

# A Holistic Model Of The Interplay Of Parent-adolescent Interaction Variables: Outcomes As A Result Of Conflictual Processes

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A HOLISTIC MODEL OF THE INTERPLAY OF PARENT-ADOLESCENT  
INTERACTION VARIABLES: OUTCOMES AS A RESULT OF  
CONFLICTUAL PROCESSES

by

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B.A. Florida Institute of Technology, 2002

A thesis submitted in partial fulfillment of the requirements  
for the degree of Master of Science  
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in the College of Arts and Sciences  
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## **ABSTRACT**

Many variables have been analyzed in order to understand parent-adolescent interactions and outcomes for adolescents. These variables must be integrated into a model that demonstrates the holistic interplay of parent-adolescent interaction variables so that a more comprehensive understanding of parent-adolescent interactions is achieved. Variables included in the model proposed here were parenting, family environment, expectations, conflict, and outcomes. Parenting, family environment, and conflict were associated with outcomes for adolescents. When the variables were analyzed simultaneously with structural equation modeling, however, the relationship of parenting and adolescent outcomes was mediated wholly for male-father, male-mother, and female-father relationships but remained significant for female-mother relationships. Overall, the holistic interplay of parent-adolescent interaction variables and the need to examine parent-adolescent dyads individually were demonstrated.

## **ACKNOWLEDGEMENTS**

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## INTRODUCTION

Much controversy abounds over the role of conflict in parent-adolescent interactions as children progress through adolescence, roughly the ages of 10-years through 21-years (Baumrind, 1991). Many theoretical frameworks exist, ranging from storm and stress, relational continuity, or a mix of both. Also, disagreement endures about whether conflict is adaptive or maladaptive for the parent-adolescent relationship. Further adding to the controversy, research has shown disparate results about the level of conflict that occurs within families.

### Theory: From Storm and Stress to Relational Continuity

Several theoretical frameworks about adolescent development exist, with differing models predicting either conflict or continuity or both (Dekovic, 1999; Noack & Puschner, 1999). Initial theoretical frameworks conceptualizing parent-adolescent interactions were grounded in psychoanalytic theory and characterized adolescence as a time of “storm and stress” (Arnett, 1999; Blos, 1979; Freud, 1968; Hall, 1904). According to these frameworks, the normative, healthy pattern of adolescent development entailed rebellion, violent parent-adolescent conflict, and, eventually, disengagement (Smetana, 1996). Viewing adolescence as a developmental disturbance, storm and stress theories stress the fundamental discontinuity between childhood and adolescence where even pleasant children who have intimate relationships with their

parents are expected to become rebellious adolescents (Smetana, 1996). Although these theories were initially popular, recent research shows that less than 10 percent of families endure parent-adolescent relationships marked by chronic and escalating levels of serious conflict (Holmbeck, 1996).

In contrast to the storm and stress theories, individuation theory emphasizes individuality and connectedness instead of disengagement (Hofer, Youniss, & Noack, 1998; Noack & Kracke, 1998). Functioning to maintain cohesiveness, positive emotional attachments between parents and adolescents are a prerequisite of individuation, a process of relational transformations that results in increasingly reciprocal and egalitarian patterns of mutual interactions in the family (Hill, 1987; Montemayor, 1983; Noack & Puschner, 1999). These transformations in the parent-adolescent relationship are negotiated through conflicts over everyday issues where parents attempt to stay in control of the process while adolescents strive for independence (Holmbeck, 1996; Noack & Kracke, 1998). During this period, parent-adolescent interactions are characterized by conflict and intimate closeness (Brooks-Gunn & Zahaykevick, 1989; Collins, 1990; Hofer et al., 1998; Steinberg, 1990) where adolescents achieve individuality with the support of their parents (Noack & Puschner, 1999; Scabini, 2000).

Storm and stress theories were based primarily on clinical samples and have not been found to be representative of all adolescents. Other empirical research, however, shows support for individuation theory. The process described by individuation theory is observed in a greater number of parent-adolescent relationships than the storm and stress process (Hofer et al., 1998; Noack & Kracke, 1998; Smetana, 1996). Adolescence is characterized by conflict and rebellion, where the quality of parent-adolescent interactions and the amount of time parents and adolescents spend together decrease (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996;

Smetana, 1996). Concurrently, supportive relationships also characterize parent-adolescent relationships (Smetana, 1996). Parents continue to hold a significant amount of influence over their adolescent children, who maintain high regard for their parents (Collins, 1995). Instead of disengagement, emotional bonds and stability between parents and their children are preserved throughout adolescence (Larson et al., 1996; Smetana, 1996). Discontinuities in the parent-adolescent relationship occur within a larger context of relational continuity (Holmbeck, 1996).

Many American adolescents and their parents argue, quarrel, and bicker persistently over everyday specifics of family life, such as schoolwork, housework, and social life (Comstock, 1994; Montemayor, 1983; Noller, 1994). This conflict, however, is conceptualized as a transitory disturbance that fosters adolescent development through adjusting expectations and balancing power continually within the family. This disturbance, in turn, leads to adaptations in family relationships (Collins, 1995; Holmbeck & Hill, 1991; Smetana, 1995, 1996). These readjustments suggest that parents and adolescents realign gradually their relationships in order to move toward a more symmetrical, egalitarian relationship (Collins, 1995; Steinberg, 1990; Youniss, 1980; Youniss & Smollar, 1985).

Although research cannot conclude firmly that individuation is the modal type of change, an individuated pattern appears to be the most beneficial for adolescent development due to its emphasis on high connectedness and individuality (Noack & Puschner, 1999; Steinberg & Silverberg, 1986). The question remains then. What variables lead to an individuated pattern of adolescent outcomes? Many researchers have discussed and analyzed several different variables in an attempt to understand antecedents and consequences of parent-adolescent relational outcomes. These variables often are analyzed individually and not in conjunction with each other. Although research has demonstrated that early adolescence is generally a time of increased

emotional distance and mild disruption in familial relationships (Hill & Holmbeck, 1987; Holmbeck, 1996; Holmbeck & Hill, 1991; Paikoff & Brooks-Gunn, 1991; Steinberg, 1989), little is known about the underlying processes of these relational transformations (Brooks-Gunn & Zahaykevick, 1989; Collins, 1990, 1995; Paikoff & Brooks-Gunn, 1991; Smetana, 1995; Steinberg, 1989, 1990). Very little is known about the mechanisms that produce disruptions within the family or about the developmental roles of these disruptions (Holmbeck, 1996). “The complex interplay among context, maturation, and relationship characteristics is poorly understood” (Laursen & Collins, 1994, p. 206).

In order to gain a better comprehension of parent-adolescent interactions and the outcomes that adolescents may experience, several different variables, including parenting variables, autonomy, family environment, expectations, and conflict, must be taken into account. Considering the possible impact parent-adolescent interaction variables may have not only on parent-adolescent outcomes but also on each other, the need for a holistic model is paramount.

### The Proposed Model

Following Holmbeck (1996), the proposed model focuses on and views conflict as the impetus for adaptation or maladaptation within parent-adolescent interactions. Through conflict, parents and adolescents adapt their expectations to the changing needs of the parent-adolescent relationship. The needs of this relationship begin to change due to the adolescent’s increasing level of autonomy. The relationship transforms from a unilateral relationship, where power lies with the parent, to a mutual relationship, where the adolescent gains more independence and yet still needs parental support. Parenting, family environment, and conflict are critical in

determining how smooth this transition is. Much research exists on each of the aforementioned individual variables.

### Parenting

Currently, Baumrind's typology is the most accepted model of parenting styles (Baumrind, 1991; Smetana, 1994). According to this typology, parenting varies across two dimensions, demandingness and responsiveness. From these two dimensions, the following four styles can be derived: authoritative, authoritarian, permissive, and neglecting (Smetana, 1994). Authoritative parenting combines high levels of democracy, warmth, and autonomy granting and appears to be the most beneficial style for children and adolescents as it is related to several positive outcomes, such as self-esteem and self-reliance (Holmbeck, 1996; Litovsky & Dusek, 1985). In contrast, authoritarian parenting lacks warmth and is high in control, permissive parenting lacks control, and neglecting parenting lacks warmth and control. These three styles appear to be related to negative outcomes for children and adolescents. For reviews on parenting styles, see Baumrind (1991) and Maccoby and Martin (1983).

With regard to the relationship between parenting style and adolescent development, adolescents strive generally for more freedom from parental control than parents are prepared to give (Dekovic, 1999). Parents who become more authoritarian in response to their adolescent's attempts at individuation elicit increasingly negative exchanges and more disobedience from their children (Dekovic, 1999; Noller, 1994). Parents who are supportive and offer consistent discipline that is not dealt harshly facilitate the achievement of an adaptive adjustment for their children and adolescents, as indicated by academic competence, self-confidence, and positive peer relations (Kotchick & Forehand, 2002; Noller, 1994). Overall, it appears that parents who

offer support and warmth within a context of consistent, fair discipline, instead of becoming increasingly controlling and harsh, allow their adolescents to individuate successfully. Further, parents must make adaptations to the changing status of their adolescents and must not restrain the process by repressing their adolescents' individuation (Baumrind, 1991). Otherwise, adolescents will be likely to challenge and disobey parents who dictate rules or overlook their rights (Comstock, 1994). Parents who are able to create a cohesive family environment and adapt to their adolescents' changing developmental goals allow for a smoother transition for the parent-adolescent relationship.

### Family Environment

Depending on their style of parenting, parents create differing family environments. Family environments have been identified as playing a critical role in child development (Ross, Marrinan, Schattner, & Gullone, 1999; Tein, Roosa, & Michaels, 1994) and are related to a number of different child and adolescent variables, including independence, self-esteem, moral development, anxiety, conduct problems, and school adaptation and achievement (Demo, Small, & Savin-Williams, 1987; Johnson, Shulman, & Collins, 1991; Maccoby & Martin, 1983; Tein et al., 1994). Variables that compose the family environment include cohesiveness and adaptability (Ross et al., 1999).

