moderately demanding* mothering (compared to *authoritative* and *less involved* maternal parenting styles) and adolescent reported grades, via prosocial behaviors and academic self-efficacy [indirect effect =  $-.01$ , CIs =  $-.02$  to  $.00, p < .05$ ]. The indirect relations between prosocial behaviors and adolescent reported grades [indirect effect =  $.05$ , CIs =  $.02$  to  $.09, p < .01$ ] and teacher reported grades [indirect effect =  $.04$ , CIs =  $.00$  to  $.07, p < .05$ ], via academic self-efficacy were significant. Additionally,

the indirect relations between *less involved mothering* (compared to *authoritative* and *moderately demanding* maternal styles) and academic self-efficacy [indirect effect =  $-.06$ , CIs =  $-.11$  to  $-.01$ ,  $p < .05$ ], and the indirect relations between *moderately demanding* mothering (compared to *authoritative* and *less demanding* maternal styles) and academic self-efficacy, via prosocial behaviors were significant [indirect effect =  $-.03$ , CIs =  $-.06$  to  $-.01$ ,  $p < .05$ ].

In the model examining fathers' parenting styles, indirect effects were significant for the relations between *less involved* fathering (compared to *authoritative* and *no-nonsense* paternal styles) and adolescent reported grades, via prosocial behaviors and academic self-efficacy [indirect effect =  $-.01$ , CIs =  $-.03$  to  $.00$ ,  $p < .01$ ]. The indirect relations between prosocial behaviors and adolescent reported grades, via academic self-efficacy [indirect effect =  $.05$ , CIs =  $.01$  to  $.08$ ,  $p < .01$ ], and the indirect relations between *less involved* fathering (compared to *authoritative* and *no-nonsense* paternal styles) and academic self-efficacy, via prosocial behaviors [indirect effect =  $-.06$ , CIs =  $-.11$  to  $-.02$ ,  $p < .01$ ] were also significant.

### Alternative model testing

To explore whether academic self-efficacy and grades predicted subsequent prosocial behavior, we also examined an alternative path model with parenting styles at W1 (grade 5) set to predict academic self-efficacy at W3 (grade 10), teacher and adolescent reported grades at W3 (grade 10), and adolescents' prosocial behaviors at W4 (grade 12). Models were run separately for classifications of adolescent reports of their mother's parenting styles and father's parenting style. Although the model fit for the models was acceptable [mother model:  $\chi^2(10) = 9.32$ , CFI = 1.00, RMSEA = .00, SRMR = .04; father model:  $\chi^2(10) = 3.12$ , CFI = 1.00, RMSEA = .00, SRMR = .07], there were no significant paths between parenting styles, academic self-efficacy, or adolescent grades (teacher or adolescent reported grades) and adolescents' prosocial behaviors in either model. There were, however, significant positive associations between academic self-efficacy and teacher and adolescent reported grades for both models and a negative association between *less involved* fathering and academic self-efficacy. Further, we examined the alternative models, controlling for adolescents' prosocial behaviors at W3. Again, these models had adequate fit [mother model:  $\chi^2(31) = 46.70$ , CFI = .96, RMSEA = .05, SRMR = .07; father model:  $\chi^2(31) = 36.94$ , CFI = .99, RMSEA = .03, SRMR = .07]. In both models, there was a significant positive association between academic self-efficacy at W3 and adolescent reported grades at W3. There were no other significant associations in either model.

### Discussion

These findings are the first to demonstrate longitudinal relations between earlier reports of parenting and prosocial behaviors and subsequent academic performance in a sample of U.S. Mexican youth. Moreover, the findings suggest that prosocial behaviors mediate relations between parenting styles and academic outcomes in U.S. Mexican youth. Interestingly, the patterns of relations for paternal and maternal parenting styles and their youth prosocial and academic outcomes were slightly different. Specifically, fathers and mothers who exhibited

an *authoritative* parenting style were more likely to have youth who expressed high levels of prosocial behaviors than mothers and fathers who were *moderately demanding*, and *less involved*. Interestingly, *authoritative* fathers were not more likely than *no-nonsense* fathers to have adolescents with high levels of prosocial behaviors. In contrast, fathers and mothers who were *less involved* and mothers who were *moderately demanding* (and low on harshness), were less likely than *authoritative* fathers and mothers to have youth who exhibit high levels of prosocial behaviors. In turn, youth who expressed high levels of prosocial behaviors were more likely to report higher academic self-efficacy and better academic achievement. The pattern of relations was relatively stronger for maternal parenting styles than paternal parenting styles but the findings generally held for both parents over and above the effects of gender, nativity, family income, and the contributions of earlier levels of academic performance. Taken together, the findings have important implications for understanding positive social and academic development in this ethnic-minority population.

Given the disparities in academic achievement among Latino/as in the U.S., the findings yield evidence for early factors that predict later positive academic outcomes. Importantly, the findings extend the previous evidence that both parenting and prosocial behaviors predict later academic achievement to a sample of U.S. Mexican youth. The findings regarding the links between prosocial behaviors and academic outcomes are in accord with previous similar findings in non-Latino/a samples (e.g., Caprara et al., 2000; Carlo et al., 2011). Given the recent evidence that prosocial behavior intervention programs are effective in improving academic outcomes (e.g., Caprara et al., 2014), the present findings suggest that prosocial behavior programs may be a conduit to foster better academic outcomes in U.S. Mexicans. Moreover, the present findings also suggest that early prosocial behaviors predict higher academic self-efficacy, which in turn predicted better school grades. These latter findings suggest that the beneficial predictive effects of prosocial behaviors and academic achievement may be indirect such that engaging in prosocial actions facilitates greater confidence in academics. The gains in academic confidence may be associated with self- and emotion-regulatory skills and interpersonal competencies related to youth who exhibit high levels of prosocial competencies (Carlo, 2014; Eisenberg et al., 2006). For example, because prosocial youth also exhibit good self-regulation skills, these skills may also facilitate attention, focus, and persistence on academic tasks. Alternatively, prosocial youth may be deemed desirable by teachers and classmates, which may lead to more school engagement and connectedness, and greater academic self-confidence and outcomes. Although further research is needed to examine these possibilities, it is important to note that these findings held even while statistically controlled for youth's previous academic performance.

The links between parenting styles and prosocial behaviors in this U.S. Mexican sample are somewhat consistent with prior research in mostly European American samples (Eisenberg & Valiente, 2002). For example, *authoritative* (high on responsiveness and demandingness) fathers and mothers were more likely to have youth who engaged in high levels of prosocial actions than parents who were lower on either or both parenting dimension (i.e., *less involved* mothers and fathers or *moderately demanding* mothers). These findings provide the first direct evidence of positive associations between *authoritative* parenting and prosocial behaviors in a sample of U.S. Latino youth and support the notion that the combination of high levels of parental responsiveness and demandingness may promote good self-regulation

skills, model caring and responsive behaviors, and foster moral conduct and standards conducive to prosocial actions (Carlo, 2014; Eisenberg et al., 2006; Grusec, Goodnow, & Kuczynski, 2000). Interestingly, when higher levels of paternal harshness were combined with high paternal warmth and high demandingness, as in *no-nonsense* parenting, no costs to prosocial behaviors were observed. This finding extends prior work that captures the full range of parenting styles employed by U.S. Mexican fathers. Further, it is consistent with the idea that Latino parents utilize punitive parenting techniques to offset the potential dangers of often environmental adversities (White et al., 2016) and that these techniques may create normative expectations that may mitigate negative youth consequences (Garcia Coll et al., 1996; Guerra & Williams, 2005; see also Chao & Otsuki-Clutter, 2011) and not negatively affect positive youth consequences. Although further studies examining parenting styles and prosocial development in U.S. Latino youth are needed to confirm these findings, the pattern of results suggest that *authoritative* (and perhaps, *no-nonsense*) parenting styles may be conducive to positive social development in this ethnic-minority population.

Of the several identified parenting styles in this sample of U.S. Mexicans, mothers who were relatively *less involved* (lower on responsiveness and demandingness) or *moderately demanding* (high responsiveness with moderate demandingness) seemed to have the most negative effects on youth prosocial behaviors. For fathers, relatively *less involved* parenting style was most predictive of less prosocial behaviors in their youth. The findings regarding the levels of reduced involvement and prosocial behaviors are in accord with the notion that less involved parents may fail to be models of responsiveness, caring and consideration of others' needs—characteristics strongly associated with prosocial behaviors and positive youth development (Eisenberg & Valiente, 2002). Similarly, mothers who exert only moderate levels of demandingness (even in the context of high responsiveness) on their youth may also mitigate prosocial tendencies in their youth. Perhaps this parenting style is insufficiently strong enough to foster prosociality and may undermine the intrinsic attributions and motives (e.g., sympathy, higher level moral reasoning) necessary for youth to frequently engage in prosocial behaviors (see Grusec et al., 2011). Further research will be needed to examine the links between this parenting style and prosocial motives and to discern the specific aspects of this parenting style that may be most predictive of prosocial behaviors.