Authoritative parents create a cohesive, flexible environment, whereas authoritarian parents create an environment that is characterized by distance and rigidity. A family environment that is typically cohesive and adaptable facilitates negotiations of parent-adolescent disagreements and helps to decrease levels of conflict (Collins, 1995; Rueter & Conger, 1995). Within a family environment that is generally distant and rigid, however, parents and adolescents

encounter much difficulty in resolving disagreements (Rueter & Conger, 1995). In addition, adolescents' well being is affected negatively as indicated by lowered self-esteem and increased depression (Ross et al., 1999). Generally, adolescents must gain their own autonomy from parental authority, and parents must adapt to the adolescents' increasing needs for autonomy and create a cohesive environment in which those needs may be expressed freely (Noom & Dekovic, 1998). If parents adapt successfully to these changes, then the parent-adolescent relationship becomes more egalitarian. If parents fail to allow their adolescents to become individuated, however, adolescents will likely detach from the parent-adolescent relationship (Krappman, Schuster, & Youniss, 1998). An important variable that must be adapted throughout the parent-adolescent relationship is expectations.

### Expectations

Since violations of parent-adolescent expectations are most likely to occur throughout the rapid development of adolescence (Collins & Luebker, 1994), one way that parents can facilitate the adaptation process is by adjusting their expectations of their adolescents so that they are developmentally appropriate (Dekovic, Noom, & Meeus, 1997). Physical, social, and cognitive changes experienced by the adolescent bring about repeated violations of expectancies that, in turn, lead to conflict (Collins & Luebker, 1994; Dekovic et al., 1997). This conflict serves to drive parents and adolescents to form new developmentally appropriate expectancies (Collins & Luebker, 1994). In order to maintain healthy parent-adolescent relationships, parents, adolescents, or both often change their expectancies (Collins & Luebker, 1994). Through repeating this conflictual process numerous times, expectancies are changed over the course of

adolescence so that expectancies are congruent with developmental goals of autonomy and individuality (Collins & Luebker, 1994).

### Conflict

Conflict originates from developmental changes that cause the adolescent to seek autonomy, thus changing the status of the parent-adolescent relationship. This status change causes parent-adolescent expectations to become disparate. Through conflict, expectations realign and become developmentally appropriate (Collins & Luebker, 1994). Conflict occurs within the context of parenting and the family environment. It also plays a pivotal role in informing parents that adolescent needs and expectations have changed and that adjustments and adaptations need to be made (Holmbeck, 1996). Finally, level of conflict is related to outcomes for parent-adolescent relationships, parents, and adolescents (Dekovic, 1999).

### Outcomes

Possible changes in parent-adolescent relationships throughout the course of adolescence include increased assertiveness by parents and adolescents, increased emotional distance, decreased expressiveness, and increasing perceptual congruence in late adolescence (Collins, 1995). Additionally, adolescent adjustment is linked closely to the quality of parent-adolescent relationships. The type of reaction that parents and adolescents have to conflict within the parent-adolescent relationship determines greatly the extent of these outcomes (Holmbeck, 1996). A majority of research has found conflict to be adaptive for parent-adolescent relationship outcomes since they facilitate the realignment of parent-adolescent relationships from a unilateral to a mutual relationship (Holmbeck, 1996). Some outcomes, however, may not be

adaptive if family members are not capable of making appropriate adjustments in parent-adolescent interactions (Holmbeck, 1996). Persistent and intense conflict is maladaptive and associated with negative psychological outcomes, whereas moderate conflict that is resolved through adaptation of the parent-adolescent relationship is adaptive (Grotevant & Cooper, 1986). Conflict either brings parent-adolescent relationships closer together, which is what occurs a majority of the time, or drives them apart.

### Proposed Study

The purpose of the study is to test a holistic model, presented below, concerning parent-adolescent interaction variables. The objective of this model is threefold. First, the model will attempt to predict parsimoniously adolescent outcomes given information pertaining to the parent-adolescent interaction variables within the model. Second, the model will attempt to pinpoint areas that are most critical to adolescent outcomes so that these areas may be targeted potentially for intervention. Third, the model will strive to integrate the area of research concerning parent-adolescent interaction variables by investigating how the process of parent-adolescent interactions is associated with adolescent outcomes. From this model, several hypotheses will be examined.

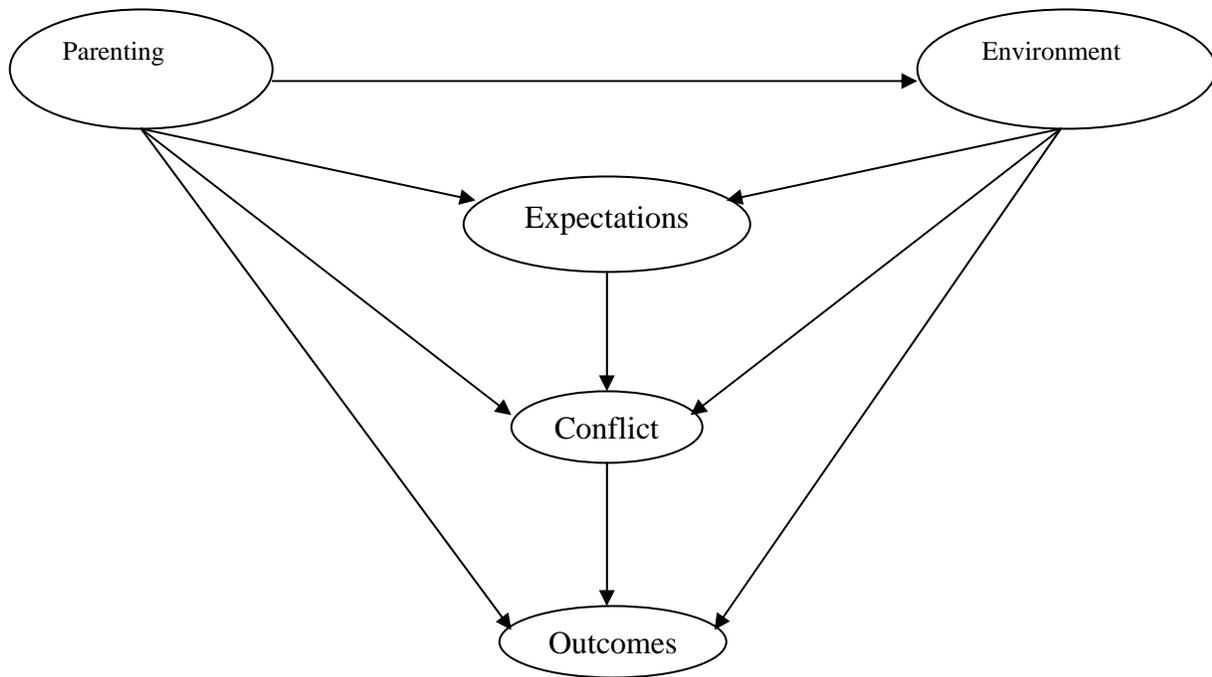


Figure 1: A Holistic Model of Parent-Adolescent Interaction Variables

### Hypotheses

*Conflict.* First, conflict will be related highly to parenting, with lower levels of conflict being associated with higher levels of authoritative parenting, autonomy granting, and warmth. This hypothesis is based on the finding that authoritative parents tend to create warm, supportive environments, whereas authoritarian parents tend to create hostile, controlling environments (Baumrind, 1991; Holmbeck, 1996; Litovsky & Dusek, 1985; Maccoby & Martin, 1983). Second, conflict will be related negatively to family environment, with higher levels of conflict being associated with lower cohesiveness and adaptability. This hypothesis is based on the finding that parents who create a cohesive environment and demonstrate the ability to adapt to the changing developmental needs of adolescents facilitate adolescent goals of autonomy and individuation and experience decreased conflict, whereas parents who fail to create a cohesive

environment or adapt inhibit adolescent development and experience increased conflict (Collins, 1995; Krappman et al., 1998; Noom & Dekovic, 1998). Third, conflict will be related to expectations, with earlier expectations being associated with lower levels of conflict. This hypothesis is based on the finding that adolescents strive generally for earlier expectations than parents and that violations in expectations tend to lead to higher levels of conflict (Collins & Luebker, 1994; Dekovic et al., 1997). Finally, extremely high levels of conflict will be associated with poorer outcomes for adolescents and low to moderate levels of conflict will be associated with more positive outcomes. This hypothesis is based on the finding that increased parent-adolescent conflict leads to poorer outcomes for adolescents but that some conflict is necessary so that readjustments in the parent-adolescent relationship may be made (Collins & Luebker, 1994; Holmbeck, 1996).

*Parenting Style.* Parenting will be related to expectations, family environment, and outcomes, with authoritative parenting style, warmth, and autonomy granting being associated with earlier expectations, higher levels of family cohesion and adaptability, and more positive outcomes. This hypothesis is based on the finding that authoritative parenting style tends to be associated with higher parental understanding and support (Baumrind, 1991; Maccoby & Martin, 1983).

*Family Environment.* Cohesion and adaptability will be related to expectations and outcomes, with higher cohesion and adaptability being associated with earlier expectations and more positive outcomes. This hypothesis is based on the finding that cohesion and adaptability allow parents and adolescents to realign their expectations of the parent-adolescent relationship, leading to a decrease in the amount of conflict and, therefore, more positive outcomes (Krappman et al., 1998; Noom & Dekovic, 1998).

*Overall Model.* Finally, it is expected that conflict will mediate the effects of parenting and family environment on outcomes. That is, parenting and family environment accounted for individually will have an effect on outcomes. Those effects, however, will be eliminated when accounting simultaneously for conflict.

## METHODS

### Participants

The sample consisted of 163 males and 363 females who ranged in age from 18- to 22-years ( $M = 19.22$ ,  $SD = 1.39$ ) and were enrolled in an introductory psychology course. A large proportion of the sample was Caucasian (76.2%), with the rest of the sample varying in ethnic background (9.7% Hispanic, 6.5% African American, 1.9% Asian, 3.6% Other). Participants varied in their socioeconomic status with a majority of the sample reporting a total parental income between \$30,000 and \$99,999 (63.0%) and a large proportion reporting a total parental income in excess of \$100,000 (26.4%). Participants were treated in accordance with the Ethical Principles of Psychologists and Code of Conduct.