Interestingly, fathers' *no-nonsense* parenting (i.e., high levels of acceptance and demandingness, with moderate levels of harshness) compared to *authoritative*, was not differentially associated with youth prosocial behaviors. This finding suggests that the presence of elevated paternal harshness, which is often associated with negative youth outcomes, may be offset by the presence of high levels of warmth and demandingness (at least in U.S. Mexican fathers). High levels of parental warmth have been reported in prior studies of U.S. Latino families and may help parents tactfully and successfully apply punitive practices on their youth with less harsh negative repercussions (Halgunseth et al., 2006). This explanation has also been offered as a way to explain the often-reported nonsignificant relations between similar parenting styles (e.g., no-nonsense and authoritarian parenting style) and youth outcomes in African American families (e.g., Brody & Flor, 1998) and Mexican-origin Latinos (White et al., 2013). Thus, in general, these findings suggest that the presence of high levels of parental warmth and demandingness, whether or

not they were coupled with elevated harshness, were key factors in predicting higher levels of youth prosocial behaviors.

Evidence for mediating effects of both prosocial behaviors and academic self-efficacy on the relations between parenting styles and academic achievement was also found. The findings suggest that the links between parenting and academic achievement in U.S. Mexican youth are indirect through increases in prosocial behaviors and academic self-efficacy. In general, these findings are in accord with prior research on the possible deleterious consequences of less involved parents in youth social and academic development. Although the findings held across families of different generational statuses, future studies could examine whether the underlying mechanisms explaining links between parent socialization and academic competence differ with specific generational status families. For example, more recent immigrant parents' involvement in youth academics may be primarily constrained due to language or educational barriers whereas later generation parents' involvement may primarily be constrained by other challenges (e.g., work hours). Nonetheless, the findings suggest that parental involvement may be of particular interest in predicting positive youth outcomes among U.S. Mexicans because such parenting may help their ethnic-minority youth better integrate into their school and community. Moreover, the findings lend credence to the notion that early parenting still exerts effects on Latino youth social and academic development despite the increased exposure to peers and other socializing agents (e.g., media).

The present findings add to the extant research on the relative predictive strength of maternal versus paternal parenting on youth prosocial behaviors. Prior research suggests that mothers play a relatively prominent role in predicting prosocial behaviors relative to fathers (Hastings, McShane, Parker, & Ladha, 2007). Although maternal parenting styles were predictive of youth prosocial behaviors, there was some evidence that paternal level of involvement was also a significant predictor. Given the sparse direct research on the effects of fathers versus mothers and the fact that the few studies are scattered across childhood and adolescence, it is difficult to discern conclusively about such effects. It is possible that fathers are relatively more predictive of youth prosocial behaviors in adolescence than childhood. Alternatively, given the importance of family ties and familism in traditional Mexican culture, perhaps Latino fathers (and mothers) play a relatively important role in their youth outcomes. There is research that suggests that fathers' (but not mothers') familism values predict youth familism values, and that fathers' (but not mothers') familism values predict the amount of time Latina youth spend with family in late adolescence (Zeiders, Updegraff, Umana-Taylor, McHale, & Padilla, 2016). Other research shows that mothers' (fathers were not included in this prior study) familism predicts Latino/a youth familism values, which in turn, predict Latino/a youth prosocial behaviors (Calderon et al., 2011). Taken together, these studies imply that both mothers and fathers may play an important role in predicting prosocial behaviors in U.S. Latino families.

Youth gender did not influence the effects of paternal or maternal parenting styles on youth outcomes. These findings are interesting in light of the previous research and the present findings that shows gender differences in prosocial and academic outcomes, even among U.S. Latino youth (Calderón, 1998). Cultural scholars have noted the strong traditional



gender roles that are traditionally espoused in many Latino/a families (Hurtado & Cervantez, 2009), which may have been expected to manifest as a significant gender effect on the present relations. Moreover, paternal and maternal relationships with their adolescents have been characterized somewhat differently as a function of gender (Leaper, 2002). However, much less research has been devoted to examining the characterization of parent-son and parent-daughter relationships in U.S. Mexican families. Perhaps the emphasis of familism and filial piety in many U.S. Mexican parents minimizes gender differences in the effect of parenting styles on youth prosocial and academic outcomes.