### Measures

*Demographics Questionnaire.* A demographics questionnaire was used to gain pertinent information. Variables assessed included participants' age, gender, living situation, total family income, parents' education, and parent's occupation.

*Parental Bonding Instrument .* The Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979) is a 25-item scale designed to measure parental behaviors and attitudes as perceived by the adolescent. The measure has maternal and paternal scales and includes two variables, caring (opposite extreme being indifference or rejection) and overprotection (opposite extreme being encouragement of autonomy).

These scales are rated on four-point Likert scales ranging from “very like” to “very unlike”. Exhibiting good to excellent internal consistency, the PBI has had split-half reliability coefficients of .88 for care and .74 for overprotection in other studies. Showing good stability, the PBI has had three-week test-retest correlations of .76 for care and .63 for overprotection. The PBI correlates significantly with independent rater judgments of parental caring and overprotection, demonstrating good concurrent validity. In this study, the items from the care and overprotection scale (alphas ranging from .79 to .89) were scored and used as predictors of parenting variables, parental warmth and autonomy granting. Higher scores on each scale indicate higher levels of care and overprotection, whereas lower scores on each scale indicate indifference or rejection and the encouragement of autonomy.

*Family Functioning Scale.* The Family Functioning Scale (FFS; Bloom, 1985) was used to measure parenting style, cohesion, conflict, family idealization, expressiveness, disengagement, external locus of control, and enmeshment. This scale is a 75-item measure surveying 15 dimensions (cohesion, expressiveness, conflict, intellectual-cultural orientation, active-recreational orientation, religious emphasis, organization, family sociability, external locus of control, family idealization, disengagement, democratic family style, laissez-faire family style, authoritarian family style, and enmeshment) of family functioning. The dimensions are reasonably independent of each other and have satisfactory psychometric properties with Cronbach’s alpha reliabilities on the 15 scales ranging from .40 to .80. The validity of the scale is shown by significant differences on 12 of the 15 dimensions between intact families and families disrupted subsequently by separation and divorce. In this study, scores from the cohesion, expressiveness, and enmeshment scales (alphas ranging from .67 to .77) were used as predictors of family environment. Scores from the conflict and family idealization scales (alphas ranging

from .45 to .56) were used as predictors of conflict scales. Scores from the disengagement, external locus of control, democratic family style, laissez-faire family style, and authoritarian family style scales (alphas ranging from .45 to .66) were used as predictors of parenting. Other scales were not used due to their irrelevance to the overall model. Higher scores on each of these dimensions indicate higher levels of the variable being measured.

*Parental Authority Questionnaire.* The Parental Authority Questionnaire (PAQ; Buri, 1991) contains 30 questions, which assess parents' permissive, authoritarian, and authoritative parenting (10 questions each). Participants were instructed to rate each statement according to a five-point Likert scale ranging from "strongly disagree" to "strongly agree" and completed the questionnaire for both their mothers and fathers. Test-retest reliabilities have ranged from .77 to .92, and internal consistency reliabilities have ranged from .74 to .87 on the subscales, demonstrating good reliability. The scale also has good discriminant validity. Authoritarianism has been related inversely to permissiveness and authoritativeness, whereas permissiveness has not been related to authoritativeness. Criterion-related validity has been established with parental warmth as well as authoritativeness being related positively, authoritarianism being related negatively, and permissiveness being unrelated to parental nurturance. In this study, the items from each of the three subscales (alphas ranging from .73 to .89) were summed and used as predictors of parenting style. Higher scores on each subscale indicate higher levels of each parenting style.

*Family Adaptability and Cohesion Evaluation Scale.* The Family Adaptability and Cohesion Evaluation Scale (FACES-II; Olson, Bell, & Portner, 1992) is a 30-item scale designed to measure the rates of two central domains of a family system's functioning: level of adaptability (the ability to change) and cohesion (the degree to which family members are

emotionally connected or separate). FACES-II has demonstrated internal consistency alphas of .87 for cohesion, .78 for adaptability, and .90 overall and test-retest reliabilities of .83 for cohesion, .80 for adaptability, and .84 overall. Validity has been established as the FACES-II correlates positively with other scales that measure similar constructs, with correlations ranging from .45 to .93. In this study, both scales (alphas ranging from .79 to .89) were calculated and used as predictors of family environment, specifically adaptability and cohesion. Higher scores on these scales indicate higher family adaptability and cohesion.

*The Differentiation in the Family System Scale.* The Differentiation in the Family System Scale (DIFS; Anderson & Sabatelli, 1992) is an 11-item scale that can be completed about any family member. In this study, this scale was completed for both parents. This measure is rated on a five-point Likert scale ranging from “never” to “always”. The scale is designed to measure emotional connectedness (support, involvement) and separateness (autonomy, freedom of expression). Alphas have ranged from .84 to .94 across studies, demonstrating high reliability. Construct validity is provided by the existence of significant correlations between the scale and measures of family conflict. In this study, the overall score (alphas ranging from .91 to .92) was calculated and used as a predictor of parental autonomy granting. A higher overall score indicates greater autonomy granting.

*Developmental Timetables for Adolescence.* Developmental Timetables for Adolescence (DTA; Dekovic et al., 1997) is a 24-item scale used to assess parental expectations for mastery of developmental tasks by adolescents. Developmental tasks included are personal, relational, and socioinstitutional tasks. Participants decide the age at which they believe their mothers or fathers expect them to engage in those tasks. Responses are rated on a 10-point scale, ranging from before 8-years to after 25-years. This measure has been shown to have alphas ranging from .53 to

.83 on various subscales. In this study, the items from each of the three subscales (alphas ranging from .59 to .86) were summed and used as a predictor of expectations. A higher overall score indicates later expectations for developmental tasks.

*Conflict Tactics Scale: Parent-Child Version.* The Conflicts Tactics Scale: Parent-Child Version (CTSPC; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) is a 22-item scale used to assess the amount of physical and psychological aggression carried out by parents and was used to measure conflict. Subscales include nonviolent discipline, psychological aggression, corporal punishment, and severe physical assault. Alphas in previous studies for the various subscales ranged from -.02 to .60, with low internal consistencies accounted for by the rarity of certain items occurring, such as a parent stabbing their child, and resulting in an extremely skewed distribution. Although a high internal consistency is not a prerequisite of validity, test-retest reliability is. The scale has had test-retest reliabilities ranging from .49 to .80. Evidence of validity exists as the scale correlates in expected directions with various other measures and does not correlate when it is expected not to. In this study, the overall score was calculated by summing the items from each scale (alphas ranging from .59 to .85) and used as predictors of conflict. A higher overall score indicates a higher rate of conflict.

*Rosenberg Self-Esteem Inventory.* The Rosenberg Self-Esteem Inventory (RSEI; Rosenberg, 1965) was used to assess a type of adolescent outcome, self-esteem. The scale consists of 10 items that are rated on a four-point Likert scale with responses ranging from “strongly disagree” to “strongly agree”. Internal consistencies have ranged from .85 to .88 in college student samples. Validity is demonstrated as the scale correlates positively with other measures of self-esteem and correlates negatively with negative psychological adjustment such as depression and anxiety. In this study, the overall score (alpha = .90) was calculated by

summing the items and used as a predictor of self-esteem. A higher overall score indicates a higher self-esteem.

*Beck Depression Inventory.* The Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) was used to measure a type of adolescent outcome, depression. The measure contains 21 items which are rated from “0” to “3”, with higher ratings indicating more severe depression. In previous studies, internal consistencies were .92 and .93 for outpatients and college students, respectively. Validity for this measure has been established, as the BDI-II correlates positively with other measures of depression and has high item-intercorrelations. In this study, the overall score (alpha = .92) was calculated by summing the items and used as predictor of depressive symptomology. A higher overall score indicates greater depressive symptoms.

*Manifest Anxiety Scale.* The Manifest Anxiety Scale (MAS; Taylor, 1953) was used to measure a type of adolescent outcome, anxiety. Items on this 50-item measure were taken from MMPI items concerning anxiety and are rated as being true or false as related to the participant. The overall score indicates how severely a participant is affected by anxiety. Previous studies have had split-half reliabilities of .92 and test-retest reliabilities ranging from .81 to .89. Validity has been established through studies indicating that scores on the MAS agree with scores on various other anxiety instruments. In this study, the overall score (alpha = .91) was calculated by scoring the number of items endorsed as characterizing anxiety, and this overall score was used as predictor of anxious symptomology. A higher overall score indicates greater anxiety.

## Procedure

Upon approval of the study by the institutional review board, participants attended a data collection session during which they signed an informed consent about the study and were asked to complete the aforementioned questionnaires. Upon completion of the study, participants were debriefed about the study and given extra credit toward a psychology course of their choosing.

## RESULTS

### Initial Data Analyses

Means, standard deviations, and correlations were calculated using SPSS for Windows 11.0 (SPSS, 2001), and structural equation modeling (SEM) analyses were performed using Statistica SEPATH for Windows 5.1 (Statistica, 1997). Unless otherwise stated, an alpha level of .05 was used for analyses.

Examination of father and mother differences indicated that father and mother scores as rated by the sample differed significantly at the  $p < .0005$  level on all measures except for the PAQ permissiveness subscale ( $p = .022$ ) and the CTSPC severe physical assault subscale ( $p = \text{NS}$ ). Examination of male and female differences indicated that males and females differed significantly at the  $p < .01$  level in their ratings on several measures (PAQ permissiveness subscale – father and mother form; PBI overprotection subscale – mother form; FFS external locus of control, laissez-faire family style, and enmeshment subscales; DIFS – father form; DTA relational tasks subscale – father form and socioinstitutional tasks subscale – father and mother form; CTSPC psychological aggression subscale – father form, corporal punishment subscale – mother form, and severe physical assault subscale – father and mother form; MAS). Given these differences, male and female data regarding mother and father variables were analyzed separately. Thus, data for four models are provided (male-father, male-mother, female-

father, female-mother). Refer to the table below for means and standard deviations of the most relevant scales.

Table 1: Means and Standard Deviations

Indicator	Males				Females			
	Fathers		Mothers		Fathers		Mothers	
	M	SD	M	SD	M	SD	M	SD
PBI Care	21.62	7.39	26.51	5.71	23.00	8.02	26.96	6.45
PBI Overprotection	10.22	6.23	11.86	6.02	10.40	6.39	10.67	6.04
DIFS	40.71	8.10	43.49	7.29	43.65	8.80	44.62	7.86
PAQ Authoritative	33.74	6.45	36.11	5.63	34.18	7.30	36.60	6.39
PAQ Authoritarian	32.42	7.51	29.16	7.04	31.27	8.54	28.73	7.48
FACES-II Cohesion	55.99	10.16	--	--	57.95	11.06	--	--
FACES-II Adapt. I	24.88	4.68	--	--	25.70	5.06	--	--
FACES-II Adapt. II	22.21	4.42	--	--	22.49	5.01	--	--
FFS Cohesion	14.49	3.08	--	--	14.98	3.43	--	--
FFS Expressiveness	13.10	3.23	--	--	13.68	3.55	--	--
DTA Personal	67.23	11.67	66.95	11.21	69.94	12.59	67.62	11.37
DTA Relational	17.31	5.27	16.92	4.42	19.22	4.30	17.14	4.31
CTSPC Psychological Aggression	18.11	25.68	20.26	24.15	11.19	19.23	19.11	24.03
CTSPC Corporal Punishment	7.61	16.79	13.13	24.07	5.11	15.23	7.50	17.85
CTSPC Severe Assault	4.90	15.36	3.85	10.12	1.56	6.83	1.60	7.01
RSEI	31.60	5.69	--	--	31.83	4.80	--	--
BDI	7.95	9.52	--	--	8.30	7.97	--	--
MAS	17.27	10.14	--	--	19.70	9.62	--	--

Note. -- indicates that a variable has a global mean instead of father/mother specific means. M = mean. SD = standard deviation.

Many scales obtained noteworthy correlations with the adolescent outcome measures.

The correlations discussed here obtained an absolute  $r > .30$  at the  $p < .01$  level. When

examining adolescent self-esteem, male-father, male-mother, female-father, and female-mother ratings were correlated positively with the DIFS, FFS cohesion, and FFS expressiveness scales. Adolescent self-esteem also was correlated positively with the PBI care subscale for all groups with the exception of the female-father group. Adolescent depression was correlated positively with the CTSPC corporal punishment scale for male-father and male-mother ratings. Adolescent depression also was correlated positively with the CTSCP psychological aggression scale for female-father and female-mother ratings and was correlated negatively with the FFS Cohesion scale for females. Adolescent anxiety was correlated negatively with the FFS cohesion scale for males and females and correlated positively with the CTSPC corporal punishment scale for male-father and male-mother ratings. Refer to the tables below for correlations among the most relevant scales.

Table 2: Correlations Among Indicators for Males

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
1. PBI Care	1	-.34*	.71*	.67*	-.35*	.57*	.49*	.33*	.41*	.38*	-.10	-.20	-.34*	-.18	-.16	.32*	-.22*	-.25*
2. PBI Overprotection	-.60*	1	-.55*	-.29*	.27*	-.31*	-.36*	-.31*	-.26*	-.31*	.36*	.34*	.22*	.21*	.07	-.28*	.00	.22*
3. DIFS	.72*	-.71*	1	.57*	-.49*	.51*	.48*	.43*	.38*	.29*	-.17	-.29*	-.41*	-.37*	-.32*	.44*	-.24*	-.37*
4. PAQ Authoritative	.57*	-.36*	.49*	1	-.38*	.46*	.81*	.60*	.63*	.61*	.00	-.01	-.27*	-.11	-.13	.17	-.09	-.10
5. PAQ Authoritarian	-.29*	.43*	-.49*	-.16	1	-.19	-.16	-.23*	-.09	-.06	.23*	.12	.29*	.27*	.13	-.14	.01	.23*
6. FACES Cohesion	.55*	-.32*	.45*	.60*	-.19	1	.81*	.60*	.63*	.61*	-.03	-.15	-.22*	-.12	-.18	.43*	-.29*	-.29*
7. FACES Adapt. I	.58*	-.45*	.56*	.61*	-.28*	.81*	1	.65*	.55*	.66*	-.14	-.24*	-.11	-.10	-.16	.39*	-.26*	-.27*
8. FACES Adapt. II	.40*	-.40*	.46*	.57*	-.33*	.60*	.65*	1	.43*	.43*	-.13	-.23*	-.20	-.19	-.17	.27*	-.11	-.21*
9. FFS Cohesion	.47*	-.37*	.41*	.42*	-.20	.63*	.55*	.43*	1	.56*	-.12	-.27*	-.19	-.19	-.24*	.41*	-.21*	-.32*
10. FFS Expressiveness	.43*	-.33*	.34*	.50*	-.13	.61*	.66*	.43*	.56*	1	-.06	-.24*	-.02	.04	-.02	.37*	-.12	-.15
11. DTA Personal	-.16	.40*	-.33*	-.10	.31*	-.08	-.21*	-.27*	-.17	-.05	1	.49*	-.02	.02	.01	-.02	-.08	.14
12. DTA Relational	-.25*	.28*	-.24*	-.16	.29*	-.05	-.17	-.24*	-.25*	-.14	.55*	1	-.03	.08	.05	-.23*	.07	.20
13. CTSPC Psych. Agg.	-.32*	.35*	-.43*	-.26*	.42*	-.24*	-.21*	-.32*	-.26*	-.04	-.05	-.07	1	.65*	.55*	-.22*	.27*	.27*
14. CTSPC Corp. Pun.	-.16	.26*	-.33*	-.14	.43*	-.10	-.14	-.17	-.16	-.02	.05	.08	.63*	1	.71*	-.26*	.36*	.35*
15. CTSPC Sev. Assault	-.34*	.31*	-.35*	-.28*	.29*	-.20	-.23*	-.30*	-.21*	-.10	.21*	.19	.48*	.48*	1	-.25*	.39*	.30*
16. RSEI	.30*	-.23*	.38*	.24*	-.13	.43*	.39*	.27*	.41*	.37*	-.01	-.08	-.28*	-.23*	-.25*	1	-.61*	-.66*
17. BDI	-.06	.04	-.15	-.16	.06	-.29*	-.26*	-.11	-.21*	-.12	-.05	-.05	.29*	.33*	.08	-.61*	1	.69*
18. MAS	-.20	.17	-.28*	-.12	.22*	-.29*	-.27*	-.21*	-.32*	-.15	.15	.10	.35*	.33*	.25*	-.66*	.69*	1

Note. Correlations for ratings of mothers are below, whereas ratings of fathers are above the diagonal.  $N = 163$ . \* $p < .01$ .

Table 3: Correlations Among Indicators for Females

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
1. PBI Care	1	-.40*	.79*	.73*	-.49*	.56*	.51*	.47*	.48*	.46*	-.21*	-.18*	-.43*	-.28*	-.31*	.25*	-.27*	-.25*
2. PBI Overprotection	-.55*	1	-.64*	-.38*	.55*	-.28*	-.40*	-.42*	-.24*	-.30*	.41*	.36*	.40*	.19*	.24*	-.27*	.29*	.21*
3. DIFS	.80*	-.69*	1	.75*	-.62*	.56*	.59*	.54*	.41*	.49*	-.34*	-.26*	-.51*	-.34*	-.37*	.30*	-.28*	-.27*
4. PAQ Authoritative	.68*	-.46*	.70*	1	-.52*	.52*	.50*	.49*	.36*	.40*	-.23*	-.18*	-.37*	-.32*	-.30*	.20*	-.15*	-.15*
5. PAQ Authoritarian	-.44*	.54*	-.59*	-.45*	1	-.36*	-.42*	-.50*	-.31*	-.32*	.39*	.31*	.39*	.31*	.26*	-.26*	.21*	.22*
6. FACES Cohesion	.66*	-.33*	.55*	.57*	-.27*	1	.80*	.67*	.70*	.61*	-.09	-.10	-.36*	-.26*	-.28*	.38*	-.31*	-.29*
7. FACES Adapt. I	.62*	-.39*	.59*	.61*	-.35*	.81*	1	.72*	.56*	.74*	-.17*	-.18*	-.31*	-.28*	-.30*	.35*	-.29*	-.29*
8. FACES Adapt. II	.53*	-.42*	.54*	.59*	-.47*	.67*	.72*	1	.46*	.55*	-.23*	-.20*	-.27*	-.26*	-.27*	.34*	-.23*	-.28*
9. FFS Cohesion	.52*	-.27*	.45*	.40*	-.21*	.70*	.56*	.46*	1	.55*	-.07	-.06	-.29*	-.18*	-.20*	.37*	-.38*	-.33*
10. FFS Expressiveness	.49*	-.28*	.48*	.48*	-.25*	.61*	.74*	.55*	.55*	1	-.09	-.15*	-.22*	-.19*	-.20*	.33*	-.25*	-.24*
11. DTA Personal	-.15*	.36*	-.24*	-.15*	.38*	-.02	-.11	-.22*	.03	-.03	1	.59*	.23*	.20*	.22*	-.14*	-.18*	.10
12. DTA Relational	-.18*	.30*	-.22*	-.18*	.39*	-.03	-.15*	-.18*	-.04	-.10	.61*	1	.12	.17*	.11	-.11	.10	.10
13. CTSPC Psych. Agg.	-.19*	.11	-.21*	-.20*	.19*	-.36*	-.31*	-.27*	-.29*	-.22*	.06	.04	1	.60*	.59*	-.16*	.34*	.26*
14. CTSPC Corp. Pun.	-.16*	.03	-.16*	-.17*	.18*	-.26*	-.28*	-.26*	-.18*	-.18*	.10	.06	.60*	1	.80*	-.07	.23*	.18*
15. CTSPC Sev. Assault	-.18*	.05	-.18*	-.18*	.17*	-.28*	-.30*	-.27*	-.20*	-.20*	.07	.03	.59*	.80*	1	-.05	.23*	.16*
16. RSEI	.32*	-.33*	.39*	.28*	-.25*	.38*	.35*	.34*	.37*	.33*	-.12	-.10	-.16*	-.07	-.04	1	-.58*	-.57*
17. BDI	-.29*	.27*	-.32*	-.20*	.24*	-.31*	-.29*	-.23*	-.38*	-.25*	-.09	.02	.34*	.23*	.23*	-.58*	1	.69*
18. MAS	-.30*	.27*	-.35*	-.23*	.29*	-.29*	-.29*	-.28*	-.33*	-.24*	.03	.02	.26*	.18*	.16*	-.57*	.69*	1

Note. Correlations for ratings of mothers are below, whereas ratings of fathers are above the diagonal.  $N = 363$ . \* $p < .01$ .