Despite the relatively large sample, multiple reporters, and longitudinal design of the present study, there were some limitations. First, we did not have a full prospective study design (e.g., we did not have previous measurement of prosocial behaviors). A fully prospective study design would allow for stronger casual and direction of effects inferences. However, we found little support for an alternative partial reverse causal model, which provides relatively more empirical support for the proposed path model. Moreover, although we controlled for earlier academic achievement (at W3), we could not control for academic achievement at W1. Thus, we could not fully account for prior academic performance. Second, a more representative sample of U.S. Mexican families would be desirable. The present sample is relatively acculturated and represents U.S. Mexicans in a community that harbors a relatively large, urban Latino/a community. Relatedly, future studies designed to directly examine generational status group differences by youth on their perceptions of parenting could yield unique relations between parenting and youth outcomes. Third, we utilized mostly self-report measures (though we used teacher-reported academic grades), which raises concerns about self-presentational demands and shared method variance. Scholars have noted advantages and disadvantages of youth report measures of parenting and self-outcomes (see Gonzales, Cauce, & Mason, 1996). Because each method probably reflects different perspectives and context-related processes, youth self-reports can be valid in representing the youth perspective on these processes and their reactions based on their perceptions. Additionally, we relied on person-centered analyses of parenting behaviors assessed by the CRPBI, a scale that was initially developed and validated among non-Latino populations. Though prior work demonstrates the cross-cultural and cross-language validity and reliability of the CRPBI, future work would benefit from the use of different methods (e.g. observational) or measures of parenting. Furthermore, the lack of support for the alternative model reduces the likelihood that the findings are substantially a function of self-presentational demands. However, future research using multiple methods (e.g., observations) is desirable. And fourth, although we assessed varied dimensions of parenting, we acknowledge that other aspects of parenting styles (e.g., guilt or shame induction, autonomy granting) could be assessed in future research, which may lead to additional insights on parenting styles among U.S. Mexican parents.

Despite these study limitations, the present study significantly contributes to our understanding of positive youth development in U.S. Mexican youth. Given the general lack of longitudinal designs on parenting and positive youth outcomes among U.S. Mexicans, the present findings lend support to the developmental interplay of parenting and subsequent youth social behaviors and academic attitudes in predicting academic performance in U.S. Mexican youth. Further research is needed that examines culture and non-culture specific