### Latent Constructs and Their Indicators

The constructs hypothesized about previously included parenting, family environment, expectations, conflict, and outcomes. Parenting was indicated by the three subscales of the PAQ (i.e., the authoritative, authoritarian, and permissive subscales), five subscales of the FFS (i.e., democratic family style, laissez-faire family style, authoritarian family style, disengagement, and external locus of control), the two subscales of the PBI (i.e., care and overprotection), and the DIFS. The cohesion and adaptability subscales of the FACES-II and three subscales of the FFS (i.e., enmeshment, expressiveness, and cohesion), indicated family environment. Expectations was indicated by the three subscales of the DTA (i.e., personal, relational, and socioinstitutional tasks). The nonviolent discipline, psychological aggression, corporal punishment, and severe physical assault subscales of the CTSPC as well as the family idealization and conflict subscales of the FFS indicated conflict. Outcomes were indicated by the RSEI (self-esteem), BDI (depression), and MAS (anxiety). For the purposes of this model, the adaptability scale of the FACES-II was made into two scales by separating the first seven items from the last seven items to create additional indicators for family environment. Thus, parenting has 11 indicators, family environment has six indicators, expectations has three indicators, conflict has six indicators, and outcomes has three indicators, making a total of 29 indicators.

### Model Analyses

For the purposes of SEM, a male sample size of 163 is considered fair and a female sample size of 363 is considered good (Kline, 1998). The generalized least squares to maximum likelihood (GLS-ML) method of covariance structure analysis was used. Overall model fit was examined using the squared error of approximation (RMSEA), the comparative fit index (CFI),

and the parsimonious fit index (PFI). RMSEA values less than or equal to .10 (Kline, 1998) and CFI values greater than or equal to .90 indicate acceptable model fit (Bentler, 1992). PFI values greater than or equal to .60 signify that a model is sufficiently parsimonious (James, Mulaik, & Brett, 1982). Chi-square tests were not used to assess overall model fit due to their sensitivity to sample size and other biases (James et al., 1982).

Similar to other research, a two-stage modeling approach was taken (Anderson & Gerbing, 1988; Barry & Stewart, 1997). In stage 1, a measurement model that allowed all latent constructs to correlate freely was developed and evaluated. In stage 2, structural analysis designed to test relationships among latent variables was conducted. This process allowed structural relationships to be tested only after ensuring that latent variables were measured adequately. Exploratory procedures were used initially to create a suitable measurement model, and confirmatory procedures were used subsequently to test relationships among latent variables. Following this process decreases the possibility that relationships among latent variables will be misinterpreted solely due to poor construct measurement (Barry & Stewart, 1997).

### Measurement and Structural Models

All of the original measurement models using 29 indicators failed to adequately fit the data (all RMSEA > .10, all CFI < .90), suggesting the need for respecification. The need to respecify is common as “initially specified measurement models almost invariably fail to provide acceptable fit” (Anderson & Gerbing, 1988, p. 412). Examination of the standardized residuals revealed several indicators that did not relate clearly to a latent construct. As a result, these indicators were deleted from future analyses. The respecified measurement models, shown below, reproduced adequately the covariance matrix as indicated by the RMSEA (all < .10), CFI

(all  $>.90$ ), and PFI (all  $>.60$ ). All factor loadings exceeded  $.60$  (all  $ps < .0005$ ), indicating convergent validity. Measurement errors and factor correlations have been omitted for clarity

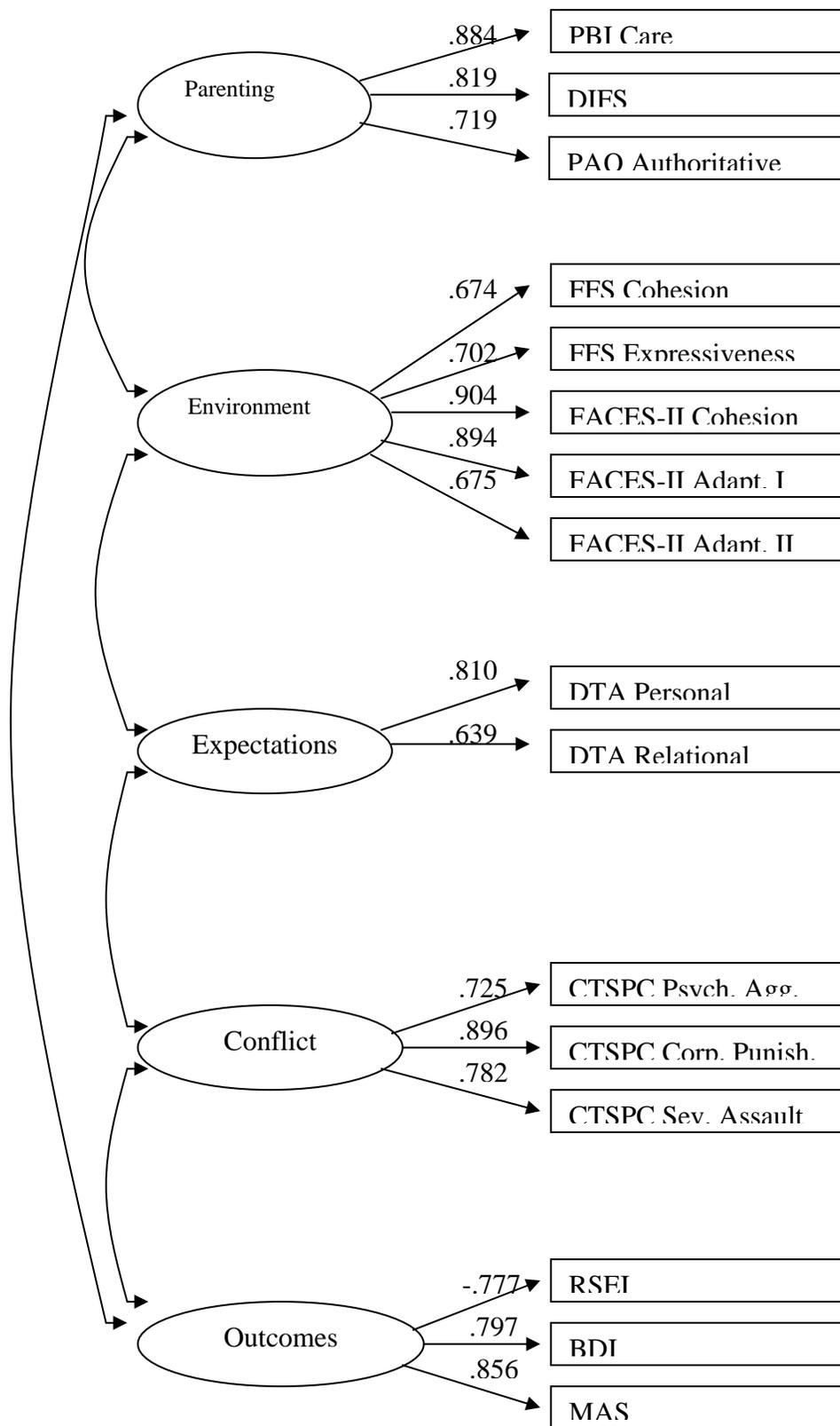


Figure 2: Male-Father Measurement Model

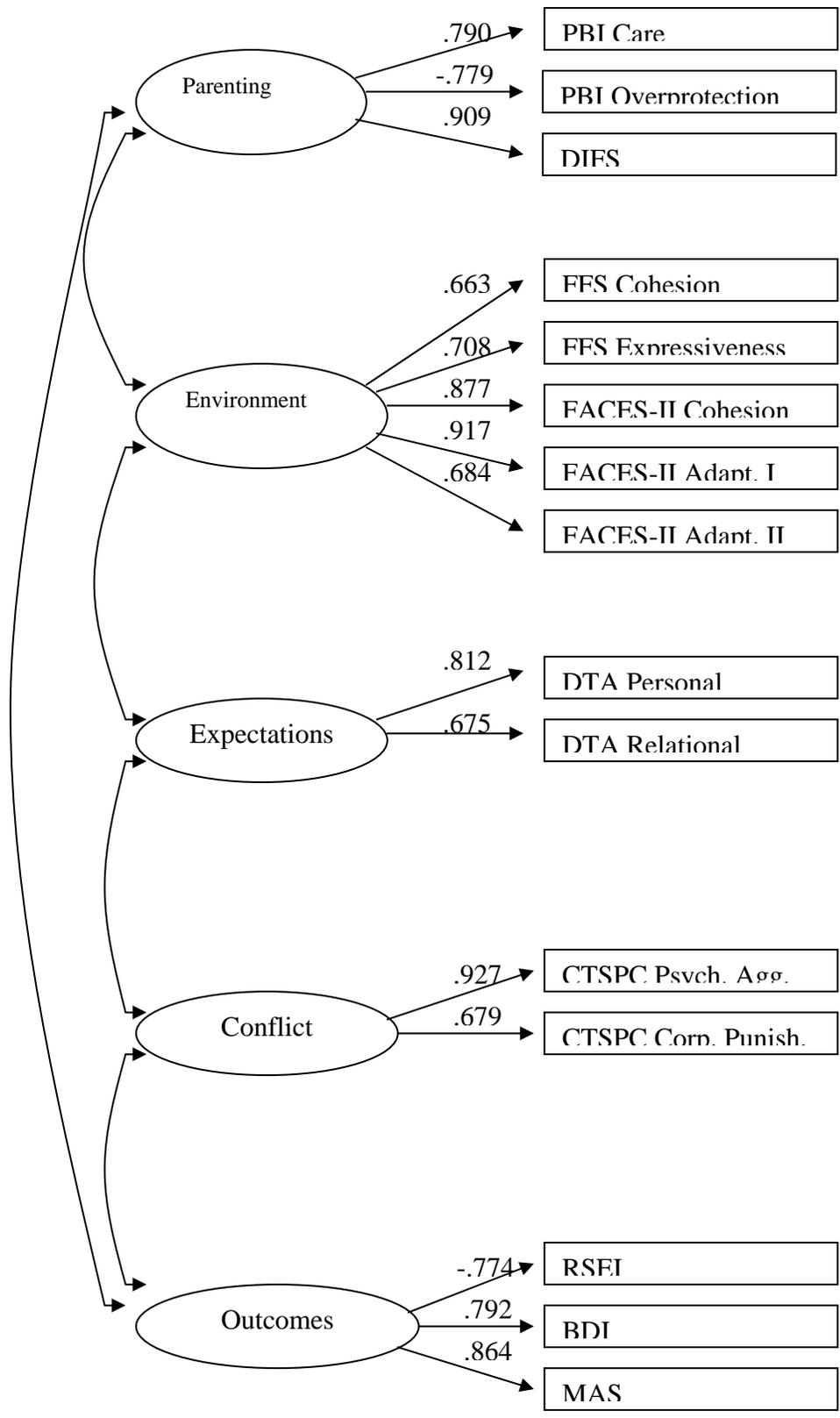


Figure 3: Male-Mother Measurement Model

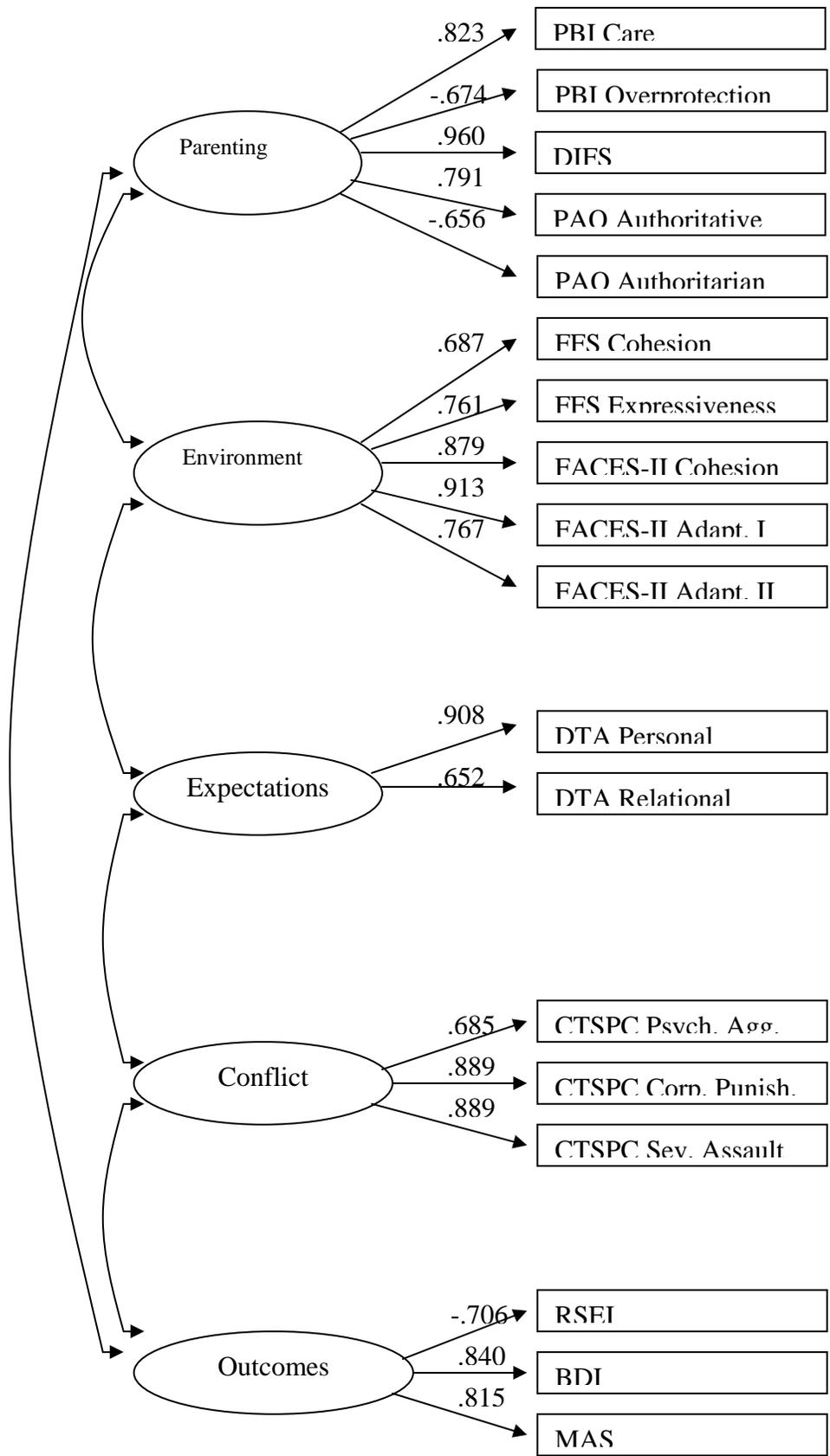


Figure 4: Female-Father Measurement Model

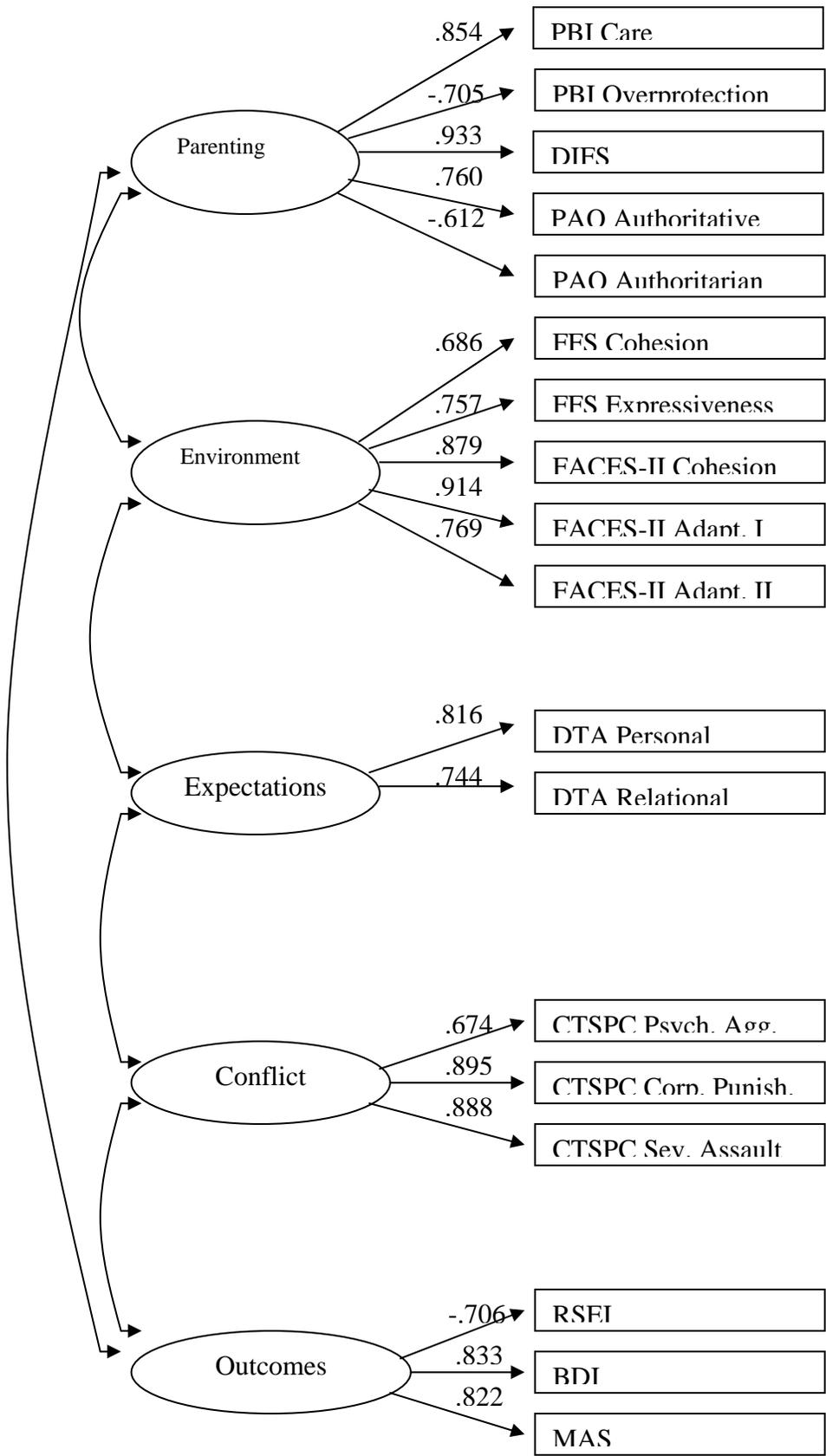


Figure 5: Female-Mother Measurement Model

Intercorrelations of the latent constructs for males and females and model statistics for original and respecified measurement models are shown below.

Table 4: Correlations Among Latent Constructs for Males

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	Parenting	Environment	Expectations	Conflict	Outcomes
Parenting	1	.65**	-.21*	-.35**	-.38**
Environment	.66**	1	-.20*	-.19*	-.42**
Expectations	-.44**	-.24**	1	.04	.14
Conflict	-.49**	-.27**	-.06	1	.46**
Outcomes	-.32**	-.42**	.09	.43**	1

---

Note. Correlations for ratings of mothers are below, whereas ratings of fathers are above the diagonal.  $N = 163$ . \* $p < .05$ ; \*\* $p < .01$ .