influences of prosocial and academic outcomes in U.S. Mexican youth. For example, traditional models of prosocial development (Eisenberg et al., 2006) propose other influences (e.g., self-regulation skills) of prosocial and academic outcomes that may be of interest to examine in future research with U.S. Mexican youth. Moreover, prior research demonstrates that traditional Mexican cultural values (e.g., familism) may also predict prosocial outcomes (Carlo, 2014); thus, future studies could examine the interplay of culture-specific and non-culture-specific predictors of prosocial and academic outcomes in such youth. Nonetheless, the present findings provide much needed evidence on predictors of prosocial and academic outcomes in U.S. Mexican youth and is a promising step towards efforts aimed at understanding prosocial development and academic disparities in this population.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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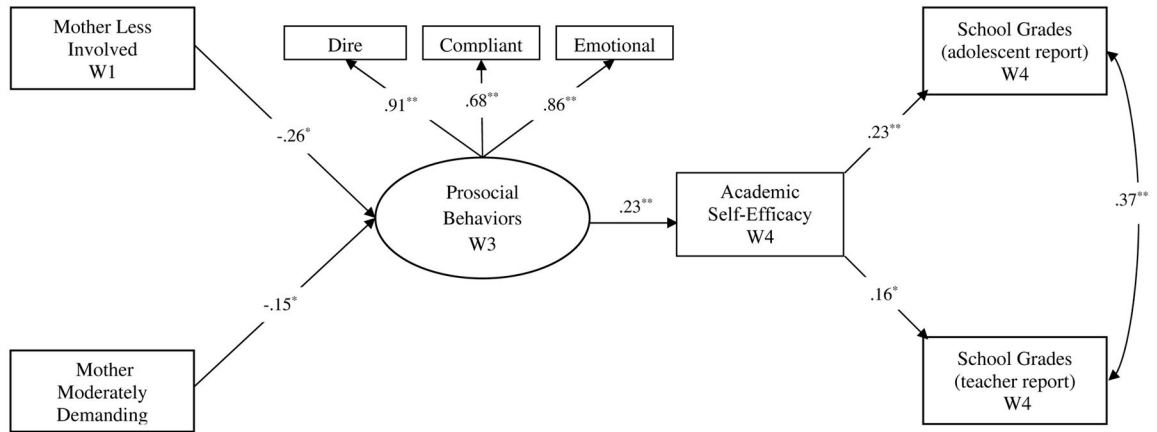
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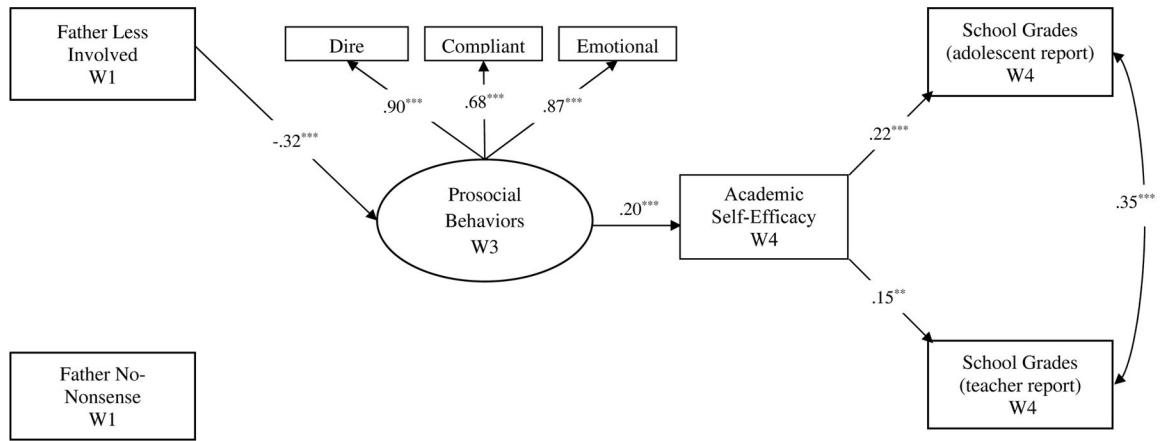
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**Figure 1.** Model linking W1 mother parenting profiles (adolescent report) to W4 adolescent school grades (adolescent and teacher report) via W3 prosocial behaviors. Mothers who were less involved and moderately demanding were compared to authoritative mothers. Controlling for adolescent and teacher reported grades at W3. Nonsignificant paths are not depicted. Model fit:  $\chi^2(20) = 50.49$ , CFI = .96, RMSEA = .06, SRMR = .06. \*  $p < .01$ , \*\*  $p < .001$



**Figure 2.** Model linking W1 father parenting profiles (adolescent report) to W4 adolescent school grades (adolescent and teacher report) via W3 prosocial behaviors. Fathers who were less involved and no-nonsense were compared to authoritative fathers. Controlling for adolescent and teacher reported grades at W3. Nonsignificant paths are not depicted. Model fit:  $\chi^2(20) = 41.91$ , CFI = .97, RMSEA = .05, SRMR = .05. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$



Intercorrelations and Descriptives for Prosocial Behaviors, Academic Self-Efficacy, and School Grades

Table 1

	1	2	3	4	5	6
1. Dire prosocial behaviors (W3)	-					
2. Compliant prosocial behaviors (W3)	.60**	-				
3. Emotional prosocial behaviors (W3)	.78**	.59**	-			
4. Academic self-efficacy (W4)	.19**	.17**	.20**	-		
5. School grades — Adolescent report (W4)	.13*	.18*	.08	.33**	-	
6. School grades — Teacher report (W4)	-.02	.06	.02	.17**	.45**	-
<i>Mean (SD)</i>	3.84 (.79)	3.68 (.93)	3.79 (.79)	4.38 (.58)	3.00 (.70)	3.56 (1.08)

Note: W3 = Wave 3, W4 = Wave 4

\*  $p < .05$ ,

\*\*  $p < .01$ .