Table 5: Correlations Among Latent Constructs for Females

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	Parenting	Environment	Expectations	Conflict	Outcomes
Parenting	1	.68**	-.40**	-.45**	-.36**
Environment	.73**	1	-.19**	-.36**	-.45**
Expectations	-.34**	-.13*	1	.27**	.19**
Conflict	-.22**	-.36**	.10	1	.27**
Outcomes	-.46**	-.45**	.10	.27**	1

---

Note. Correlations for ratings of mothers are below, whereas ratings of fathers are above the diagonal.  $N = 363$ . \* $p < .05$ ; \*\* $p < .01$ .

Table 6: Fit Indices for Measurement Models

Test	<i>Chi Squared</i>	<i>df</i>	RMSEA	CFI	PFI
1. Original model					
Males rating fathers	1071.54	367	.11	.68	.53
Males rating mothers	918.45	367	.13	.70	.56
Females rating fathers	2373.61	367	.13	.67	.58
Females rating mothers	1966.30	367	.13	.72	.62
2. Respecified model					
Males rating fathers	206.32	95	.08	.92	.68
Males rating mothers	205.56	80	.10	.90	.65
Females rating fathers	539.87	125	.10	.90	.71
Females rating mothers	506.34	125	.10	.90	.72

Note.  $N = 163$  for males;  $N = 363$  for females

Upon specifying appropriate measurement models, the hypothesized structural model was tested. Each structural model reproduced adequately the covariance matrix as indicated by the RMSEA (all  $< .10$ ), CFI (all  $> .90$ ), and PFI (all  $> .60$ ) shown in the table below.

Table 7: Fit Indices for Structural Models

Test	<i>Chi Squared</i>	<i>df</i>	RMSEA	CFI	PFI
3. Hypothesized model					
Males rating fathers	206.28	107	.08	.93	.76
Males rating mothers	206.26	92	.09	.91	.75
Females rating fathers	541.67	140	.09	.90	.80
Females rating mothers	506.88	140	.09	.91	.80

Note.  $N = 163$  for males;  $N = 363$  for females

The figures below display the structural models and their path coefficients. Asterisks and double asterisks label standardized parameter estimates for which  $p < .05$  and  $p < .001$ , respectively.

Disturbances and measurement error effects are omitted for clarity.

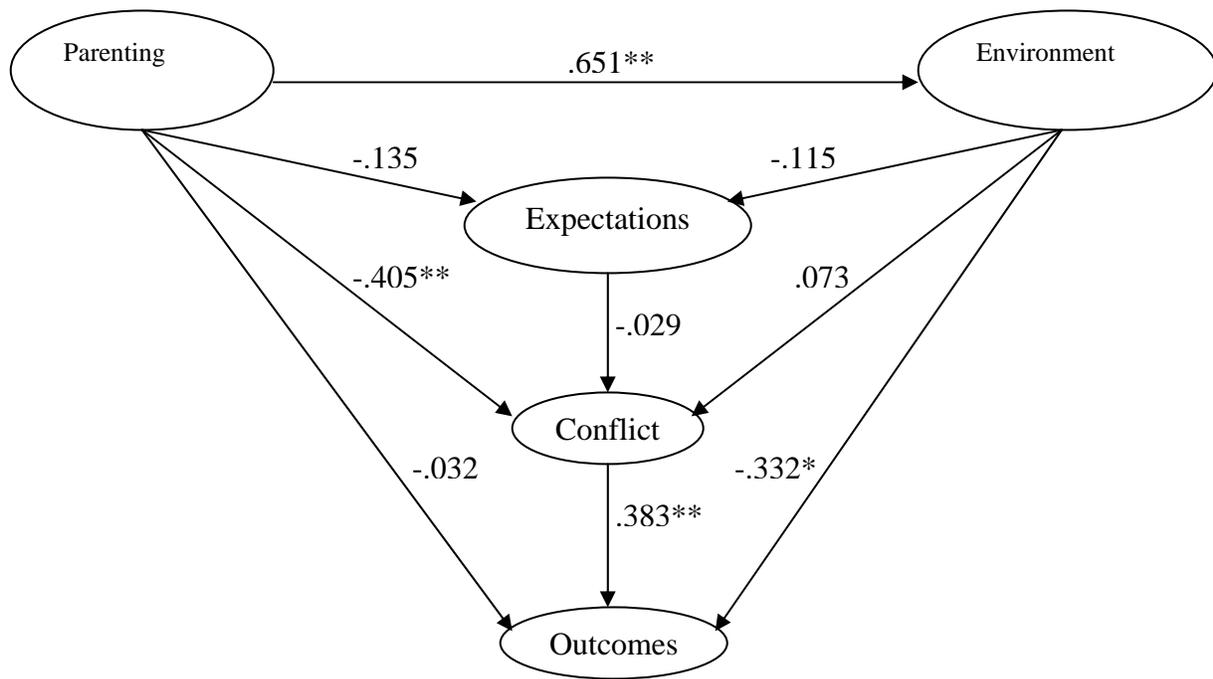


Figure 6: Male-Father Fitted Covariance Structural Model

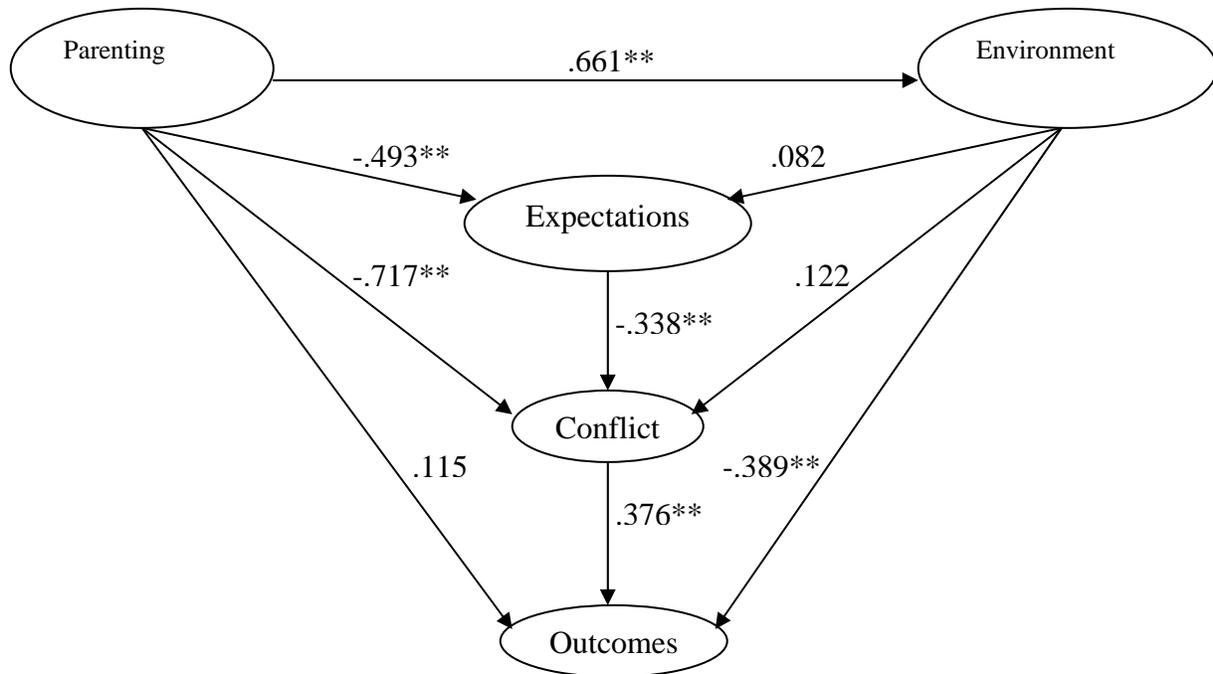


Figure 7: Male-Mother Fitted Covariance Structural Model

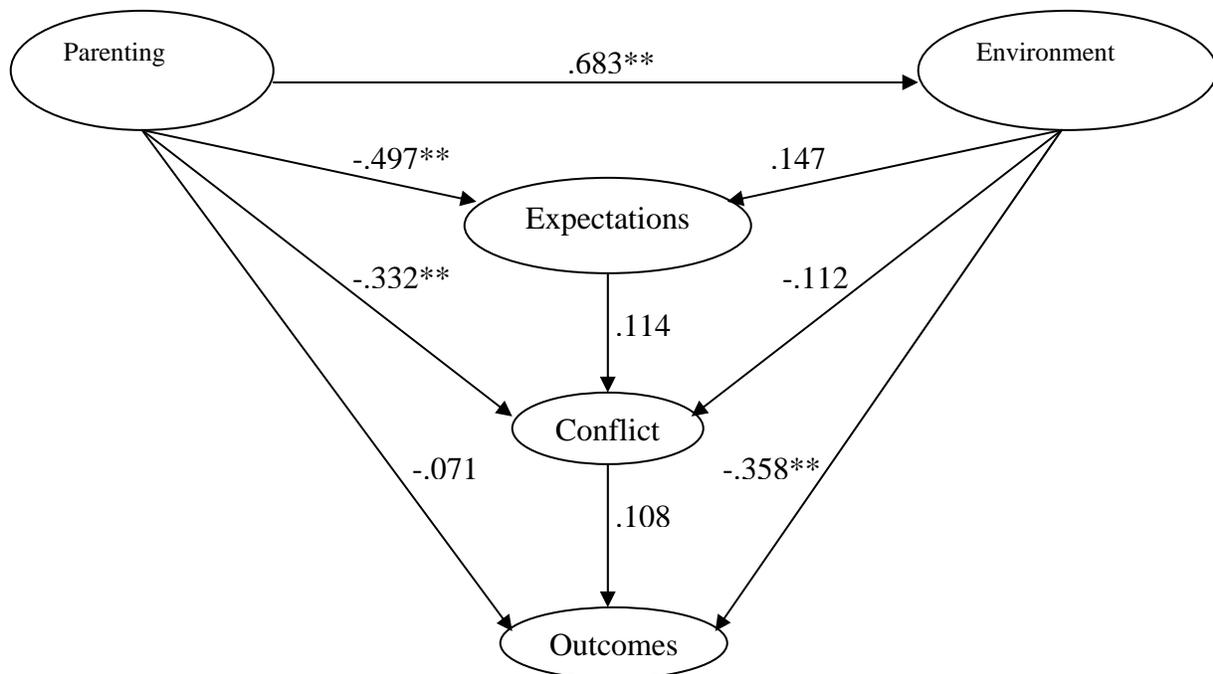


Figure 8: Female-Father Fitted Covariance Structural Model

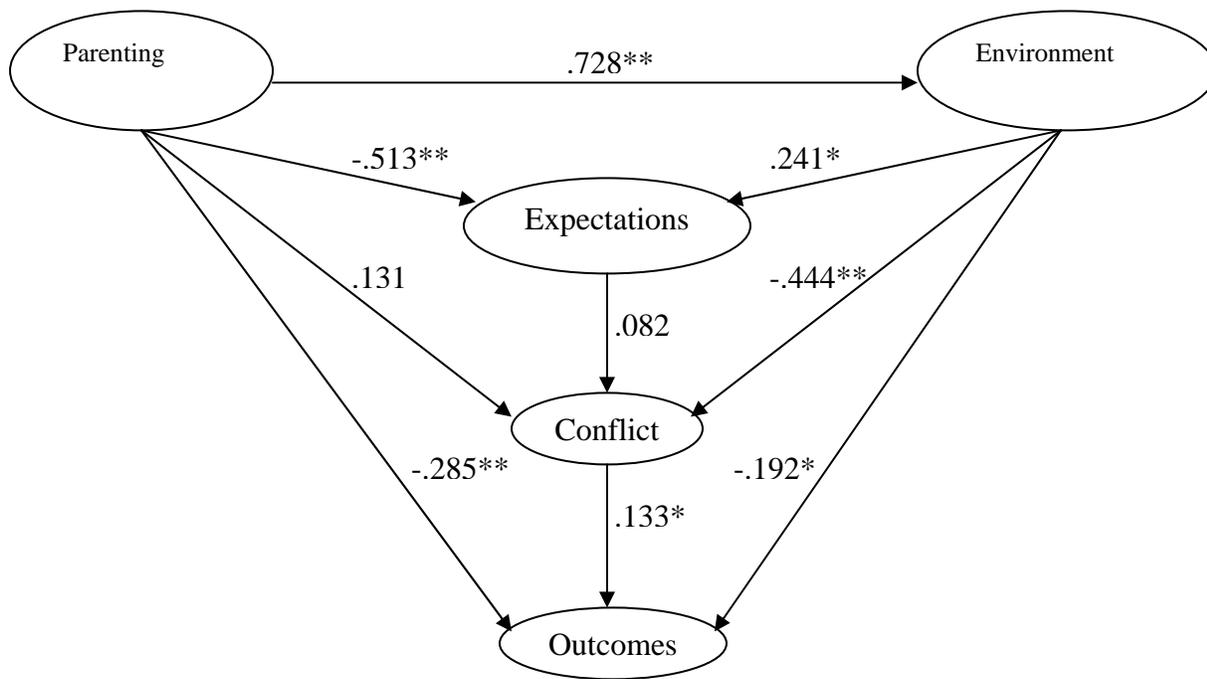


Figure 9: Female-Mother Fitted Covariance Structural Model

### Hypotheses Revisited

Correlations among latent factors in the measurement model were examined to test the hypotheses about the variables and their relationships. The correlations reveal that correlational hypotheses were supported across all four models with one exception. Conflict was related to parenting ( $r$ 's ranging from  $-.49$  to  $-.22$  across all models), family environment ( $r$ 's ranging from  $-.36$  to  $-.16$ ), and outcomes ( $r$ 's ranging from  $.27$  to  $.46$ ), with higher levels of conflict associated with lower levels of cohesion, adaptability, self-esteem, parental warmth, and parental autonomy granting and higher levels of depression and anxiety. Parenting was related to family environment ( $r$ 's ranging from  $.65$  to  $.73$ ), expectations ( $r$ 's ranging from  $-.44$  to  $-.21$ ), and outcomes ( $r$ 's ranging from  $-.46$  to  $-.32$ ), with higher levels of parental warmth and parental

autonomy granting associated with earlier expectations, higher levels of cohesion, adaptability, and self-esteem, and lower levels of depression and anxiety. Family environment was related to expectations ( $r$ 's ranging from  $-.24$  to  $-.13$ ) and outcomes ( $r$ 's ranging from  $-.45$  to  $-.42$ ), with higher levels of cohesion and adaptability associated with earlier expectations, higher levels of self-esteem, and lower levels of depression and anxiety. Expectations, however, was only related to conflict when examining female ratings of their fathers ( $r = .27$ ), with higher levels of conflict associated with later expectations.

Upon examination of the structural models, it was found that several of the correlational relationships were mediated similarly in the models. With regard to parenting, the mediation hypothesis was supported as the effect of parenting on outcomes was mediated wholly by conflict and/or family environment in all models with the exception of the female-mother model. The effect of family environment on outcomes, however, remained significant for all models, thus failing to support the mediation hypothesis. In addition to the mediation effects hypothesized above, several other significant correlations became nonsignificant in the structural models. In all models except the female-mother model, the correlational effect of family environment on expectations and conflict became nonsignificant. When examining the male-father model, the correlational effect of parenting on expectations became nonsignificant. When examining the female-father model, the correlational effect of expectations on conflict and the correlational effect of conflict on outcomes became nonsignificant. When examining the female-mother model, the correlational effect of parenting on conflict became nonsignificant. Finally, when examining the male-mother model, the expectations effect on conflict became significant.

## **DISCUSSION**

The purpose of this study was to create and test a model about parent-adolescent interaction variables that would predict adolescent outcomes, elucidate areas that are critical to adolescent outcomes, and investigate how the process of parent-adolescent interactions influences adolescent adjustment. The first goal of the study was achieved in that a model of parent-adolescent interactions was developed and tested successfully. The second intent of the study, which was to identify important variables related to adolescent outcomes, was accomplished as the results of this study suggest that parenting, family environment, and conflict may be of critical importance when examining adolescent outcomes. The third objective of the study, which was to explore the process underlying parent-adolescent interactions, was attained as the need to study the process of parent-adolescent interactions holistically was demonstrated. Specifically, parenting, family environment, and conflict all were associated with adolescent outcomes. When examining these variables simultaneously, however, certain variables maintained their effect (i.e., family environment, conflict), whereas other variables had their effects reduced (i.e., parenting).

As rated by the participants, fathers and mothers differed significantly on all but one of the assessed variables, the severe physical assault subscale of the CTSPC. Males and females also differed significantly on over one-third of the variables assessed. Although the direction of the relationships among the variables assessed did not differ

across father-mother/male-female groups, the size of the relationships varied. Perhaps more importantly, the process of the parent-adolescent relationship differed across models, particularly concerning the female-mother model. This finding suggests the importance of the parents' and adolescents' gender (Russell & Saebel, 1997) and the need to explore cross-gender effects when examining parent-adolescent relationships.

Overall, adolescent male and female self-esteem was associated significantly with parental cohesion, expressiveness, and autonomy, with higher levels of these variables being associated with higher levels of self-esteem. Parental warmth also was associated positively with adolescent self-esteem, except when examining the amount of warmth experienced by females from their fathers. Adolescent depression in males was associated significantly with corporal punishment, with higher levels of corporal punishment being used by fathers and mothers being associated with higher levels of male depression. Adolescent depression in females was associated significantly with psychological aggression, with higher levels of psychological aggression used by fathers and mothers being associated with higher levels of female depression. Adolescent anxiety in males and females was associated significantly with family cohesion, with higher levels of cohesion being associated with lower levels of adolescent anxiety. Adolescent anxiety in males also was associated significantly with corporal punishment, with higher levels of anxiety being reported by males who experienced higher levels of corporal punishment from their fathers and mothers.

Overall, three of the four models are strikingly similar. The male-father, male-mother, and female-father models suggest that parenting's association with adolescent outcomes is indirect through conflict and/or family environment. Further, family environment appears to be unrelated to conflict when simultaneously accounting for parenting. When examining the female-

father and female-mother models, it seems that conflict is a weak predictor of female adolescent outcomes. In the female-father model, family environment appears to be the most powerful predictor of female outcomes. This finding may be explained by research demonstrating that females, when compared to males, tend to report spending less time with their fathers than their mothers (Holmbeck, Paikoff, & Brooks-Gunn, 1995). As a result of this time differential, it may be the case that the family environment becomes increasingly important in influencing their adjustment. Unlike the other models, parenting is the most powerful predictor of outcomes in the female-mother model. Females, when compared to males, tend to view their mothers as providing a more supportive, mutual relationship (Holmbeck et al., 1995). Thus, mothers' parenting remains an influential predictor of female adjustment. When examining the relationship of expectations and conflict, a significant relationship exists only when considering the male-mother model. This finding may not be surprising when considering research demonstrating that males, compared to females, have more conflictual interactions over chores and rules with their mothers than their fathers (Holmbeck et al., 1995).

The findings of this study must be viewed in the context its limitations. One limitation may be the generalizability of the findings. The sample consisted solely of late adolescents aged 18- to 22-years, over three-fourths of whom were Caucasian. Additionally, very few participants reported backgrounds of low socioeconomic status. Caution must be taken when attempting to extend these findings to children and younger adolescents, to individuals with a non-Caucasian background, and to individuals who are lower in socioeconomic status. Another limitation of this study is that it relied solely on the self-report of the adolescent. What the adolescent experiences and recalls may differ from what the parent and family experience actually. A third limitation of this study is its design. Correlational in nature, this study is unable to determine causation.

Additionally, parent-adolescent relationships encompass a wide array of variables, and this study may have overlooked important variables. Future studies are urged to explore various ethnic, developmental, and socioeconomic backgrounds under more rigorous methodological conditions.

The significance of this study is not to be taken lightly. An abundance of research has been conducted examining parent-adolescent interaction variables in isolation. Although this research has its merits, findings of this study suggest that parent-adolescent interaction variables are interrelated in such a complex manner that failing to consider a holistic approach to investigating parent-adolescent relationships may result in superficial findings. In addition to the holistic interplay among parent-adolescent interaction variables, mother-father and male-female differences in the variables assessed suggest the importance of examining each parent-adolescent dyad individually as different variables appear to have different influences based on the gender of the parent and adolescent.

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